CITY OF STOCKTON
MUNICIPAL UTILITIES DEPARTMENT

NOTICE TO BIDDERS
INSTRUCTIONS TO BIDDERS
BID
CONTRACT
SPECIAL PROVISIONS

FOR CONSTRUCTION OF

DELTA WATER SUPPLY INTAKE PUMP STATION IMPROVEMENTS
PROJECT NO. M17029

CONTRACTOR MUST HAVE A CLASS "A" LICENSE
STOCKTON, CALIFORNIA

Bid Opens: THURSDAY, AUGUST 15, 2:00 p.m.

FOR INFORMATION REGARDING THIS PROJECT CALL
(209) 937-8700 or (209) 937-8716 Extension
(Do not return - Please recycle)
CITY OF STOCKTON
MUNICIPAL UTILITIES DEPARTMENT

CONTRACT DOCUMENTS
FOR CONSTRUCTION OF

DELTA WATER SUPPLY INTAKE PUMP STATION IMPROVEMENTS
PROJECT NO. M17029

APPROVED BY:

[Signature]
ASSISTANT DIRECTOR

6-26-19
DATE

PREPARED BY:

CITY OF STOCKTON
MUNICIPAL UTILITIES DEPARTMENT
2500 NAVY DRIVE
STOCKTON, CA 95206
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GENERAL PREVAILING WAGES
NOTICE IS HEREBY GIVEN that sealed bids are invited by the City of Stockton, California to provide all labor, materials, equipment, and perform all work necessary for the construction of the Delta Water Supply Intake Pump Station Improvements and in accordance with the plans and specifications for Project Number M17029.

The work includes: Site improvements including fixes to the driveway, lightweight fill in areas currently with voids, new flexible joints on the 54-inch raw water line, new valves on the 16-inch water lines, installation of bollards around the existing vaults, new fencing, gate and concrete landings, new flexible electrical connections, and demolition of existing items shown on Drawing No. D01 through D03.

The work shall be performed in accordance with the intent of the Contract Documents, including as stated in the Contract and the Technical and Special Provisions, excluding only the work indicated or specified to be provided by the City or others under separate contract or other arrangement. In the event of a conflict between the Project Specifications and the City of Stockton Standard Specifications and Plans, the Project Specifications shall take precedence.

The project specifications and plans can be downloaded from the City of Stockton’s website at http://www.stocktongov.com/services/business/bidflash/mud.html?dept=Municipal_Utilities; however, official bid documents including plans, specifications, and a plan holder number, must be obtained from ARC Document Solutions in order to bid this project. The completed official sealed bid packet, including the plan holder number, must be delivered to the Office of the City Clerk, City Hall, 425 North El Dorado Street, Stockton, California 95202, up to, but not later than 2:00 P.M., on Thursday, August 15, 2019.

A non-mandatory pre-bid conference will be held at 10:00 a.m., Thursday, August 1, 2019 at the City of Stockton, Department of Municipal Utilities, Delta Water Supply Treatment Plant, 11373 N. Lower Sacramento Road, Lodi CA 95242.

Prospective bidders shall monitor City’s website/bid flash for any project addenda or updates.

As prescribed in the Instructions to Bidders for this project, a bid guaranty in an amount not less than ten percent [10%] of the total base bid price, plus additives, if any, and conforming to the prescribed bidding procedures is required to be submitted with each bid, as a guaranty to be forfeited should the bidder, if awarded the Contract, fail to enter into the same, or fails to furnish in a timely manner the bonds and/or proof of insurance. Each bid shall also be accompanied by the Non-Collusion Declaration, and all of the other required documents and information furnished in the official bidding documents. Each bid shall be enclosed in a sealed envelope clearly marked "BID" and shall indicate the project name, project number, bid opening date, and contractor's name and address. Bidders and the public are invited to be present at the public opening and declaration of said bids. Official bid documents received after the designated time will not be accepted. No bidder may withdraw its bid for a period of sixty (60) days after the date set for the opening of bids.

The project is to be substantially completed within two-hundred and fifty-seven (257) consecutive calendar days from the date specified in the Notice to Proceed, and final completion will be achieved thirty (30) consecutive calendar days thereafter. Time for commencement and completion of the work is consequential, and time is to be of the essence of the Contract.

All bidders shall be licensed under the provisions of Chapter 9, Division 3 of the Business and Professions Code of the State of California. The Contractor shall possess a valid Class A license at the time the bid is submitted and retain the license through the duration of the project. Failure to possess the specified license shall render the bid as non-responsive. The successful Contractor shall obtain a City of Stockton business license prior to contract execution and retain the license through the duration of the project.

All bidders must comply with the State of California Contractor Registration Requirements, which states all Contractors or subcontractors shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract code, or engage in the performance of any contract for public work, as defined in the this chapter, unless currently registered and qualified to perform public work pursuant to Labor Code Section 1725.5.

In compliance with Senate Bill 854 and the California Labor Code, all bidders shall include with their bid proof of registration from the Department of Industrial Relations that includes the contractor's legal
name, registration number, license type/number, registration date and expiration date, for every contractor and subcontractor, regardless of tier. Submittal of subcontractor’s registration information regardless of tier is due no later than four business days after bid opening.

The general prevailing rate of wages for each craft or type of worker or mechanic needed to perform the Contract is on file with the City of Stockton. Bidders are hereby notified that the successful bidder and any subcontractor under that contract shall pay prevailing wage rates in performing the Contract.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. Contractors must submit their certified payroll records directly to the Division of Labor Standards Enforcement Compliance Monitoring Unit, as well as the City of Stockton.

Pursuant to Stockton Municipal Code Section 3.68.090 preference shall be given to the purchase of supplies, materials, equipment, and contractual services from local merchants, quality and price being equal. Local merchants who have a physical business location within the boundaries of San Joaquin County, and who have applied for and paid a business license tax and registration fee pursuant to Stockton Municipal Code Title 5, Chapter 5.08, License Taxes, shall be granted two (2) percent bid preference. Local merchants who have a physical business location within the boundaries of the City of Stockton Municipal Code Title 5, Chapter 5.08, License Taxes, shall be granted five (5) percent bid preference. This Section is intended to provide preference in the award of certain City contracts in order to encourage businesses to move into and expand within the City.

For contracts valued at $100,000 and above, pursuant to Stockton Municipal Code Section 3.68.095 the contractor and all subcontractors shall make a good faith effort to employ at least 50% of the workforce on this project from local residents, as measured by total labor work hours. Failure of any contractor or subcontractor to comply with these requirements shall be deemed a material breach of the contract or subcontract. Contractors and subcontractors shall maintain records necessary for monitoring their compliance with Section 3.68.095.

For contracts valued at $1,000,000 and above, pursuant to the implementation of the Community Workforce and Training Agreement (CWTA) adopted by the City Council on July 26, 2016, the successful bidder shall be required to comply with the provisions of the CWTA. If the Contract is to be awarded, the Contract will be awarded to the lowest responsive, responsible bidder as defined in the Stockton Municipal Code; provided, however, the City Council reserves the right to reject any and all bids, and to re-advertise for bids or to provide for the work to be done by the City of Stockton's internal work force.

The successful bidder shall be required to furnish a Labor and Materials Bond and a Faithful Performance Bond, each in the sum of one hundred percent (100%) of the contract bid price. Said bonds shall be furnished by a company authorized to issue surety bonds in the State of California, on official forms furnished by the City, and said bonds shall be executed by the surety and contractor before or concurrently with the signing of the Contract. The acceptable surety will meet the minimum standard as set forth in the contract documents.

For information on technical data, contact Amin Kazemi, Municipal Utilities Department, (209) 937-8716, e-mail: amin.kazemi@stocktonca.gov. For information regarding the cost for the reproduction of the official bid package or to obtain a plan holders list, please contact ARC Document Solutions at 1421 N. El Dorado Street, Stockton, CA 95202, (209) 464-8724 or visit their plan room at https://order.e-arc.com/arcEOC/PWELL_Main.asp?mem=23.

ELIZA R. GARZA, CMC
CITY CLERK, CITY OF STOCKTON
SECTION 00100 - INSTRUCTIONS TO BIDDERS

1.0  WORK TO BE DONE

It is the intention of the City to construct improvements as shown and set forth on the plans, specifications, profiles and detailed drawings, and in the particular locations shown on the drawings. All of the work is particularly set forth in the plans and specifications, and all of said work, together with all other work incidental thereto, is included. By submitting a bid, the bidder represents that it has the ability, qualifications and experience to perform the proposed work.

The work includes the furnishing of all labor, materials, incidentals and equipment necessary for the Delta Water Supply Intake Pump Station Improvements (Project No. M17029). The Contractor shall be required to provide, at its own cost and expense, all necessary insurance, as required by law or these specifications, and shall pay the cost and expense of any and all incidental matters herein required.

2.0  EXAMINATION OF CONTRACT DOCUMENTS

Each bidder shall thoroughly examine and become familiar with the Contract Documents. The submission of a bid shall constitute an acknowledgment upon which the City may rely, and shall constitute conclusive evidence, that the bidder has thoroughly examined and is familiar with the Contract Documents. The failure or neglect of a bidder to receive or examine any of the Contract Documents shall in no way relieve it from any obligation with respect to its proposal or to the Contract. No claim for additional compensation will be allowed which is based upon a lack of knowledge of any Contract Documents.

3.0  INSPECTION OF SITE

Bidders are required to inspect the site of the work to satisfy themselves by personal examination or by such other means as they may prefer, of the location of the proposed work, and of the actual conditions, including subsurface, of and at the site of work. If, during the course of its examination, a bidder finds facts or conditions which appear to be in conflict with the letter or spirit of the bidding documents, the Bidder may apply to the City, in writing, for additional information and explanation before submitting its bid.

Submission of a bid by the bidder shall constitute conclusive evidence that, if awarded the Contract, it has relied and is relying on its own examination of:

a. The site of the work.

b. Access to the site.

c. All other data and matters requisite to the fulfillment of the work and on its own knowledge of existing facilities on and in the vicinity of the site of the work to be constructed under the Contract.

d. The conditions to be encountered.

e. The character, quality and scope of the proposed work.

f. The quality and quantity of the materials to be furnished.

g. The requirements of the bid, the plans, the specifications, and the other Contract Documents.
The information provided by the City is not intended to be a substitute for, or a supplement to the independent verification by the bidder to the extent such independent investigation of site conditions is deemed necessary or desirable by the bidder.

3.1 PRE-BID CONFERENCE

The City may hold a pre-bid conference prior to the bid opening date. The pre-bid conference is held to answer questions bidders may have, provide bidders with access to the site, discuss important contract considerations, and provide any clarifications that may have come to the City’s attention.

Bidders may be required to attend the pre-bid conference on the date indicated on the specifications. If any bidder fails to attend the pre-bid conference when it is indicated as being mandatory on the specifications, then their bid will be deemed non-responsive, which will result in bid rejection.

4.0 INTERPRETATION OF CONTRACT DOCUMENTS

Oral representations or interpretations by the City as to the meaning of the Contract Documents shall have no legal or binding effect. Requests for an interpretation shall be made in writing and delivered at least ten (10) days before the time announced for opening the bids to:

Amin Kazemi, P.E., M.S.
Project Manager
Municipal Utilities Department
2500 Navy Drive
Stockton, CA 95206

The City's response to requests to clarify the source of materials, equipment, suppliers or any other such matter which does not modify, change, increase, or decrease the scope of work requires no action by the City other than a response to the bidder requesting the clarification. The City's response to written requests to clarify possible ambiguous or incomplete statements or designs, or any other such clarification which modifies, changes, increases or decreases the scope of work, requires issuance of an addendum by the City for the interpretation to become effective. It is the City's sole discretion whether or not to issue an addendum in response to a request for clarification.

5.0 POSTPONEMENT OF OPENING

The City reserves the right to postpone the date and time for receiving and/or opening of bids at any time prior to the date and time established in the Notice Inviting Bids. Postponement notices shall be mailed to plan holders of record in the form of addenda.

6.0 OPENING OF BIDS

All bids except those which do not contain a bid security, irrespective of any other irregularities or informalities, if received on time, will be opened and publicly read aloud at the time and place set forth in the Notice Inviting Bids. Bidders, their representatives and other interested persons may be present at the opening and reading of bids.

Any bids received after the time for receiving and opening bids as set forth in the Notice Inviting Bids or as postponed by addenda will be considered non-responsive and will not be opened. Any such bids will be returned unopened to the Bidder.

The public reading of each bid will include at least the following:
a. Name of bidder.

b. The total amount of bid.

c. The nature and amount of the security furnished with the bid.

7.0 PREPARATION OF BID FORMS

Bids shall be submitted on the official bid documents and must be submitted at the time and place stated in the Notice Inviting Bids. All blanks in the bid forms must be appropriately filled in, either in ink or typed, and all prices must be stated in figures. All bids must be submitted in sealed envelopes bearing on the outside the name of the bidder, its address, the bidder's plan holder number, the date of the bid opening, and the name and project number of the project for which the bid is submitted. It is the sole responsibility of the bidder to see that its bid is received in proper time. Any bid received after the scheduled closing time for receipt of bids will be returned to the bidder unopened. City shall not be responsible for errors or omissions in the bid. Bidders shall write their names on each bid form at the space provided.

8.0 BIDDER'S SIGNATURE AND AUTHORITY

If the bid is made by an individual, his/her name, signature, and post office address must be shown; if made by a firm or partnership, the name and post office address of the firm or partnership, a list of the partners, and the signature of at least one of the general partners must be shown; if made by a corporation, the bid shall show the name of the state under the laws of which the corporation is chartered, the name and post office address of the corporation, and the title of the person who signs on behalf of the corporation. If the bid is made by a joint venture, the bid shall be signed by a representative of one of the joint venture firms.

9.0 ERASURES AND CORRECTIONS

The bid submitted must not contain any erasure, interlineations, or other corrections unless each such correction is suitably authenticated by affixing in the margin immediately opposite the correction the initial or initials of the person or persons submitting the bid.

10.0 BID IRREGULARITIES

Changes in or additions to the bid form, recapitulations of the work bid upon, alternative bids, or any other modifications of the bid form which are not specifically called for in the Contract Documents may result in rejection of the bid by the City, as not being responsive to the Notice Inviting Bids. No oral or telephonic modification of any bid submitted will be considered. The City retains the right to waive minor irregularities it determines to have no impact on the Contract.

11.0 MODIFICATION OF BID

On written request filed with the City, a bid already received may be modified or withdrawn at any time prior to the time established for receiving bids. The request must be executed by the bidder or its authorized representative as described in Paragraph 00100-8.0, Bidder's Signature and Authority. Modifications shall be made in writing, executed, and submitted in the same form and manner as the original bid. Withdrawal of a bid does not prejudice a bidder's right to submit a new bid within the time designated for the submission
of bids. No bid may be withdrawn after the time established for receiving bids except as provided in Paragraph 00100-12.0, Withdrawal of Bids.

12.0 WITHDRAWAL OF BIDS

In accordance with the Stockton Municipal Code, withdrawal of bids is not allowed after the time noticed for the opening of bids. In case of a materially significant error, a bidder desiring to withdraw shall give written notice to the City, specifying, in detail, how the mistake occurred and how the mistake made the bid materially different than it was intended to be. Withdrawal will not be permitted for mistakes resulting from errors in judgment or carelessness in inspecting the site of the work or in reading the Contract Documents. At the City's sole discretion, the bid may be deemed non-responsive due to the materially significant error.

13.0 ADDENDA

The Director of Municipal Utilities has the authority to issue any and all Addenda prior to the bid opening date. Addenda issued during the time of bidding shall become a part of the documents furnished to bidders for the preparation of bids, shall be covered in the bids, and shall be made a part of the Contract. Each bid shall include specific acknowledgment in the space provided of receipt of all Addenda issued during the bidding period. Failure to so acknowledge shall result in the bid being rejected as not responsive. Failure of any bidder to receive such Addenda shall not be grounds for non-compliance with the terms of the instructions.

14.0 BID PRICES

Bid prices shall include, whether additive or deductive, everything necessary for the completion of the work, including but not limited to, providing the materials, equipment, tools, fabrication, delivery, installation, plant and other facilities, and the management, superintendence, labor, overhead, profit, and services. Bid prices shall include all taxes required by Paragraph 00700-8.1.3, Payment of Taxes. No tax exemption certificate or any document designed to exempt the Contractor from payment of any tax will be furnished to the Contractor by the City, as to any tax on labor, services, materials, transportation, or any other items furnished pursuant to the Contract. Quote prices for the exact amount for all work required to complete the respective item as described and shown in the Contract Documents.

For unit price bid items, if the product of a unit price and an estimated quantity does not equal the extended amount quoted, the unit price shall govern, and the correct product of the unit price and the estimated quantity shall be deemed to be the amount bid. If the sum of two or more items in a bidding schedule does not equal the total amount quoted, the individual item amounts shall govern and the correct total shall be deemed to be the amount bid.

15.0 BID GUARANTY

The bid form shall be accompanied by a bid guaranty bond provided by a surety company licensed and authorized to carry on business in the State of California, by a certified or cashier's check, payable to the City, or cash, in the sum of at least ten (10) percent of the total amount of the base bid price, plus additives, if any. The amount payable to the City under the bid guaranty bond, or the certified or cashier's check and the amount thereof, as the case may be, shall be forfeited to the City as liquidated damages in case of a failure or neglect of the bidder to furnish, execute, and deliver to the City the required performance and payment bonds, evidences of insurance; and to enter into, execute, and deliver to the City the Agreement.
on the form provided herewith, within ten (10) calendar days after receiving written notice from the City that
the award has been made and the Agreement is ready for execution.

The bid guarantees of the three lowest bidders will be retained until the Agreement is signed, evidence of
insurance provided, and satisfactory bonds furnished or other disposition made thereof. The bid guarantees
of all bidders, except the three lowest responsive bids, will be returned within 15 calendar days after the
bids are opened.

16.0 QUALIFICATION OF BIDDER

Upon the request of City, any bidder whose bid is under consideration for the award of the Contract shall
promptly submit satisfactory evidence showing the bidder's financial resources, its construction experience,
and its organization's availability for the performance of the Contract.

The bidder may be required to establish to the satisfaction of the City the reliability and responsibility of the
persons or entities proposed to furnish and perform the work described in the Contract Documents.

City Employees and Design Engineers May Not Bid on Construction Contracts. No employee of the City
shall be eligible to submit a proposal for, nor to subcontract for any portion of, nor to supply any materials
for any contract administered by the City.

No engineering or architectural firm which has provided design services for a project shall be eligible to
submit a proposal for the contract to construct the project nor to subcontract for any portion of the work. The
ineligible firms include the prime contractor for design, subcontractors of portions of the design, except
for surveyors and geotechnical subcontractors and affiliates of either. An affiliate is a firm which is subject
to the control of the same persons, through joint ownership or otherwise.

17.0 SUBCONTRACTORS

In accordance with California Public Contract Code Section 4100, et. seq., each bid shall have listed in the
official bid documents, the name, portion of work to be performed, and location of the place of business of
each subcontractor who will perform work or labor or render service to the bidder in or about the construction
of the work or improvement, or of any subcontractor licensed by the State of California who, under
subcontract to the bidder, will specially fabricate and install a portion of the work or improvement according
to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of one
percent of the bidder's total bid.

Failure to list subcontractors may render the bid non-responsive and may be grounds for rejection of the
bid. Failure to comply with the provisions of the California "Subletting and Subcontracting Fair Practices
Act" shall make the Contractor subject to the sanctions as set forth in the Act. All work, in excess of one-
half of one percent of the bidder's total bid, for which a subcontractor is not listed in the official bid
documents, shall be performed by the Contractor's own organization.

The Contractor shall perform at a minimum the percentage of work specified in Section 01010-11.0,
Contractor's Work Percentage, with its own forces and shall not subcontract out this portion of work. The
Contractor shall perform that contract work with his own organization, except that any designated "Specialty
Items" may be performed by subcontract and the amount of any such "Specialty Items" so performed may
be deducted from the original total contract price before computing the amount of work required to be
performed by the Contractor with his own organization. When items of work in the BID SCHEDULE, are
preceded by the letter (S), said items are designated "Specialty Items." The City may also determine, on a
case by case basis, items to be designated "Specialty Items." Where an entire item is sub-contracted, the
value of work subcontracted will be based on the contract item bid price. When a portion of an item is sub-
contracted, the value of work subcontracted will be based on the estimated percentage of the contract item
bid price, determined from information submitted by the Contractor, subject to approval by the City.

18.0 MAJOR EQUIPMENT ITEMS

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19.0 SUBSTITUTIONS DURING BIDDING

Manufacturers or suppliers of materials and equipment may offer an alternative product to the Contractor,
except where alternatives or substitutes are specifically excluded, and request that alternatives to specified
products be considered equal. Inclusion of such alternatives in the bid is the responsibility of the Contractor.
Inclusion should only be considered if the Contractor believes the offered alternative is equal in quality and
performance to the specified product. After award of the Contract, such offers of alternative products will
be reviewed and processed as a substitution as provided under Section 01600, MATERIAL AND
EQUIPMENT. Inclusion or offers of alternative products will not be reviewed or processed during the
bidding period.

20.0 BIDDERS INTERESTED IN MORE THAN ONE BID

No person, firm, or corporation, under the same or different name, shall make, file, or be interested in more
than one bid for the same work unless alternate bids are called for. A person, firm, or corporation may,
however, submit sub proposals or quote prices on materials to more than one bidder.
Bidders shall execute and furnish with their bids, the NON-COLLUSION DECLARATION furnished in the
official bid documents. Reasonable grounds to believe that any individual, partnership, corporation, or
combination is interested in more than one bid for the proposed work may cause rejection of all bids in
which that individual, partnership, corporation, or combination is interested.

21.0 SHEETING, SHORING AND BRACING

Pursuant to the provisions of California Labor Code Section 6707, each bid submitted shall contain, if the
bid item is indicated, the amount included in its bid for adequate sheeting, shoring, and bracing, or
equivalent method, for the protection of life and limb in trenches and open excavation, which shall conform
to applicable safety orders. By listing this sum, the bidder warrants that its action does not convey tort
liability to the City, the Design Consultant, the Construction Manager, and their employees, agents, and
sub consultants.

22.0 WAGE RATES

Pursuant to provisions of the Labor Code Section 1770, et. seq., of the State of California, the Director of
the Department of Industrial Relations has ascertained the prevailing rate of per diem wages of the locality
in which the Work is to be performed and applicable to the work to be done. Copies of these wage
determinations are on file with the City.

Successful bidders shall promptly notify the City, in writing, about all the classifications of labor not listed in
the prevailing wage determinations but necessary for the performance of the Work.
23.0 OFFER OF ASSIGNMENT OF ANTITRUST ACTIONS

As provided by Section 4552, et. seq., of the California Government Code, in submitting a bid to the City, the bidder offers and agrees that if the bid is accepted, it will assign to the City 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. Section 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, materials, or services by the bidder for sale to the City pursuant to the bid.

24.0 ASSIGNMENT OF CONTRACT

The Contractor shall not assign any part of this Contract unless it complies with Section 00700-1.5, Successors and Assigns.

25.0 REJECTION OF BIDS

The City reserves the right to reject any and all bids and further reserves the right to reject any bids which are non-responsive, incomplete, obscure, or irregular; any bids which omit a bid on any one or more items on which the bids are required; any bids in which unit prices are unbalanced in the opinion of the City; any bids accompanied by insufficient or irregular bid guaranty; any bids from bidders who have previously failed to perform properly or to complete on time contracts of any nature; and any bidder who fails to provide satisfactory documentation of its qualifications as required by Section 00100-16.0, Qualification of Bidder. The City reserves the right to waive irregularities.

26.0 CONTRACT AND BONDS

The successful bidder will be required to furnish, in duplicate counterpart, a Labor and Material Bond on forms provided by the City, in an amount equal to one hundred percent (100%) of the Contract Price, a Faithful Performance Bond in an amount equal to one hundred (100%) of the Contract Price, and evidences of insurance. Said insurance and bonds shall be secured from a surety company satisfactory to the City.

The form of contract, and the forms of bonds, as provided in Section 00500, which the successful bidder as Contractor will be required to execute and furnish shall be carefully examined by the bidder. The Faithful Performance Bond is to secure the faithful performance of the Contract, and the Labor and Material Bond is to secure the payment of those to whom the bidder may become legally indebted for labor, materials, tools, equipment, or services of any kind used or employed by the bidder in performing the work.

The Faithful Performance Bond will be retained by the City of Stockton for twelve (12) months following final acceptance by the City of the improvements to guarantee correction of failure attributable to workmanship and materials. Upon said final acceptance by the City, the amount of the Faithful Performance Bond may be reduced to twenty percent (20%) of the actual improvement construction costs, at the sole discretion of the City.

The bonds required of the Contractor shall be furnished by a company authorized to do a surety business in the State of California: said bonds shall be executed by the surety and Contractor before or concurrently with the signing of the contract. The form of said bonds must be approved by the City Attorney and the surety of sureties must be approved by the City Finance Director.
All alterations, extensions of time, extra or additional work and other changes authorized by these specifications, or any part of the Contract may be made without securing the consent of the surety on the contract bonds.

27.0 AWARD OF CONTRACT

Within sixty (60) days after the time of opening of the bids, the City will act either to accept a bid, to reject all bids or with the consent of the bidders and their sureties to extend the time in which the City may act. Nothing set forth herein shall limit the ability of the City to agree with the lowest responsive, responsible bidder to extend the time for the City to award the Contract to said bidder. The Award of Contract shall obligate the bidder whose bid is accepted to furnish performance and Labor and Material bonds and evidences of insurance, and to execute the Agreement in the form set forth in the Contract Documents. The Contract will require the completion of the work according to the Contract Documents.

If award is made, it will be based on the lowest responsive, responsible bid whose summation of the base bid and City selected alternates yields the lowest total Contract price. Selection of any or all alternates shall be at the sole discretion of the City.

28.0 EXECUTION OF CONTRACT

The Agreement shall be executed by the successful bidder and returned, together with the Contract bonds and evidences of insurance, within ten (10) days after receiving the Contract. Time is of the essence in this regard. After execution by City, one copy of the Agreement shall be returned to Contractor.

The failure to execute the Contract Documents or to furnish the bonds or insurance required by these instructions within ten (10) days after receiving the Contract constitutes a default. In the event of a default, the City may award the Contract to the next lowest bidder or may re-advertise for bids. The City may charge against the defaulting bidder the greater of (1) the amount of the bid bond, or (2) the difference between the amount of the bid and the amount for which a Contract for the work is subsequently executed, irrespective of whether the amount thus due exceeds the amount of the bid bond. If a more favorable bid is received by re-advertising, the defaulting bidder shall have no claim against the City for a refund.

29.0 BUSINESS LICENSE

The Contractor must obtain and maintain a valid City of Stockton business license prior to execution of the Contract and throughout the fiscal periods embraced by the duration of the Contract.

30.0 CONSTRUCTION AND DEMOLITION DEBRIS

In order to comply with the California Integrated Waste Management Act of 1989, Assembly Bill 939, the City of Stockton requires that construction and demolition projects recycle a minimum of fifty percent (50%) of all discarded materials generated by the projects to divert project waste from the landfills.

a. CONSTRUCTION AND DEMOLITION RECYCLING PLAN

This plan is meant to assist contractors with identifying the types and quantities of materials that will be generated as a result of the project in order to find diversion outlets for these materials. Once the Contract has been awarded, the contractor is required to complete and submit a Construction/Demolition (C&D) Recycling Plan prior to receiving a Notice to Proceed. The plan should be submitted to the Project Manager at the pre-construction meeting. The City may also request additional information, as necessary.
b. CONSTRUCTION AND DEMOLITION DEBRIS RECYCLING REPORT
The contractor must complete the Construction and Demolition (C&D) Debris Recycling Report within thirty (30) days of construction or demolition project completion (Notice of Completion). The completed report must be accompanied by the official weight tags or receipts verifying the information provided in the report and must be submitted to the City of Stockton Public Works Department, Solid Waste Division, Stewart Eberhardt Building, 22 E. Weber Ave., Room 301, Stockton, CA 95202. Failure to provide the C&D Recycling Report form will result in a five percent (5%) withholding of the contract amount.


32.0 BID PROTESTS
All parties wishing to file a protest shall comply with the procedures set forth below.

All protests regarding the bidding process or the award, or intended award, of any contract must be submitted in writing to the City Attorney on or before 5:00 p.m. of the fifth business day following the opening of all bids, unless a different time period is specified in the Notice Inviting Bids or other bid solicitation documents. All protests must be addressed to: City Attorney, City of Stockton, 425 North El Dorado, Stockton, CA 95202.

The party filing the protest must have actually submitted a bid for the work. A subcontractor of a bidder may not submit a bid protest.

The protest shall contain a full and complete statement specifying in detail the grounds of the protest and the facts in support thereof. The protest must be hand delivered or sent via mail so that it is received by the City Attorney within the time period set forth above. The protest document must include the following:

a. A complete statement of the factual and legal basis for the protest;

b. The protest must include the name, address and telephone number of the person representing the protesting party; and

c. The protesting party must concurrently transmit a copy of the written protest document and any attached documentation to all other bidders who may have a reasonable prospect of receiving the award depending upon the outcome of the protest.

The procedure and time limits set forth herein are mandatory and the bidder's sole and exclusive remedy in the event of protest. No bidder may bring an action or proceeding challenging the bidding process or any award, or intent to award, any contract unless the above procedures are followed. The failure of a party originating a protest to comply with these procedures shall constitute a waiver of any right to further pursue the protest, including filing a government code claim or legal proceeding. The City reserves the right to modify the bid protest procedures in the Notice Inviting Bids or other bid solicitation documents and to require any protesting party to submit additional or clarifying information or documentation in support of any protest.

33.0 LOCAL EMPLOYMENT
For contracts valued at $100,000 and above, pursuant to Stockton Municipal Code Section 3.68.095 the contractor and all subcontractors shall make a good faith effort to employ at least 50% of the workforce on this project from local residents, as measured by total labor work hours. Failure of any contractor or subcontractor to comply with these requirements shall be deemed a material breach of the contract or subcontract. Contractors and subcontractors shall maintain records necessary for monitoring their compliance with Section 3.68.095.
34.0 COMMUNITY WORKFORCE AND TRAINING AGREEMENT

For contracts valued at $1,000,000 and above, pursuant to the implementation of the Community Workforce and Training Agreement (CWTA) adopted by the City Council on July 26, 2016, the successful bidder shall be required to comply with the provisions of the CWTA.

***END OF SECTION***
SECTION 00220 - GEOTECHNICAL DATA

Subsoil investigations have not been conducted at the site of the work.

The Contractor should visit the site and acquaint himself with all existing conditions. Prior to bidding, contractors may make their own subsurface investigations to satisfy themselves as to site and subsurface conditions but such subsurface investigations shall be performed only under time schedules and arrangements approved in advance by the Engineer.

*** END OF SECTION ***
## SECTION 00300 – LIST OF BID ITEMS

**DELTA WATER SUPPLY INTAKE PUMP STATION IMPROVEMENTS**  
**Project No. M17029**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantity</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobilization, Demobilization, Bonds, Permits, and Insurance on all work.</td>
<td>1</td>
<td>LS</td>
</tr>
<tr>
<td>2</td>
<td>Demolition of all items shown on Drawing Nos. D01 thru D03.</td>
<td>1</td>
<td>LS</td>
</tr>
<tr>
<td>3</td>
<td>Furnish and install new Guard Rail, Fencing, Gate and Bollards.</td>
<td>1</td>
<td>LS</td>
</tr>
<tr>
<td>4</td>
<td>Furnish and install Sheet, Shoring and perform all Site Work as shown on the Plans and Specifications.</td>
<td>1</td>
<td>LS</td>
</tr>
<tr>
<td>5</td>
<td>Furnish and install new 54-Inch Flexible Pipe Joints.</td>
<td>2</td>
<td>EA</td>
</tr>
<tr>
<td>6</td>
<td>Furnish and install new fabricated Steel Bend to replace the existing 54-Inch Bend.</td>
<td>1</td>
<td>EA</td>
</tr>
<tr>
<td>7</td>
<td>Furnish and install two (2) new 16-Inch Flexible Joints.</td>
<td>2</td>
<td>EA</td>
</tr>
<tr>
<td>8</td>
<td>Furnish and Install one (1) new 16-inch Flange Coupling Adapter (FCA).</td>
<td>1</td>
<td>EA</td>
</tr>
<tr>
<td>9</td>
<td>Furnish and install one (1) new 16-Inch Pressure Relief Valve and two (2) new Gate Valves to replace existing ones.</td>
<td>1</td>
<td>LS</td>
</tr>
<tr>
<td>10</td>
<td>Furnish and install all Electrical Improvements as specified on Plans and Specification.</td>
<td>1</td>
<td>LS</td>
</tr>
<tr>
<td>11</td>
<td>Instruction (O&amp;M) Manuals on all work.</td>
<td>1</td>
<td>LS</td>
</tr>
<tr>
<td>12</td>
<td>Contractor’s Record Drawings on all work.</td>
<td>1</td>
<td>LS</td>
</tr>
</tbody>
</table>

**TOTAL BID:** The sum of Items 1 through 12

***END OF SECTION***
SECTION 00500 - CONSTRUCTION CONTRACT

This contract is made and entered into on _____________, by and between NAME OF CONTRACTOR, a (INDICATE STATUS: STATE OF [NAME STATE] CORPORATION, PARTNERSHIP, OR SOLE PROPRIETORSHIP), with a business address at ADDRESS/CITY/STATE/ZIP, hereinafter called "CONTRACTOR," and CITY OF STOCKTON, a municipal corporation, hereinafter called "CITY."

WITNESSETH:

WHEREAS, plans and specifications for the construction of DELTA WATER SUPPLY INTAKE PUMP STATION IMPROVEMENTS (PROJECT NO. M17029), hereinafter called "PROJECT," were regularly adopted by Council Motion –OR- Council Resolution No. ________________, on _______________; and

WHEREAS, the contract for said work was regularly awarded to CONTRACTOR, by Council Motion –OR- Council Resolution No. ________________, on ________________.

NOW, THEREFORE, in consideration of the promises and of the mutual covenants herein contained, the parties hereto expressly agree as follows:

CONTRACTOR agrees:

1. SCOPE OF SERVICES. To do the work and furnish all the labor, materials, tools, equipment, and insurance required for the construction of PROJECT in accordance with the plans and specifications adopted on ________________, by Council Motion –OR- Council Resolution No. ________________. The "contract documents," which include the bid documents, project plans, specifications, all letters of clarification, and the City of Stockton Standard Specifications and Plans, are incorporated into and made a part of this contract by this reference to the same extent as if fully set forth.

2. COMPENSATION. To do and perform the work contemplated hereby in a good and workmanlike manner and to furnish all labor, materials, tools, and equipment necessary therefore at the prices specified in Exhibit A, attached hereto and by reference made a part hereof, under the direction of and to the complete satisfaction of the Director of Municipal Utilities Department of the City of Stockton. Total compensation for services and reimbursement for costs shall not exceed ENTER CONTRACT AMOUNT, or as otherwise mutually agreed to in a Contract Change Order.

3. INSURANCE. CONTRACTOR shall not commence any work before obtaining, and shall maintain in force at all times during the duration and performance of this contract, the policies of insurance specified in Exhibit B, which is attached to this contract and incorporated by this reference, and as provided in the "contract documents" including Section 7-1.06 of the City of Stockton Standard Specifications and Plans as adopted on September 27, 2016, by Council Resolution No. 2016-09-27, effective September 27, 2016.

It shall be a requirement under this agreement that any available insurance proceeds broader than or in excess of the specified minimum insurance coverage requirements and/or limits shall be available to the Additional Insured.

Furthermore, the requirements for coverage and limits shall be (1) the minimum coverage and limits specified in this Agreement; or (2) the broader coverage and maximum limits of coverage of any insurance policy or proceeds available to the named Insured; whichever is greater.

The Additional Insured coverage under the CONTRACTOR's policy shall be "primary and non-contributory" and will not seek contribution from the City of Stockton's insurance or self-insurance and shall be at least as broad as ISO CG 20 01 04 13.

The limits of insurance required in this agreement may be satisfied by a combination of primary and umbrella or excess insurance. Any umbrella or excess insurance shall contain or be endorsed to contain a
provision that such coverage shall also apply on a primary and non-contributory basis for the benefit of the City of Stockton (if agreed to in a written contract or agreement) before the City of Stockton’s own insurance or self-insurance shall be called upon to protect it as a named insured.

All self-insured retentions (SIR) must be disclosed to the CITY’s Risk Management for approval and shall not reduce the limits of liability. Payment Bond in the amount of the self-insured retention (SIR) may be required.

Policies containing any self-insured retention (SIR) provision shall provide or be endorsed to provide that the SIR may be satisfied by either the named insured or the CITY.

The CITY reserves the right to obtain a full certified copy of any insurance policy and endorsements.

Failure to exercise this right shall not constitute a waiver of right to exercise later.

CONTRACTOR shall maintain insurance as required by this contract to the fullest amount allowed by law and shall maintain insurance for a minimum of five years following the completion of this project. In the event contractor fails to obtain or maintain completed operations coverage as required by this agreement, the City at its sole discretion may purchase the coverage required and the cost will be paid by contractor.

CONTRACTOR agrees to include with all Subcontractors in their subcontract the same requirements and provisions of this agreement including the indemnity and insurance requirements to the extent they apply to the scope of the Subcontractor’s work. Subcontractors hired by CONTRACTOR agree to be bound to CONTRACTOR and the CITY in the same manner and to the same extent as CONTRACTOR is bound to the CITY under the Contract Documents. Subcontractor further agrees to include these same provisions with any Sub-subcontractor. A copy of the CITY Contract Document Indemnity and Insurance provisions will be furnished to the Subcontractor upon request. The General CONTRACTOR shall require all subcontractors to provide a valid certificate of insurance and the required endorsements included in the agreement prior to commencement of any work and contractor will provide proof of compliance to the City.

4. INDEMNITY AND HOLD HARMLESS. With the exception that this Section shall in no event be construed to require indemnification by Contractor to a greater extent than permitted under the public policy of the State of California, Contractor shall indemnify, protect, defend with counsel approved by City and at Contractor’s sole cost and expense, and hold harmless City, its Mayor, Council, officials, representatives, agents, employees, and volunteers from and against any and all claims, causes of action, liabilities, judgments, awards, losses, liens, claims, stop notices, damages, expenses, and costs (including without limitation attorneys’ fees, expert and consultant fees, and other expenses of litigation) of every nature, including, but not limited to, death or injury to persons, or damage to property, which arise out of or are in any way connected with the work performed, materials furnished, or services provided under this Agreement, or from any violation of any federal, State, or municipal law or ordinance, or City Policy, by Contractor or Contractor’s officers, agents, employees, volunteers or subcontractors. Contractor shall not be obligated to indemnify or defend City for claims finally determined by a court of law or arbitrator to arise from the active negligence or willful misconduct of the City. It is the intent of the Parties that this indemnity obligation is at least as broad as is permitted under California law. To the extent California Civil Code Sections 2782, et seq., limit the defense or indemnity obligations of Contractor to City, the intent hereunder is to provide the maximum defense and indemnity obligations allowed by Contractor under the law. The indemnity set forth in this Section shall not be limited by insurance requirements or by any other provision of this Agreement.

With exception that this Section shall in no event be construed to require indemnification, including the duty to defend, by Contractor to a greater extent than permitted under the public policy of the State of California, the parties agree that Contractor’s duty to defend City is immediate and arises upon the filing of any claim against the City for damages which arise out of or are in any way connected with the work performed, materials furnished, or services provided under this Agreement by Contractor or Contractor’s officers, agents, employees, volunteers or subcontractors. Contractor’s duties and obligations to defend
the City shall apply regardless of whether or not the issue of the City’s liability, breach of this Agreement, or other obligation or fault has been determined. Contractor shall be immediately obligated to pay for City’s defense costs of the claim, including, but not limited to, court costs, attorney’s fees and costs, expert consultant and witness fees and costs, other witness fees, document reproduction costs, arbitration fees, and, if after final judgment an appeal is pursued, all of such costs for the appeal. At the conclusion of the claim, if there is any determination or finding of sole active negligence or willful misconduct on the part of the City, City will then reimburse Contractor for amounts paid in excess of Contractor’s proportionate share of responsibility for the damages within 30 days after Contractor provides City with copies of all bills and expenses incurred in the defense of the claim(s). It is agreed between the parties that this reimbursement provision assures Contractor is not obligated to defend or indemnify City in an amount greater than provided for under California law, including, without limitation, California Civil Code Sections 2782, 2782.6, and 2782.8.

With the exception that this Section shall in no event be construed to require indemnification by Contractor to a greater extent than permitted under the public policy of the State of California, and in addition to the other indemnity obligations in this Agreement, Contractor shall indemnify, defend, and hold harmless City, its Mayor, Council, officials, representatives, agents, employees, and volunteers from and against all claims, losses, expenses, and costs including, but not limited to, attorneys’ fees, arising out of any claim brought against the City by an employee, office, agent, or volunteer of Contractor, regardless of whether such claim may be covered by any applicable workers compensation insurance. Contractor’s indemnification obligation is not limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor under workers’ compensation acts, disability acts, or other employee benefit acts.

The City’s acceptance of the insurance certificates required under this Agreement does not relieve the CONTRACTOR from its obligation under this paragraph. The indemnification obligations of this Section shall survive the termination of this agreement. Any exceptions to this language may result in a proposal being deemed non-responsive. CONTRACTOR/Subcontractor's responsibility for such defense and indemnity obligations shall survive the termination or completion of this agreement for the full period of time allowed by law.

The defense and indemnification obligations of this agreement are undertaken in addition to, and shall not in any way be limited by, the insurance obligations contained in this agreement. If any section, subsection, sentence, clause or phrase of this indemnification is for any reason held to be invalid or unconstitutional, such decision shall not affect the validity of the remaining portions of this indemnification.

5. **STANDARD PLANS AND SPECIFICATIONS.** The performance of said work and the furnishing of said materials shall be executed in accordance with Section 8-1.04B of the City of Stockton Standard Specifications and Plans as adopted on September 27, 2016, by Council Resolution No. 2016-09-27-1213, effective September 27, 2016, and the provisions of the issued project specifications.

The Director of Municipal Utilities Department will furnish CONTRACTOR a weekly statement showing the number of days charged to the contract for the preceding week, the number of days specified for completion of the contract, and the number of days remaining to complete the contract. CONTRACTOR will be allowed one (1) week in which to file a written protest setting forth in what respects said weekly statement is incorrect, otherwise the statement shall be deemed to have been accepted by CONTRACTOR as correct.

6. **WORKING DAYS.** It is agreed by the parties to the contract that in case all the work called for under the contract in all parts and requirements, is not finished or completed within the number of days as set forth, damage will be sustained by the CITY, and that it is and will be impracticable and extremely difficult to ascertain the actual damage which CITY will sustain in the event of and by reason of such delay; and it is therefore agreed that CONTRACTOR will pay to CITY the sum of TWO THOUSAND FIVE HUNDRED AND NO/100 DOLLARS ($2,500.00) per day for each and every calendar day's delay in finishing the work in excess of the number of days prescribed; and CONTRACTOR agrees to pay said
liquidated damages as herein provided, and in case the same are not paid, agrees that CITY, may deduct the amount thereof from any monies due or that may become due CONTRACTOR under the contract.

It is further agreed that in case the work called for under the contract is not finished and completed in all parts and requirements within the number of days as specified, the CITY shall have the right to increase the number of days or not, as may seem best to serve the interest of CITY, and if the CITY decides to increase the said number of days, the CITY shall further have the right to charge to CONTRACTOR, CONTRACTOR's heirs, assigns or sureties, and to deduct from the final payment for the work, all or any part, as may be deemed proper, the liquidated damages as specified or the actual cost of engineering, inspection, superintendence, and other overhead expenses which are directly chargeable to the contract, and which accrue during the period of such extension, whichever is greater, except the cost of final surveys and preparation of final estimate shall not be included in such charges.

A working day shall not include, nor shall CONTRACTOR be assessed with liquidated damages nor the additional cost of engineering and inspection during any delay beyond the time named for the completion of the work caused by acts of God or of the public enemy, acts of CITY, fire, floods, epidemics, quarantine restrictions, strikes, and freight embargoes and subject to approval by the Director of Municipal Utilities Department, inability to get materials ordered by CONTRACTOR or subcontractor due to such causes provided that CONTRACTOR shall notify the Director of Municipal Utilities Department in writing of the causes of delay within five (5) working days from the beginning of any such delay, and the Director shall ascertain the facts and the extent of the delay, and Director's findings of the facts thereon shall be final and conclusive.

If CONTRACTOR is delayed by reason of alterations made in these specifications, or by any act of the Director of Municipal Utilities Department or of the CITY, not contemplated by the contract, the time of completion shall be extended proportionately and CONTRACTOR shall be relieved during the period of such extension of any claim for liquidated damages, engineering or inspection charges or other penalties. CONTRACTOR shall have no claim for any other compensation for any such delay.

7. CONFORMANCE TO APPLICABLE LAWS. Contractor shall comply with all applicable Federal, State, and Municipal laws, rules, and ordinances. Contractor shall not discriminate in the employment of persons or in the provision of services under this Contract on the basis of any legally protected classification, including race, color, national origin, ancestry, sex or religion of such person.

a. TITLE VI

Title VI of the Civil Rights Act of 1964 requires that “no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.” (42 USC Section 2000d) [http://www.dol.gov/oasam/regs/statutes/titlevi.htm.]

The City of Stockton requires compliance with the requirements of Title VI in all of its programs and activities regardless of funding source.

b. DISCRIMINATION AND HARASSMENT POLICY

The City of Stockton has a Discrimination and Harassment Policy (Exhibit C). The purpose of this policy is to reaffirm the CITY's commitment to demonstrating respect for all individuals by strictly prohibiting discrimination and harassment, including sexual harassment in the workplace, to define the types of behavior and conduct prohibited by this policy, and to set forth a procedure for reporting, investigating, and resolving complaints of discrimination and harassment in the workplace.
LABOR STANDARDS PROVISIONS/CALIFORNIA LABOR CODE

The bidder shall understand that conditions set forth in Division 2, Part 7, Chapter 1, Article 2, Wages of the California Labor Code shall be considered part of the contract agreement. https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=LAB&division=2.&title=&part=7.&chapter=1.&article=2.

d. PREVAILING WAGE

CONTRACTOR and any subcontractor shall pay each employee engaged in the trade or occupation not less than the prevailing hourly wage rate. In accordance with the provisions of Section 1770 of the Labor Code, the Director of Department of Industrial Relations of the State of California has determined the general prevailing wage and employer payments for health and welfare, pension, vacation, travel time, and subsistence pay as provided for in Section 1773.1, apprenticeship or other training programs authorized by Section 3093 and similar purposes applicable to the work to be done. CONTRACTOR performing the work under this contract shall obtain a copy of the wage rate determination and shall distribute copies to each subcontractor. As the wage determination for each craft reflects an expiration date, it shall be the prime CONTRACTOR and each subcontractor's responsibility to ensure that the prevailing wage rates of concern is current and paid to the employee.

i. The CONTRACTOR performing the work shall be responsible for obtaining a copy of the State wage rate determination. State wage rates may be obtained at http://www.dir.ca.gov/OPRL/pwd/Determinations/Northern/Northern.pdf. The CONTRACTOR shall be responsible for posting said wage rates at a prominent location at the work site and shall maintain same in a good readable condition for the duration of the work.

ii. Should the CONTRACTOR choose to work on a Saturday, Sunday or on a holiday recognized by the Labor Unions, the CONTRACTOR shall reimburse the CITY the actual cost of engineering, inspection, superintendence, and or other overhead expenses which are directly chargeable to the contract. Should such work be undertaken at the request of the CITY, reimbursement will not be required. To conform strictly with the provisions of Division 2, Part 7, Chapter 1, Article 2, of the Labor Code of the State of California. To forfeit as a penalty to CITY the sum of TWENTY-FIVE AND NO/100 DOLLARS ($25.00) for each laborer, worker, or mechanic employed by CONTRACTOR, or by any subcontractor under CONTRACTOR, in the execution of this contract, for each calendar day during which any laborer, worker, or mechanic is required or permitted to work more than eight (8) hours and who is not paid the general prevailing rate of per diem wages for holiday and overtime work in violation of the provisions of Sections 1770 to 1781 of the Labor Code of the State of California. That all sums forfeited under the provisions of the foregoing Sections shall be deducted from the payments to be made under the terms of this contract.

iii. The CONTRACTOR to whom the contract is awarded shall ensure that the prime and each subcontractor will in accordance with Section 1776 of the Labor Code, maintain certified payroll records. A copy of said records shall be provided with each invoice to the Municipal Utilities Department, Attention Contract Compliance Officer. It shall be the CONTRACTOR’S responsibility to obtain copies of the current prevailing wage rate determination for all subcontractors. Additionally, certified payroll records must be uploaded to the DIR website as required by labor code.
iv. The CONTRACTOR shall comply with the provisions established in Section 1777.5 of the Labor Code concerning the 1) certified approval by local joint apprenticeship committees for the employment and training of apprentices, and 2) contribution of funds to administer and conduct apprenticeship programs, if applicable to the job.

e. LOCAL EMPLOYMENT ORDINANCE

For contracts valued at $100,000 and above, pursuant to Stockton Municipal Code Section 3.68.095 the CONTRACTOR and all subcontractors shall make a good faith effort to employ at least 50 percent of the workforce on this project from local residents, as measured by total labor work hours. Failure of any CONTRACTOR or subcontractor to comply with these requirements shall be deemed a material breach of the contract or subcontract. CONTRACTORS and subcontractors shall maintain records necessary for monitoring their compliance with Section 3.68.095.

f. COMMUNITY WORKFORCE TRAINING AGREEMENT

For contracts valued at 1,000,000 and above, pursuant to the implementation of the Community Workforce Training Agreement (CWTA) adopted by the City Council on July 26, 2016, the successful bidder shall be required to comply with the provisions of the CWTA. For any project subject to this Agreement, the Local Hire, Priority Apprentice and Workforce Development Program requirements shall apply in lieu of the requirements of Stockton Municipal Code Section 3.68.095 and no separate compliance with Section 3.68.095 will be required of the Contractors/Employers working on the project.

CITY agrees:

8. COMPENSATION. To pay CONTRACTOR for the work herein contemplated in the following manner: Progress payments will be made on or about the first day of each calendar month, in such sum as shall make the aggregate of payment up to such day equal to ninety-five percent (95%) of the proportional contract price, upon the basis of the progress certificate of the Director of Municipal Utilities Department as to the amount of work done and the proportional amount of the contract price represented therefore; and all of the remaining part of the contract price not as aforesaid paid, shall be paid at the expiration of thirty-five (35) days from the completion of said work of construction and the certification by the Director of Municipal Utilities Department of such completion.

9. SECURITIES. Pursuant to Section 22300 of the Public Contract Code, CONTRACTOR will be permitted, at its request and sole expense, to substitute securities for any monies withheld by the CITY to ensure performance under the contract. Said securities will be deposited either with the CITY or with a State or federally chartered bank as escrow agent. Securities eligible for this substitution are those listed in Section 16430 of the California Government Code or bank or savings and loan certificates of deposit. CONTRACTOR shall be the beneficial owner of any securities substituted for monies withheld and shall receive any interest thereon.

10. CHANGE ORDERS. CITY reserves the right to make such alterations, deviations, additions to or omissions from the plans and specifications, including the right to increase or decrease the quantity of any item or portion of the work, as may be deemed by the Engineer to be necessary or advisable and to require such extra work as may be determined by the Engineer to be required for the proper completion or construction of the whole work contemplated.

Any such changes will be set forth in a contract change order which will specify, in addition to the work done in connection with the change made, adjustment of contract time, if any, and the basis of
compensation for such work. A contract change order will not become effective until approved by the City Manager and/or the City Council.

Processing of change orders shall be in accordance with Section 4-1.05A of the City of Stockton Standard Specifications and Plans as adopted by Council on September 27, 2016, by Resolution No. 2016-09-27-1213, effective September 27, 2016, or as otherwise amended by Council. When the compensation for an item of work is subject to adjustment under the provisions of Standard Specifications and Plans, Section 4-1.05A, CONTRACTOR shall, upon request, promptly furnish the Engineer with adequate detailed cost data for such item of work.

11. **AUDITS.** CITY reserves the right to periodically audit all charges made by CONTRACTOR to CITY for services under the contract. Upon request, CONTRACTOR agrees to furnish CITY, or a designated representative, with necessary information and assistance.

CONTRACTOR agrees that CITY or its delegate will have the right to review, obtain and copy all records pertaining to performance of the contract. CONTRACTOR agrees to provide CITY or its delegate with any relevant information requested and shall permit CITY or its delegate access to its premises, upon reasonable notice, during normal business hours for the purpose of interviewing employees and inspecting and copying such books, records, accounts, and other material that may be relevant to a matter under investigation for the purpose of determining compliance with this requirement. CONTRACTOR further agrees to maintain such records for a period of three (3) years after final payment under the contract.

12. **WAIVER.** It is expressly understood and agreed by and between the parties hereto that a waiver of any of the conditions of this contract shall not be considered a waiver of any of the other conditions thereof.

It is further understood and agreed by and between the parties hereto that time is of the essence of this contract in all respects.

IN WITNESS WHEREOF, the parties hereto have hereunto affixed their hands and seals the day and year first above written.

**ATTEST:**

ELIZA R. GARZA, CMC
CITY CLERK
CITY OF STOCKTON

By: ________________________________

**CITY:**

KURT O. WILSON
CITY MANAGER

**APPROVED AS TO FORM & CONTENT:**

JOHN M. LUEBBERKE
OFFICE OF THE CITY ATTORNEY

By: ________________________________

LIST NAME OF CONTRACTOR

DEPUTY CITY ATTORNEY

By: ________________________________

Tax Identification No.
LOCAL EMPLOYMENT ORDINANCE

This contract is subject to the requirements of the City of Stockton’s Local Employment Ordinance. By my signature below, I certify that I have read and understood the Local Employment Ordinance of the City of Stockton, and agree to abide by its provisions. If selected to perform this contract, I specifically agree to report data on the actual number of Stockton residents employed, and understand that data will be subject to verification by an independent auditor.

Signature of Bidder ________________________________

Date Signed ________________________________
Addendum A

CITY OF STOCKTON COMMUNITY WORKFORCE AND TRAINING AGREEMENT

AGREEMENT TO BE BOUND

The undersigned, as a Contractor or Subcontractor, including construction material trucking company/entity, (CONTRACTOR) on the City of Stockton Project, (hereinafter PROJECT), for and in consideration of the award to it of a contract to perform work on said PROJECT, and in further consideration of the mutual promises made in this Community Workforce and Training Agreement (hereinafter AGREEMENT), a copy of which was received and is acknowledged, hereby:

(1) Accepts and agrees to be bound by the terms and conditions of the AGREEMENT for this Project, together with any and all amendments and supplements now existing or which are later made thereto:

(2) The CONTRACTOR agrees to be bound by the legally established local trust agreements designated in the applicable Schedule A as set forth in Article IV of this AGREEMENT.

(3) The CONTRACTOR authorizes the parties to such local trust agreements to appoint trustees and successor trustees to administer the trust funds and hereby ratifies and accepts the trustees so appointed as if made by the CONTRACTOR;

(4) Certifies that it has no commitments or agreements which would preclude its full and complete compliance with the terms and conditions of said AGREEMENT.

(5) Agrees to secure from any CONTRACTOR(S) (as defined in said AGREEMENT) which is or becomes a subcontractor (of any tier) to it, a duly executed Agreement to be Bound in form identical to this document.

(6) This Agreement to be Bound constitutes a subscription agreement to the extent of its terms. However, the undersigned agrees to execute a separate Subscription Agreement(s) or contributing employer agreement for Trust Funds when such Trust Fund(s) requires such document(s).

Date:______________________   _________________________________

Name of Contractor

__________________________________

(Name of Contractor Representative)

__________________________________

(Authorized Officer & Title)

CSLB # of Motor Carrier Permit
### EXHIBIT A

**DELTA WATER SUPPLY INTAKE PUMP STATION IMPROVEMENTS**

**Project No. M17029**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantity</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobilization, Demobilization, Bonds, Permits, and Insurance on all work.</td>
<td>1</td>
<td>LS</td>
</tr>
<tr>
<td>2</td>
<td>Demolition of all items shown on Drawing Nos. D01 thru D03.</td>
<td>1</td>
<td>LS</td>
</tr>
<tr>
<td>3</td>
<td>Furnish and install new Guard Rail, Fencing, Gate and Bollards.</td>
<td>1</td>
<td>LS</td>
</tr>
<tr>
<td>4</td>
<td>Furnish and install Sheeting, Shoring and perform all Site Work as shown on the Plans and Specifications.</td>
<td>1</td>
<td>LS</td>
</tr>
<tr>
<td>5</td>
<td>Furnish and install new 54-Inch Flexible Pipe Joints.</td>
<td>2</td>
<td>EA</td>
</tr>
<tr>
<td>6</td>
<td>Furnish and install new fabricated Steel Bend to replace the existing 54-Inch Bend.</td>
<td>1</td>
<td>EA</td>
</tr>
<tr>
<td>7</td>
<td>Furnish and install two (2) new 16-Inch Flexible Joints.</td>
<td>2</td>
<td>EA</td>
</tr>
<tr>
<td>8</td>
<td>Furnish and Install one (1) new 16-inch Flange Coupling Adapter (FCA).</td>
<td>1</td>
<td>EA</td>
</tr>
<tr>
<td>9</td>
<td>Furnish and install one (1) new 16-Inch Pressure Relief Valve and two (2) new Gate Valves to replace existing ones.</td>
<td>1</td>
<td>LS</td>
</tr>
<tr>
<td>10</td>
<td>Furnish and install all Electrical Improvements as specified on Plans and Specification.</td>
<td>1</td>
<td>LS</td>
</tr>
<tr>
<td>11</td>
<td>Instruction (O&amp;M) Manuals on all work.</td>
<td>1</td>
<td>LS</td>
</tr>
<tr>
<td>12</td>
<td>Contractor's Record Drawings on all work.</td>
<td>1</td>
<td>LS</td>
</tr>
</tbody>
</table>

**TOTAL BID:** The sum of Items 1 through 12
EXHIBIT B

REFER TO SECTION 00820 – LIABILITY AND INSURANCE REQUIREMENTS
EXHIBIT C

DISCRIMINATION AND HARASSMENT POLICY
BOND FOR FAITHFUL PERFORMANCE

KNOW ALL MEN BY THESE PRESENTS:

That we, ________________________________, a (INDICATE STATUS: STATE OF [NAME STATE] CORPORATION, PARTNERSHIP, OR SOLE PROPRIETORSHIP), as Principal and __________ ________________________________, a corporation, organized and existing under the laws of the State of _________________ and duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto the City of Stockton, a municipal corporation, duly created and existing under and by virtue of the laws of the State of California, as obligee, in the just and full sum of SPELL OUT CONTRACT AMOUNT AND xx/100 DOLLARS ($xxx enter dollar amount), in lawful money of the United States of America (being 100% of the contract price) for the payment whereof well and truly to be made to the said CITY, the said Principal and Surety bind themselves, their successors and assigns, jointly and severally, firmly by these presents.

The condition of the foregoing obligation is such that the above bounded Principal has simultaneously entered into a contract with the CITY, to do and perform the following work, to wit:

DELTA WATER SUPPLY INTAKE PUMP STATION IMPROVEMENTS
(PROJECT NO. M17029)

NOW, THEREFORE, if the above bounded Principal, CONTRACTOR, Company or Corporation or its subcontractor, shall well and truly perform the work contracted to be done under said contract, then this obligation to be null and void; otherwise to remain in full force and effect.
No prepayment or delay in payment and no change, extension, addition or alteration of any provision of said contract, or in said plans or specifications agreed to between the said CONTRACTOR and the said CITY, and no forbearance on the part of the said CITY shall operate to relieve any Surety or Sureties from liability on this bond, and consent by said Surety is hereby given, and the said Surety hereby waives the provisions of Sections 2819 and 2845 of the Civil Code of the State of California.

SIGNED AND SEALED on_____________________________

APPROVED AS TO SURETY:  

By: ____________________________  

PRINCIPAL

______________________________  

SURETY

APPROVED AS TO FORM & CONTENT:  

JOHN M. LUEMBERKE  
OFFICE OF THE CITY ATTORNEY

By: ____________________________  

ATTORNEY-IN-FACT

______________________________  

DEPUTY CITY ATTORNEY
BOND FOR LABOR AND MATERIAL

KNOW ALL MEN BY THESE PRESENTS:

That we, NAME OF CONTRACTOR, a (INDICATE STATUS: STATE OF [NAME STATE] CORPORATION, PARTNERSHIP, OR SOLE PROPRIETORSHIP), as Principal and ______________, corporation, organized and existing under the laws of the State of ______________ and duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto the City of Stockton, a municipal corporation, duly created and existing under and by virtue of the laws of the State of California, and unto any and all material suppliers, persons, companies, or corporations furnishing materials, provisions, provender or other supplies used in, upon, for or about the performance of the work contemplated to be executed or performed under the contract hereinafter mentioned, and all persons, companies, or corporations renting or hiring teams, or implements of machinery, for or contributing to said work and all persons who perform work or labor upon the same, and all persons who supply both work and materials, and whose claims have not been paid by the contractor, company or corporation in the just and full sum of SPELL OUT DOLLAR AMOUNT AND xx/100 DOLLARS ($xxx enter dollar amount), in lawful money of the United States of America (being 100% of the contract price) for the payment whereof well and truly to be made to said CITY and to said persons jointly and severally, the said principal and Surety bind themselves, their successors and assigns, jointly and severally, firmly by these presents.

The condition of the foregoing obligations is such that the above bounden Principal has simultaneously entered into a contract of even date herewith, with the CITY, to do and perform the following work, to-wit:

DELTA WATER SUPPLY INTAKE PUMP STATION IMPROVEMENTS
(PROJECT NO. M17029)

NOW, THEREFORE, if the above bounden Principal, CONTRACTOR, Company or Corporation or its subcontractor, fail to pay for all materials, provisions, provender, or other supplies, or teams, used in, upon, for or about the performance of the work contracted to be done, or for any work or labor done thereon of any kind, the Surety on this bond will pay the same, in an amount not exceeding the sum specified in this bond, provided that any and all claims hereunder shall be filed and proceedings had in connection therewith as required by the provisions of Division 3, Part 4, Title 15, Chapter 5, Article 1 of the Civil Code of California, provided that in case suit is brought upon this bond, a reasonable attorney's fee shall be awarded by the Court to the prevailing party in said suit; said attorney's fee to be fixed as costs in said suit, and to be included in the judgment therein rendered.

No prepayment or delay in payment and no change, extension, addition or alteration of any provision of said contract or in said plans or specifications agreed to between the said CONTRACTOR and the said CITY and no forbearance on the part of the said CITY shall operate to relieve any surety or sureties
from liability on this bond, and consent to make such alterations without further notice to or consent by any such surety is hereby given, and the said sureties hereby waive the provisions of Sections 2819 and 2845 of the Civil Code of the State of California.

SIGNED AND SEALED on


APPROVED AS TO SURETY:

By: ____________________________

PRINCIPAL

SURETY

APPROVED AS TO FORM & CONTENT:
JOHN M. LUEBBERKE
OFFICE OF THE CITY ATTORNEY

By: ____________________________

ATTORNEY-IN-FACT

DEPUTY CITY ATTORNEY
1.0 GENERAL

1.1 Intent of Contract Documents

The intent of the Contract Documents is to include all necessary criteria to establish the scope and quality for completion of the Work by Contractor. The Contract Documents are complementary and what is required by one shall be as binding as if required by all. Performance by the Contractor shall be required to the extent consistent with, and reasonably inferable from, the Contract Documents.

Where the Plans or Specifications describe portions of the Work in general terms but not in complete detail, it is understood that only the best general practice is to prevail and that only materials and workmanship of the first quality are to be used. Unless otherwise specified, the Contractor shall furnish tools, equipment, and incidental, and do all the work involved in executing the Contract in a satisfactory and workmanlike manner.

In the event the materials and/or equipment are to be furnished by the City, as designated in the General Requirements or as agreed on, this shall not relieve the Contractor of the above requirements to furnish all other labor, materials, and equipment to complete the Contract.

It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to the City.

1.2 Discrepancies and Omissions

Any discrepancies or omissions found in the Contract Documents shall be reported to the Construction Manager immediately. The Construction Manager will clarify discrepancies or omissions, in writing, within a reasonable time.

In the case of conflict or inconsistencies between terms of the Contract Documents, the following order of precedence shall apply:

a. The Contract and Exhibits, including change orders and permits;

b. Supplementary Conditions and their Exhibits;

c. Instructions to Bidders;

d. General Conditions and their Exhibits;

e. The Project Specifications;

f. The Project Drawings;

g. City of Stockton Standard Specifications;
h. City of Stockton Standard Drawings;

i. Where no order of precedence is stated, or if conflict or inconsistency cannot be resolved by a careful review of the Contract Documents, the more stringent of the requirements shown or specified shall be controlling.

Organization of the Specifications into various subdivisions and the arrangement of the Drawings shall not control Contractor in dividing the Work among subcontractors, in trades, or into design packages, or in establishing the extent of work to be performed by any trade.

Unless otherwise stated in the Contract Documents, technical words and abbreviations contained in the Contract Documents are used in accordance with commonly understood design professional and construction industry meanings; and non-technical words and abbreviations are used in accordance with their commonly understood meanings.

The Contract Documents may omit modifying words such as “all” and “any,” and articles such as “the” and “an,” but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement. The use of the word “including,” when following any general statement, shall not be construed to limit such statement to specific items or matters set forth immediately following such word or to similar items or matters, whether or not non-limiting language (such as “without limitation,” “but not limited to,” or words of similar import) is used with reference thereto, but rather shall be deemed to refer to all other items or matters that could reasonably fall within the broadest possible scope of such general statement.

Whenever the context so requires, the use of the singular number shall be deemed to include the plural and vice versa. Each gender shall be deemed to include any other gender, and each shall include corporation, partnership, trust, or other legal entity, whenever the context so requires. The captions and headings of the various subdivisions of the Contract Documents are intended only for reference and convenience and in no way define, limit, or prescribe the scope or intent of the Contract Documents or any subdivision thereof.

1.3 Headings

Headings to parts, divisions, sections, articles, paragraphs, subparagraphs, and forms are inserted for convenience of reference only and shall not affect the interpretation of the Contract Documents.

1.4 Penalty for Collusion

If, at any time, it is found that the person, firm, or corporation to whom the Contract has been awarded has, in presenting any bid or bids, colluded with any other party or parties, then the Contract shall be null and void, and the Contractor and its sureties shall be liable for loss or damage which the City may suffer thereby, and the City may advertise for new bids for said Work.

1.5 Successors and Assigns

The City and the Contractor, respectively, bind themselves, their partners, successors, assigns, and legal representatives to the other party hereto and to the partners, successors, assigns, and legal representatives of such other party with respect to all covenants, agreements, and obligation
contained in the Contract Documents. Neither party to the Contract shall assign the Contract or sublet it as a whole without the written consent of the other and consent of Surety.

1.6 Assignment to City

Pursuant to Public Contract Code 7103.5, in entering into the Contract and all subcontracts, to supply goods, services, or materials pursuant to the Contract, the Contractor and its subcontractors offer and agree to assign to the City 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. Sec. 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 Contract and subcontracts. This assignment shall be made and become effective at the time the City tenders final payment to the Contractor, without further acknowledgment by the parties. Reference Paragraph 00100-23.

1.7 Rights and Remedies

The duties and obligations imposed by the Contract Documents and the rights and remedies available there under shall be in addition to, and not a limitation of, any duties, obligations, rights, and remedies otherwise imposed or available by law.

No action or failure to act by the City, the Design Consultant, or the Construction Manager shall constitute a waiver of any right or duty afforded any of them under the Contract, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach there under, except as may be specifically agreed in writing.

2.0 ADMINISTRATION

2.1 Administration of the Contract

The City's Representative, the Construction Manager, and the Design Consultant will provide administration of the Contract as hereinafter discussed. The duties, responsibilities and limitations of authority of the Design Consultant and the Construction Manager as the representatives of the City during the construction, as set forth in the Contract Documents, will not be modified or extended without written consent of the City.

In case of the termination of the employment of the Design Consultant or the Construction Manager, the City shall appoint a Design Consultant or a Construction Manager whose status under the Contract Documents shall be that of the former Design Consultant or Construction Manager, respectively.

2.2 City's Representative

2.2.1 General - The City's Representative has the authority to act on behalf of the City to implement change orders, progress payments, contract performance decisions, acceptability of the Contractor's work, and early possession.
2.2.2 Change Orders - The City's Representative has the authority to review and recommend or reject change orders and cost proposals submitted by the Contractor or as recommended by the Construction Manager.

2.2.3 Progress Payments - The City's Representative has the authority to accept or reject requests for progress payments which have been submitted by the Contractor and recommended by the Construction Manager.

2.2.4 Contract Performance Decisions - Should the Contractor disagree with the Construction Manager's decision with respect to the contract performance, the Contractor may appeal to the City's Representative in accordance with the provisions herein.

2.2.5 Acceptability of Work - The City's Representative has the authority to make the final determination of the acceptability of the Work. The City's Representative also has the authority to accept or reject the Design Consultant's recommendations regarding retention of defective work as provided.

2.3 Construction Management

2.3.1 General - The Construction Manager is a representative of the City employed to act as advisor and consultant to the City in construction matters related to the Contract.

All instructions to the Contractor and all communications from the Contractor to the City or the Design Consultant shall be forwarded through the Construction Manager. The Construction Manager will have authority to act on behalf of the City only to the extent provided in the Contract Documents. The City has delegated its authority to the Construction Manager to make initial decisions regarding questions which may arise as to the quality or acceptability of materials furnished and work performed, and as to the manner of performance and rate of progress of the work under the Contract. The Construction Manager shall interpret the intent and meaning of the Contract and shall make initial decisions with respect to the Contractor's fulfillment of the Contract and the Contractor's entitlement to compensation. The Contractor shall look initially to the Construction Manager in matters relating to the Contract.

The Construction Manager's authority to act under Paragraph 00700-2.1, Administration of the Contract, and any decision made by it in good faith either to exercise or not to exercise such authority shall not give rise to any duty or responsibility of the City or Construction Manager to the Contractor, any subcontractor, any of their agents or employees, or any other person performing any of the Work.

2.3.2 Representative - The Construction Manager will be represented at the Site by a resident construction manager or resident engineer who will observe the progress, quality, and quantity of the Work to determine, in general, if the Work is proceeding in accordance with the intent of the Contract Documents. The Construction Manager shall not be responsible for construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work.

In accordance with the provisions detailed elsewhere in these General Conditions, the Construction Manager will make decisions relative to all matters of interpretation or execution of the Contract Documents.

2.3.3 Inspection of Construction - The Construction Manager shall have the authority to reject work and materials which do not conform to the Contract Documents, and to require special inspection or testing in accordance with Paragraph 00700-5.3, Defective and Unauthorized Work.
In addition to the resident construction manager or resident engineer, the Construction Manager may employ one or more inspectors to observe the Work and to act in matters of construction under this Contract. An inspector is not authorized to revoke, alter, or waive any requirements of the Specifications. The inspector is authorized to call the attention of the Contractor to any failure of the Work, materials or workmanship to conform to the Contract Documents. The inspector shall have the authority to reject materials or, in any emergency, suspend the Work. The Contractor may appeal any such issue which it disagrees with to the Construction Manager for decision.

2.3.4 Acceptability of the Work - The Construction Manager has the authority to make a recommendation as to the acceptability of the Work.

2.3.5 Change Orders - The Construction Manager has the authority to initiate change orders; to reject change orders proposed by the Contractor or Design Consultant; to negotiate and recommend acceptance of change orders; or to order minor changes in the Work at no cost to the City.

2.3.6 Construction Schedule - The Construction Manager has the authority to review and recommend acceptance of the progress schedule submitted by the Contractor at the start of the Work and subsequent significant revisions for conformance to the specified sequence of work and logic.

2.3.7 Progress Payments - The Construction Manager has the authority to recommend acceptance or rejection of requests for progress payments which have been submitted by the Contractor.

2.3.8 Final Payment - The Construction Manager, with the assistance of the Design Consultant will conduct inspections to determine the dates of substantial completion of the Work and final completion of the Work, and will receive and forward to the City, for the City's review, written warranties, and related documents required by the Contract and assembled by the Contractor.

2.3.9 Early Possession - The Construction Manager has the authority to recommend early possession.

2.4 Design Consultant

2.4.1 General - The Design Consultant will have the authority to act on behalf of the City only to the extent provided in the Contract Documents.

2.4.2 Interpretations - The Design Consultant has the authority to be the initial interpreter of the technical requirements of the Contract Documents. Either party to the Contract may make written request to the Construction Manager for interpretations necessary for the proper execution or progress of the Work. The Construction Manager shall refer such written requests to the Design Consultant, who will render such interpretations. Where the Contractor has requested an interpretation from the Construction Manager, or been notified by the Construction Manager that such interpretation has been requested by the City, any work done before receipt of such interpretations, if not in accordance with same, shall be removed and replaced or adjusted as directed by the Construction Manager without additional expense to the City.

2.4.3 Acceptability of the Work - The Design Consultant has the authority to make a recommendation as to the acceptability of the Work. The Design Consultant has the authority to recommend acceptance regarding the retention of defective work.

2.4.4 Site Observations - The Design Consultant may visit the Site at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the Work and to determine in general if the Work is proceeding in accordance with the Contract Documents. However, the Design Consultant will not be required to make extensive or continuous on-site inspections to check the quality or quantity of the Work.
2.4.5 Submittal - The Contractor shall submit, through the Construction Manager, all shop drawings, product data and samples for review.

The Design Consultant has the authority to review and take other appropriate action upon the Contractor's submittals such as shop drawings, product data and samples, but only for conformance with the design concept of the Work and the information given in the Contract Documents.

3.0 CITY

3.1 General

The City, acting through the City's Representative or the Construction Manager, shall have the authority to act as the sole judge of the Work and materials with respect to both quantity and quality as set forth in the Contract.

3.2 Attention to Work

The City shall notify the Contractor in writing of the name of the individual designated as the City's Representative and the name of the individual designated by the Construction Manager to act as resident construction manager or resident engineer. The Construction Manager's designated representative normally will be at the Site of the Work. During the representative's absences, the Contractor may contact a previously designated representative of the Construction Manager.

3.3 Inspection

In addition to the resident construction manager or resident manager or resident engineer, the City may employ one or more inspectors to observe the Work and to act in matters of construction under this Contract. An inspector is not authorized to revoke, alter, or waive any requirements of the specifications. The inspector is authorized to call the attention of the Contractor to any failure of the Work or materials to conform to the Contract Documents. The inspector shall have the authority to reject material or, in any emergency, suspend the Work. The Contractor may appeal any such issue with which it disagrees to the Construction Manager for decision by the Construction Manager.

Separate and independent from the inspection above, the project may be inspected by Building Officials for code compliance. Such inspectors shall have the authority provided to them by local jurisdiction.

Construction Manager will have authority to disapprove or reject Work which Construction Manager believes to be defective, or that Construction Manager believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Construction Manager will also have authority to require special inspection or testing of the Work as provided in this Section, whether or not the Work is fabricated, installed, or completed.

Contractor shall give Construction Manager timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
If 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, pay all costs in connection therewith, and furnish Construction Manager the required certificates of inspection or approval.

Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for City's and Construction Manager's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to the City and Construction Manager.

If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Construction Manager, it must, if requested by Construction Manager, be uncovered for observation.

Uncovering Work shall be at Contractor's expense unless Contractor has given Construction Manager timely notice of Contractor's intention to cover the same and Construction Manager has not acted with reasonable promptness in response to such notice.

If any Work is covered contrary to the written request of Construction Manager, it must, if requested by Construction Manager, be uncovered for Construction Manager’s observation and replaced at Contractor's expense without adjustment of Contract Time or Contract Price.

If Construction Manager considers it necessary or advisable that covered Work be observed by Construction Manager or inspected or tested by others, Contractor, at Construction Manager’s request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Construction Manager may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment. If it is found that such Work is defective, Contractor shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and the City shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, the City may make a Claim therefore as provided in these documents. If, however, such Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times (or Milestones), or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefore as provided in these documents.

3.4 City's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents, and fails within 48 hours after receipt of written notice from the City to commence and continue correction of such default or neglect with diligence and promptness, the City may, after 48 hours following receipt by the Contractor of an additional written notice and without prejudice to any other remedy make good such deficiencies.

The City also reserves the right to perform any portion of the Work due to an emergency threatening the safety of the Work, public, City, and any property or equipment.
The Contractor is forewarned that in exercising the rights and remedies under this paragraph, the City shall proceed expeditiously. In connection with such corrective and remedial action, the City may exclude CONTRACTOR from all or part of the Site, take possession of all or part of the Work and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which City has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow the City, City's representatives, agents and employees, City's other contractors, and Construction Manager and Construction Manager's Consultants access to the Site to enable City to exercise the rights and remedies under this paragraph.

All Claims, costs, losses, and damages incurred or sustained by the City in exercising the rights and remedies under this paragraph 3.4 will be charged against CONTRACTOR, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and City shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, City may make a claim therefor as provided in paragraph 7.5.2. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of CONTRACTOR's defective Work.

CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by City of City's rights and remedies under this paragraph 3.4.

3.5 City's Right to Use or Occupy

The City reserves the right, prior to Substantial Completion, to occupy, or use, any completed part or parts of the Work, providing these areas have been approved for occupancy by the City. The exercise of this right shall in no way constitute an acceptance of such parts, or any part of the Work, nor shall it in any way affect the dates and times when progress payments shall become due from the City to the Contractor or in any way prejudice the City's rights in the Contract, or any bonds guaranteeing the same. The Contract shall be deemed completed only when all the Work contracted has been duly and properly performed and accepted by the City.

Prior to such occupancy or use, the City and Contractor shall agree in writing regarding the responsibilities assigned to each of them for payments, security, maintenance, heat, utilities, damage to the Work, insurance, the period for correction of the Work, and the commencement of warranties required by the Contract Documents.

In exercising the right to occupy or use completed parts of the Work prior to the Substantial Completion thereof, the City shall not make any use which will materially increase the cost to the Contractor, without increasing the Contract Amount, nor materially delay the completion of the Contract, without extending the time for completion.

The part or parts of the Work, if any, which the City anticipates the use or occupancy of prior to Substantial Completion, are noted in Paragraph 01010-7.0, Occupancy Requirements. Failure to include a part of the Work in the above Section, shall not limit the City's right to use or occupy parts of the Work not listed.
3.6 City's Right to Perform Work and to Award Separate Contracts

The City reserves the right to perform the work related to the Project with the City's own forces, and to award separate contracts in connection with the Project or other work on the Site under these or similar General Conditions. If the Contractor claims that delay, damage, or additional cost is involved because of such action by the City, the Contractor shall make such claim as provided elsewhere in the Contract Documents.

When separate contracts are awarded for different portions of the Project or other work on the Site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Agreement.

The City will provide for the coordination of the work of the City's own forces and of each separate Contractor with the Work of the Contractor, who shall cooperate therewith as provided in Paragraph 00700-4.8.3, Cooperation.

4.0 CONTRACTOR

4.1 Office

The Contractor's office at the Project Site is hereby designated as the legal address of the Contractor for the receipt of documents, samples, notices, letters, and other articles of communication.

4.2 Contractor's Representative

The Contractor shall notify the City in writing of the names of the persons who will act as the Contractor's representative and his or her designated alternate, and who shall have the authority to act in matters relating to this Contract. The Contractor, acting through its representative, shall give personal attention to, and shall manage the Work, so that it shall be prosecuted faithfully. The Contractor's representative shall be an employee of the Contractor. Upon written request of the Contractor, this employment requirement may be waived by the City. The City's waiver, if granted, will be in writing. There is no obligation by the City to waive this provision regardless of the effect on the Contractor's operations. Such waiver may be rescinded by City upon reasonable written notice thereof.

At all times during the progress of the Work, the Contractor's representative shall be personally present at the Project site, or a designated alternate shall be at the Project site who has the authority to act in matters relating to the Contract. The Contractor's representative or designated alternate shall have the authority to carry out the provisions of the Contract and to supply materials, equipment, tools, and labor without delay for the performance of the Work. If neither the Contractor's representative nor a designated alternate is at the Project site, the City acting through the Construction Manager shall have the authority as provided in Paragraph 00700-6.6, Temporary Suspension of Work, to suspend the work until such a representative is at the Project site.

Before initial work is begun on the Contract, the Contractor shall file, with the Construction Manager, addresses and telephone numbers where the Contractor's and all subcontractors' representatives can be reached during all hours, including nights and weekends when work is not in progress.
4.3 Construction Procedures

The Contractor will supervise and direct the work. The Contractor has the authority to determine the means, methods, techniques, sequences, and procedures of construction, except in those instances where the City, to define the quality of an item of work, specifies in the Contract, a means, method, technique, sequence, or procedure for construction of that item of Work.

4.4 Contractor’s Employees

The Contractor shall be responsible for the adequacy, efficiency, and sufficiency of its employees. Workers shall have sufficient knowledge, skill, and experience to perform properly the work assigned to them.

The Contractor shall employ only competent, skillful workers to perform the Work. If any subcontractor or person employed by the Contractor or its subcontractors, appear to the Construction Manager or City's Representative to be incompetent or act in a disorderly or improper manner, such person or subcontractor shall be discharged from the site immediately by the Contractor upon written direction of the Construction Manager or City's Representative, and such person shall not again be employed on the Project.

4.5 Subcontractors

The Contractor shall give their personal attention to the fulfillment of the contract and shall keep the work under his control.

Subcontractors will not be recognized as having a direct relationship with the City. The persons engaged in the Work, including employees of subcontractors and suppliers, will be considered employees of the Contractor. The Contractor will be responsible for their work and their work shall be subject to the provisions of the Contract. The Contractor is as fully responsible to the City for the acts and omissions of its subcontractors and of persons either directly or indirectly employed by them as the Contractor is for the acts and omissions of persons directly employed by the Contractor. Nothing contained in the Contract Documents shall create any contractual relation between any subcontractor and the City. References in the Contract Document to actions required of subcontractors, manufacturers, suppliers, or any party other than the Contractor, the City, the Construction Manager, or the Design Consultant shall be interpreted as requiring that the Contractor shall require such subcontractor, manufacturer, supplier, utility company, or party to perform the specified action, unless the Contract Documents specifically state that the Work is not included in the Contract.

The Contractor shall not employ any subcontractors that are not properly licensed in accordance with State law. Prior to commencement of any work by a subcontractor, the Contractor shall submit verification to the Construction Manager that the subcontractor is properly licensed for the work it will perform. Changes to subcontractors listed in the Bid in accordance with Public Contract Code 4100 et. seq., shall be made only with the approval of the City.
4.6 **Contractor's Equipment and Facilities**

The Contractor shall furnish and maintain in good condition all equipment and facilities as required for the proper execution and inspection of the Work. Such equipment and facilities shall meet all requirements of applicable ordinances and laws.

4.7 **Public Safety and Convenience**

The Contractor shall conduct its work so as to ensure the least possible obstruction to traffic and inconvenience to the general public and the residents in the vicinity of the Work and to ensure the protection of persons and property at no extra cost to the City. The Contractor shall have under construction no greater length or amount of work than it can prosecute properly with due regard to the rights of the public.

4.8 **City-Contractor Coordination**

4.8.1 **Service of Notice** - Notice, order, direction, request, or other communication given by the Construction Manager or City to the Contractor shall be deemed to be well and sufficiently given to the Contractor if delivered to the Contractor's Representative designated in Paragraph 00700-4.2, Contractor's Representative, to the Contractor's office designated in Paragraph 00700-4.1, Office, or to the Contractor's address provided in the Bid Proposal.

4.8.2 **Suggestions to Contractor** - Plans or methods of work suggested by the City, the Construction Manager, or the Design Consultant to the Contractor, but not specified or required, if adopted or followed by the Contractor in whole or in part, shall be used at the risk and responsibility of the Contractor. The City, and Construction Manager, or the Design Consultant assume no responsibility therefore, and in no way will be held liable for any defects in the Work which may result from or be caused by use of such plan or method of work.

4.8.3 **Cooperation** - The Contractor shall afford the City, the Construction Manager and separate contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work, and shall connect and coordinate the Work with theirs as required by the Contract Documents.

If any part of the Contractor's Work depends for proper execution or results upon the work of the City or any separate contractor, the Contractor shall, prior to proceeding with the Work, promptly report to the Construction Manager any apparent discrepancies or defects in such other work that render it unsuitable for such proper execution and results. Failure of the Contractor to so report shall constitute an acceptance of the City's or separate contractor's work as fit and proper to receive the Work, except as to latent defects which subsequently become apparent in such work by others.

If requested by the Contractor, the City shall arrange meetings with other contractors performing work on behalf of the City to plan coordination of construction activities. The City shall keep the Contractor informed of the planned activities of other contractors.

Differences and conflicts arising between the Contractor and other contractors employed by the City or between the Contractor and the workers of the City with regard to their work, shall be submitted to the City for its decision in the matter. If such separate contractor sues the City on account of any delay or damage alleged to have been caused by the Contractor, the City shall notify the Contractor who shall, at the City's election, defend such proceedings at the Contractor's expense. If any judgment or award against the City arises from any such litigation whether
defended by City or by Contractor, the Contractor shall pay or satisfy said judgment or award and shall reimburse the City for all attorney's fees and court costs which the City has incurred or for which it is liable.

4.9 Permits

Unless specifically stated to be provided by the City, Contractor shall apply for, obtain, and comply with all the terms, conditions and requirements attached to all permits, bonds and licenses required by local, state, or federal agencies to perform work, construct, erect, test and start up of any equipment or facility for this Contract. Permits shall be kept on-site. Where operating permits are required, the Contractor shall apply for and obtain such operating permits in the name of the City and provide the permit in an appropriate frame or file holder when the City accepts substantial completion of the equipment or facility. The Contractor shall give all notices necessary or incidental to the due and lawful prosecution of the work.

Any permits, bonds, licenses and fees therefore required for the performance of work under this Contract and not specifically mentioned herein as having been obtained and paid by the City shall be included in the Contractor's bid price.

The Contractor shall be responsible for satisfying all code requirements. Any code inspections will be coordinated by the Construction Manager. The Contractor shall comply with all construction conditions stipulated in the permits.

The Contractor shall apply for and obtain all safety permits for excavations, tunneling, trenches, construction (building structure, scaffolding, or false work) and demolition required by CAL/OSHA including but not limited to, the permits required by Labor Code Section 6500.

The Environmental Quality Act of 1970 (Public Resources Code, Sections 21000 to 21176 incl.) may be applicable to permits, licenses and other authorizations which the Contractor must obtain from local agencies in connection with performing the work of the contract. The Contractor shall comply with the provisions of said statutes in obtaining such permits, licenses and other authorizations and they shall be obtained in sufficient time to prevent delays to the work.

In the event that the City has obtained permits, licenses or other authorizations, applicable to the work, in conformance with the requirements in said Environmental Quality Act of 1970, the Contractor shall comply with the provisions of said permits, licenses and other authorizations.

4.10 Contractor's Responsibility for the Work and Materials

Until acceptance of the Work, the Contractor shall have the charge and care of the Work and of the materials to be used therein and shall bear the risk of injury, loss, or damage, to any part thereof (regardless of whether partial payments have been made on such damaged portions of the Work) by the action of the elements or from any other cause, whether or not arising from the non-execution of the Work. The Contractor shall rebuild, repair, restore, and make good all injuries, losses, or damages to any portion of the Work or the materials occasioned by any cause before its completion and acceptance and shall bear the expense thereof, except for such injuries, losses, or damages as are directly and proximately caused by acts of the City.
4.11 Laws to be Observed

The Contractor shall keep fully informed of all existing and future County, State, and National laws and regulations and all municipal ordinances and regulations of the City which in any manner affect those engaged or employed in the Work and of all such orders and decrees of bodies having any jurisdiction or authority over the same; and shall protect and indemnify the City and all of its officers, agents, and servants against any claim or liability arising from or based on the violation of any such laws, ordinances, regulations, orders, or decrees whether by the Contractor or its employees. If any discrepancy or inconsistency is discovered in the plans, drawings, specifications or Contract for the Work in relation to any such law, ordinance, regulations, order or decree, the Contractor shall immediately report the same to the Construction Manager in writing.

4.11.1 Prevailing Wage - The Contractor shall comply with Labor Code Sections 1774 and 1775. In accordance with said Section 1775, the Contractor shall forfeit, as a penalty to the City of Stockton, $25 for each calendar day or portion thereof, for each workman paid less than the prevailing rates as determined by the Director of Industrial Relations for such work or craft in which such workman is employed for any work done under the contract by him or by any subcontractor under him violation of the provisions of the Labor Code and, in particular, Labor Code Section 1770 and 1780, inclusive.

In addition to said penalty and pursuant to said Section 1775, the difference between such stipulated prevailing wage rates and the amount paid to each workman for each calendar day or portion thereof for which each workman was paid less that the stipulated prevailing wage rate shall be paid to each workman by the Contractor.

Pursuant to provisions of Section 1773 of the Labor Code of the State of California, the City has obtained the general prevailing rate of wages (which rate includes employer payments for health and welfare, vacation, pension, travel time, and subsistence pay as provided for in Section 1773.8 of said Code, apprenticeship or other training programs authorized by Section 3093 of said code and similar purposes) applicable to the work to be done, for straight time, overtime, Saturday, Sunday and holiday work. The holiday wage rate listed shall be applicable to all holidays recognized in the collective bargaining agreement of the particular craft, classification or type of workman concerned. These wage rates are set forth in the Division of Industrial Relations publication entitled "General Prevailing Wage Rates", which is part of the Contract.

Pursuant to the provisions of Section 1773.2 of the Labor Code (as amended) the general prevailing wage rates for each craft, classification or type of workman are on file at the Municipal Utilities Department, 2500 Navy Drive, Stockton, California. A copy of said wage rates shall be posted by the Contractor in a prominent place at the site of the work.

The City will not recognize any claim for additional compensation because of the payment by the Contractor of any wage rate in excess of the prevailing wage rate set forth in the Contract. The possibility of wage increases is one of the elements to be considered by the Contractor in determining his bid, and will not under any circumstances be considered as the basis of a claim against the City on the Contract.

4.11.2 Travel and Subsistence Payments - Attention is directed to the requirements of Section 1773.8 of the Labor Code. The Contractor shall make travel and subsistence payment to each workman, needed to execute the work, in accordance with the requirements in said Section 1773.8.

4.11.3 Certified Payrolls - In accordance with Section 1776 of the Labor Code, each Contractor and subcontractor shall keep an accurate payroll record, 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 project.

The payroll records shall be certified and submitted to the City, and shall be available for inspection at all reasonable hours at the principal office of the Contractor on the following basis:

a. A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or his or her authorized representative on request.

b. A certified copy of all payroll records shall be made available for inspection or furnished upon request to a representative of the City, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations.

c. A certified copy of all payroll records shall be made available upon request by the public in accordance with Section 1776 of the Labor Code.

The Contractor is responsible for its and its subcontractors' compliance with the provisions of Section 1776 of the Labor Code.

4.11.4 Overtime Requirements - The Contractor shall forfeit, as a penalty to the City, the penalty as provided in the Labor Code for each worker employed in the execution of the Contract by the Contractor, or any subcontractor under the Contractor, for each day during which such worker is required or permitted to work more than eight (8) hours in any one day and forty (40) hours in any one week, in violation of the provisions of the Labor Code, and in particular, Section 1810 to Section 1815 thereof, inclusive, except that work performed by employees of Contractors in excess of eight (8) hours a day and forty (40) hours during one week, shall be permitted upon compensation for all hours worked in excess of eight (8) hours per day, at not less than one and a half (1½) times the basic rate of pay as provided for in the Labor Code.

4.11.5 Apprentice and Trainee - Attention is directed to the provisions in Section 1777.5 of the Labor Code and in accordance with the regulations of the California Apprenticeship Council concerning the employment of apprentices by the Contractor or any subcontractor under the Contractor.

Section 1777.5 requires the Contractor or subcontractors employing tradespersons in any apprenticeable occupation to apply to the joint apprenticeship committee nearest the site of the project which administers the apprenticeship program in that trade for a certificate of approval. The Contractor and subcontractors are required to submit contract award information to the applicable joint apprenticeship committee. As provided for in Section 1777.5 of the Labor Code, the Contractor is required to make contributions to funds established for the administration of apprenticeship programs.

It shall be the responsibility of the Contractor to abide by the provisions of Section 1777.5 of the Labor Code and to require all subcontractors employed by or contracting with the Contractor to abide by said provisions. The Contractor shall furnish the City any and all evidence of compliance with this Code Section when requested by the City.

It is City policy to encourage the employment and training of apprentices on public works contracts as may be permitted under local apprenticeship standards.
For failure to comply with Section 1777.5 of the Labor Code, the Contractor shall be subject to the penalties in Section 1777.7 of the Labor Code.

4.11.6 Workers’ Compensation Insurance - The Contractor is required to secure the payment of compensation to its employees in accordance with the provisions of Sections 1860 and 3700 of the Labor Code and Paragraph 00820-2.4, Workers’ Compensation Insurance.

4.11.7 Labor Discrimination - Attention is directed to Section 1735 of the Labor Code, which reads as follows:

No discrimination shall be made in the employment of persons upon public works because of race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status, or sex of such persons, except as provided in Section 12940 of the Government Code, and every Contractor for public works violating this Section is subject to all the penalties imposed for a violation of this chapter.

Attention is also directed to the requirement in Section 1431 of the Labor Code and Sections 300 and 317 through 323 of Title 8 of the California Administrative Code that the Contractor shall submit his Equal Employment Opportunity Program and certification fee to the Fair Employment Practice Commission, in the event that the bid price for the contract exceeds $200,000.

4.11.8 Vehicle Code - Pursuant to the authority contained in Vehicle Code Section 591, the City has determined that within such areas as are within the limits of the project and are open to public traffic, the following requirements of the Vehicle Code will apply: The lighting requirements in Section 25803; the brake requirements in Division 12, Chapter 3; the splash apron requirements in Section 27600; and, when operated on completed or existing treated base, surfacing, pavement or structures, except as otherwise provided in Section 7-1.02, “Weight Limitations,” the weight limitation requirements contained in Division 15.

Attention is directed to the statement in said Section 591 that this Section shall not relieve him or any person from duty of exercising due care. The Contractor shall take all necessary precautions for safe operations of his equipment and the protection of the public from injury and damage from such equipment.

Any other requirements set forth in Division 11, 12, 13, 14 and 15 of the Vehicle Code which the Department, pursuant to the authority contained in Vehicle Code Section 591, will require compliance with, will be set forth in the special provisions.

4.11.9 Affirmative Action - Attention is directed to the requirements of the Stockton Municipal Code, Chapter 3, Part V, as amended with reference to the affirmative action requirements for Contractors on Public Works projects of the City of Stockton. Such requirements shall be followed. Guidelines and the necessary reporting requirements are contained in the publication entitled: “Affirmative Action Guidelines and Procedures For Respondents To A City of Stockton Request for Proposals” which is made a part of these specifications by this reference. Failure of the Contractor to conform to the provisions of the City of Stockton’s Affirmative Action Program will result in his bid being subject to rejection.
4.12 Safety

4.12.1 Contractor's Safety Responsibility - The Contractor shall be solely and completely responsible for conditions of the jobsite, including safety of all persons and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours. Safety provisions shall conform to U.S. Department of Labor (OSHA), the California Occupational Safety and Health Act, and all other applicable Federal, State, County, and local laws, ordinances, codes, the requirements set forth below, and any regulations that may be detailed in other parts of these Contract Documents. Where any of these are in conflict, the more stringent requirement shall be followed.

No provision of the Contract Documents shall act to make the City, the Construction Manager or any other party than the Contractor responsible for safety. The Construction Manager shall not have authority for safety on the project. The Contractor shall indemnify, defend and hold harmless the City, Construction Manager, or other authorized representatives of the City, from and against any and all actions, damages, fines, suits, and losses arising from the Contractor's failure to meet all safety requirements and/or provide a safe work site.

If death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to both the Construction Manager and the City. In addition, the Contractor must promptly report in writing to the Construction Manager all accidents whatsoever arising out of, or in connection with, the performance of the Work whether on, or adjacent to, the Site, giving full details and statements of witnesses. The Contractor shall make all reports as are, or may be, required by any authority having jurisdiction, and permit all safety inspections of the work being performed under this Contract.

If a claim is made by anyone against the Contractor or any subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the Construction Manager, giving full details of the claim.

4.12.2 Safety Program - The Contractor shall establish, implement, and maintain a written injury prevention program as required by Labor Code Section 6401.7. Before beginning the Work the Contractor shall prepare and submit to the Construction Manager a Contractor Safety Program that provides for the implementation of all of the Contractor's safety responsibilities in connection with the Work at the site and the coordination of that program and its associated procedures and precautions with safety programs, precautions and procedures of each of its subcontractors and other prime Contractors performing work at the site. The Contractor shall be solely responsible for initiating, maintaining, monitoring, coordinating, and supervising all safety program, precautions, and procedures in connection with the Work and for coordinating its programs, precautions, and procedures of the other prime contractors and subcontractors performing the Work at the site. The Safety Program should contain all the necessary elements for the Contractor to administer its program on site. At a minimum, this written Safety Program shall address the elements required by Labor Code Section 6401.7. The Contractor shall obtain a copy of the City's Municipal Utilities Department's Injury and Illness Prevention Program and the Safety Manual and incorporate appropriate safety procedures into their Safety Program. The Contractor shall also comply with the Department's "Contractor's Safety Rules" in Section 01500-10.

The program shall also address the following:

a. Compliance with Laws, Rules, and Regulations

b. Infractions of Safety Rules
1. Reported to Contractor's designated Safety Supervisor
2. Time correction
3. Contractor to enforce safety requirements on its subcontractors
4. Non-complying employees to be removed from the Project

c. Housekeeping
   1. Continuous cleaning required
   2. Final clean up required

d. Means of Implementing the Program
   1. All new employees to receive training on the Contractor's Safety Program prior to starting work.
   2. Periodic tool box meetings with agenda recorded.
   4. Establish emergency procedures and telephone numbers including the procedure for the immediate removal to a hospital or a doctor's care of persons who may be injured on the jobsite. The Contractor shall maintain at its office or other well-known place at the Site safety equipment applicable to the Work as prescribed by the aforementioned authorities, and all items necessary for giving first aid to the injured.
   5. Project bulletin board with required policies.
   6. At least two employees on each shift should have First Aid training and maintain a current First Aid card issued by an agency such as the American Red Cross.
   7. Completion of a job hazard analysis for specific construction activities.
   8. Establish a hazard communication program for informing the Contractor's and subcontractor's personnel, Construction Manager, City, and other affected parties of specific hazards on the project.
   9. Establish a confined space entry program in accordance with Cal OSHA requirements.

e. Define the duties and responsibilities of Contractor management personnel for safety.
   1. Project Manager
   2. General Superintendent
   3. Foreman
   4. Safety Supervisor

f. Accident Investigation

General Conditions
00700-17
1. Investigate all accidents and near misses.
2. Develop steps to prevent a reoccurrence.
3. Completion of all reporting paperwork.

The Contractor's compliance with requirements for safety and/or the Construction Manager's review of the Contractor's Safety Program shall not relieve or decrease the liability of the Contractor for safety. The Construction Manager's review of the Contractor's Safety Program is only to determine if the above listed elements are included in the program.

4.12.3 Safety Supervisor - The Contractor shall appoint an employee as safety supervisor who is qualified and authorized to supervise and enforce compliance with the Safety Program. The Contractor shall notify the Construction Manager in writing prior to the commencement of work of the name of the person who will act as the Contractor's safety supervisor and furnish the safety supervisor's resume to the Construction Manager.

The Contractor will, through and with his Safety Supervisor, ensure that all of its employees and its subcontractors of any tier, fully comply with the Project Safety Policies. The Safety Supervisor shall be a full-time employee of the Contractor whose responsibility shall include supervising compliance with applicable safety requirements on the work site and for developing and implementing safety training classes for all job personnel. The City shall have the authority to require removal of the Contractor's Safety Supervisor if the representative is judged to be improperly or inadequately performing the duties; however, this authority shall not in any way affect the Contractor's sole responsibility for performing this work safely, nor shall it impose any obligation upon the City to ensure the Contractor perform its work safely.

4.12.4 Safety Coordination Meetings - The Contractor and its affected subcontractors shall attend safety coordination meetings with the Construction Manager and any other affected parties. The meeting shall be held at least monthly and prior to the start of new construction activities.

Construction activities will be reviewed prior to the start of work in the various areas to determine potential hazards. The Contractor will be responsible for preparing job hazard analyses to breakdown the activities to be performed in a step-by-step procedure and provide safety guidelines for each step and any special equipment necessary to protect workers. The Contractor will act as facilitator for the meeting. The Construction Manager will participate in the safety coordination meetings but will not direct the Contractor on how to perform its safety operations.

4.12.5 Safety and Protection - The Contractor shall take all necessary protection to prevent damage, injury, and loss to:

a. All employees on the Project, employees of all subcontractors, and other persons and organizations who may be affected thereby;
b. All the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and
c. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and underground facilities not designated for removal, relocation, or replacement in the course of construction.

The Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for the 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. The 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. All injury or loss to any property caused, directly or indirectly, in whole or in part, by the Contractor, any subcontractor, supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by the Contractor.

4.12.6 Excavation Safety - In accordance with the provisions of Section 6705 of the Labor Code, the Contractor shall submit, in advance of excavation five feet or more in depth, detailed plans showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from hazard of caving ground during such excavation. If such plans vary from the shoring system standards set forth in the Construction Safety Orders in Title 8, California Code of Regulations, the plans shall be prepared and signed by a registered civil or structural engineer. Shoring, bracing, sloping, or other protective system shall not be less effective than required by the California Construction Safety Orders. The City's review of the Contractor's excavation plan is only for general conformance to the California Construction Safety Orders.

Prior to commencing any excavation, the Contractor shall designate in writing to the Construction Manager the "competent person(s)" with the authority and responsibilities designated in the Construction Safety Orders.

4.12.7 Safety Emergencies - In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the Construction Manager, is obligated to act to prevent threatened damage, injury or loss. The Contractor shall give the Construction Manager prompt written notice if the Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby.

4.12.8 Safety Violations - Should the Contractor fail to correct an unsafe condition, the Construction Manager shall immediately notify the City of the Contractor's failure to correct the unsafe condition. The City shall then notify the Contractor through the Construction Manager that the unsafe condition must be corrected or the work in question will be stopped in accordance with Paragraph 00700-6.6, Temporary Suspension of Work until the condition is corrected to the satisfaction of the City. No extension of time or additional compensation will be granted as a result of any stop order so issued. The notification and suspension of such work or the failure to provide such notification and suspension by the Construction Manager and City shall not relieve the Contractor of its sole responsibility and liability for safety.

The City shall have the authority to require the removal from the project of the foreman and/or superintendent in responsible charge of the work where safety violations occur.

4.12.9 Equipment Safety Provisions - The completed Work shall include all necessary permanent safety devices, such as machinery guards and similar ordinary safety items, required by the State and Federal (OSHA) industrial authorities and applicable local and national codes. Further, any features of the Work, including City-selected equipment, subject to such safety regulations shall be fabricated, furnished, and installed in compliance with these requirements. All equipment furnished shall be grounded and provided guards and protection as required by safety codes. Where vapor-tight or explosion-proof electrical installation is required by safety codes, this shall be provided. Contractors and manufacturers of equipment shall be held responsible for compliance with the requirements included herein. The Contractor shall notify all equipment suppliers and subcontractors of the provisions of this paragraph.
4.12.10 Hazard Communication Programs- Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

4.13 Review of Contract Documents and Field Conditions by Contractor; Single Point Responsibility of Contractor - In addition to the examination and reviews performed, and obligations assumed, incidental to making the representations set forth in the Contract, Contractor shall carefully study and compare each of the Contract Documents with the others and with information furnished by City, and shall promptly report in writing to City’s Representative any errors, inconsistencies, or omissions in the Contract Documents or inconsistencies with applicable code requirements observed by Contractor. Contractor shall determine the most desirable method of achieving City’s requirements in terms of cost, technology, quality and speed of delivery.

Contractor is responsible for the construction of the Project and shall provide all services pursuant to this Contract in a manner consistent with the standard of care under California law applicable to those who specialize in providing such services for projects of the type, scope, and complexity of the Project (including its contracting mode). Contractor shall perform its construction services in accordance with the best practices applicable to Contractor’s field ordinarily used by member of construction industry in the location where the services are to be performed. Contractor shall take field measurements, verify field conditions, and carefully compare with the Contract Documents such field measurements, conditions, and other information known to Contractor before commencing the Work. Errors, inconsistencies, or omissions discovered at any time shall be promptly reported in writing to City’s Representative.

If Contractor performs any construction activity which it knows, or should know, involves an error, inconsistency, or omission in relation to the Contract Documents, without notifying and obtaining the written consent of City, Contractor shall be responsible for the resultant losses, including, without limitation, the costs of correcting Defective Work.

Contractor agrees that it has single point responsibility for the construction of this Project.

4.14 Supervision and Construction Procedures - Contractor shall supervise, coordinate, and direct the Work using Contractor’s best skill and attention. Contractor shall be solely responsible for, and have control over construction means, methods, techniques, sequences, procedures, and the coordination of all portions of the Work, including, but without limitation, landscape and site work, utilities, and building systems.

Contractor shall be responsible to City for acts and omissions of Contractor’s agents, employees, and subcontractors, of all tiers, and their respective agents and employees.

Contractor shall not be relieved of its obligation to perform the Work in accordance with the Contract Documents either by acts or omissions of City or City’s Representative in the administration of the Contract, or by tests, inspections, or approvals required, or performed, by persons or firms other than Contractor.

Contractor shall be responsible for inspection of all portions of the Work, including those portions already performed under this Contract, to determine that such portions conform to the requirements of the Contract Documents and are ready to receive subsequent Work.

Contractor shall at all times participate in, and implement, the CEQA and NEPA mitigation processes and ensure performance as required in the Contract Documents.

Contractor shall at all times maintain good discipline and order among its employees and subcontractors. Contractor shall provide competent, fully qualified personnel to perform the Work.
4.15 Labor And Materials - Unless otherwise provided in the Contract Documents, Contractor shall provide and pay for all services, other services, labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other things necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

5.0 CONTROL OF WORK AND MATERIALS

5.1 Means and Methods

It is expressly stipulated that the drawings, specifications and other Contract Documents set forth the requirements as to the nature of the completed Work and do not purport to control the method of performing work except in those instances where the nature of the completed Work is dependent on the method of performance.

Except as provided elsewhere in the Contract Documents, neither the City, Design Consultant nor the Construction Manager will be responsible for or have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work. Except as provided elsewhere in the Contract Documents, neither the City, Design Consultant nor the Construction Manager will be responsible for or have control or charge over the acts or omissions of the Contractor, or any of their subcontractors, agents or employees, or any other persons performing any of the Work. Any general control of the Work exercised by the City or its authorized representatives shall not make the Contractor an agent of the City, and the liability of the Contractor for all damages to persons and/or to public or private property arising from the Contractor's execution of the Work shall not be lessened because of such general control.

Neither the inspection by the City, Design Consultant, or Construction Manager, nor any order, measurement, approved modification, or payment of monies, nor acceptance of any part or whole of the Work by the City, Design Consultants, Construction Manager, or their agents shall operate as a waiver of any provision of the Contract.

Acceptance by the Construction Manager, City and/or Design Consultant of any drawings, or any information regarding materials and equipment the Contractor proposes to furnish or method of work shall not be regarded as an assumption of risks or liability by the Construction Manager, Design Consultant, or the City, or any officer or employee thereof, and the Contractor shall have no claim under the Contract on account of the failure or partial failure or inefficiency or insufficiency of any plan or method of work or material and equipment so accepted. Such acceptance shall be considered to mean merely that the Construction Manager, City, and/or Design Consultant has no objection to the Contractor using, upon its own full responsibility, the plan or method of work proposed, or furnishing the materials and equipment proposed.

5.2 City-Furnished Materials

Materials, if furnished by the City, will be made available as designated in the General Requirements. The cost of loading, unloading, hauling and handling, and placing City-furnished materials shall be considered as included in the price bid for the Contract item involving such City-furnished material.
Contractor shall inspect and assure itself of the amount and soundness of such materials.

The Contractor will be held responsible for all materials furnished to it, and shall pay all demurrage and storage charges. City-furnished materials lost or damaged from any cause whatsoever shall be replaced by the Contractor. The Contractor will be liable to the City for the cost of replacing City-furnished material and such costs may be deducted from any monies due or to become due the Contractor.

5.3 Defective and Unauthorized Work

Materials and workmanship not conforming to the requirements of the Contract Documents shall be considered defective and will be subject to rejection. Defective work or material, whether in place or not, shall be removed immediately from the Site by the Contractor, at its expense, when so directed by the Construction Manager.

Any work done beyond the limits of work, lines, and grades shown on any approved plans or established by the Construction Manager, or any extra work done without written authority, will be considered as unauthorized and will not be paid for.

Upon failure on the part of the Contractor to comply with any order of the Construction Manager made under the provisions of this paragraph, the Construction Manager shall have authority to require special inspection and testing to verify if work is defective. Confirmed defective work shall be remedied, or removed and replaced, and unauthorized work be removed. The costs thereof will be deducted from any monies due or to become due the Contractor. The time, cost and compliance requirements stipulated in Paragraph 00700-3.4, City's Right to Carry Out the Work, shall apply for this paragraph also.

5.4 Unnoticed Defects

Any defective work or material that may be discovered by the City, Construction Manager, or Design Consultant before the final acceptance of the Work, or before final payment has been made, or during the warranty period, shall be removed and replaced by work and materials which shall conform to the provisions of the Contract Documents. Failure on the part of the City, Construction Manager, or Design Consultant to condemn or reject bad or inferior work or materials shall not be construed to imply acceptance of such work or materials.

5.5 Right to Retain Imperfect Work

If any part or portion of the work performed or material furnished under this Contract shall prove defective and not in accordance with the Drawings and Specifications, and if the imperfection in the same shall not be of sufficient magnitude or importance as to make the work dangerous or unsuitable, or if the removal of such work will create conditions which are dangerous or undesirable, the City shall have the right and authority to retain such work but shall make such deductions in the final payment therefore as may be just and reasonable.
6.0 PROGRESS OF THE WORK

6.1 Beginning of Work

The Contractor shall begin work within ten (10) days of the effective date of the Notice to Proceed and shall diligently prosecute the same to completion within the time limit.

Should the Contractor begin work in advance of receiving Notice to Proceed, any work performed in advance of the said date of approval shall be considered as having been done by the Contractor at its own risk and as a volunteer.

6.2 Time of Completion

Time shall be of the essence of the Contract. The Contractor shall prosecute the work so that the various portions of the project shall be complete and ready for use within the time specified in Paragraph 01010-3.0, Time Allowed for Completion. It is expressly understood and agreed by and between the Contractor and the City that the Contract time for completion of the work described herein is a reasonable time taking into consideration the average climatic and economic conditions and other factors prevailing in the locality and the nature of the work.

6.3 Delays

6.3.1 Notice of Delays - When the Contractor foresees a delay in the prosecution of the Work and, in any event, immediately upon the occurrence of a delay, the Contractor shall notify the Construction Manager in writing of the probability of the occurrence and the estimated extent of the delay, and its cause. The Contractor shall take immediate steps to prevent, if possible the occurrence or continuance of the delay. The Contractor agrees that no claim shall be made for delays which are not called to the attention of the Construction Manager at the time of their occurrence.

6.3.2 Non-excusable Delays - Non-excusable delays in the prosecution of the Work shall include delays which could have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its subcontractors, at any tier level, or suppliers.

6.3.3 Excusable Delays - Excusable delays in the prosecution or completion of the Work shall include delays which result from causes beyond the control of the Contractor and City and which could not have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its subcontractors, at any tier level, or suppliers.

6.3.3.1 Abnormal Delays - Delays caused by acts of god, fire, unusual storms, floods, tidal waves, earthquakes, strikes, labor disputes, and freight embargoes, shall be considered as excusable delays insofar as they prevent the Contractor from proceeding with at least seventy-five (75) percent of the normal labor and equipment force for at least five (5) hours per day toward completion of the current critical activity item(s) on the latest favorably reviewed progress schedule.

6.3.3.2 Weather Delays - Should inclement weather conditions or the conditions resulting from weather prevent the Contractor from proceeding with seventy-five (75) percent of the normal labor and equipment force engaged in the current critical activity item for a period of at least five (5) hours per day toward completion of such operation or operations, and the crew is dismissed as a result thereof, it shall be a weather delay day. The Contractor may be granted a time extension pursuant to Paragraph 00700-6.4.2.c, Weather Delays.
6.3.3.3 Material Shortages - Upon the submission of satisfactory proof to the Construction Manager by the Contractor, shortages of material may be acceptable as grounds for granting a time extension. In order that such proof may be satisfactory and acceptable to the Construction Manager, it must be demonstrated by the Contractor that the Contractor has made every effort to obtain such materials, or obtain acceptable substitute materials, from all known sources within reasonable reach of the proposed Work. Only the physical shortage of material, caused by unusual circumstances, will be considered under these provisions as a cause for extension of time, and no consideration will be given to any claim that material could not be obtained at a reasonable, practical, or economical cost or price, unless it is shown to the satisfaction of the Construction Manager that such material could have been obtained only at exorbitant prices entirely out of line with current rates, taking into account the quantities involved and usual practices in obtaining such quantities. A time extension for shortage of material will not be considered for material ordered or delivered late or whose availability is affected by virtue of the mishandling of procurement. The above provisions apply equally to equipment to be installed in the work.

6.3.4 Compensable Delays - Compensable delays in the prosecution or completion of the Work shall include delays that occur through no fault of the Contractor and prevent the Contractor from proceeding with at least seventy-five (75) percent of the normal labor and equipment force for at least five (5) hours per day toward completion of the current critical activity item(s) on the latest favorably reviewed progress schedule due to the following cause(s):

a. Delays due solely to the actions and/or inactions of the City.

b. Delays due to differing site conditions as defined in Paragraph 00700-7.3, Differing Site Conditions.

c. Delays due to other Contractors employed by the City who interfere with the Contractor's prosecution of the Work as defined above.

No delay shall be compensable unless the claimed event or occurrence delays completion of the work beyond the contractual completion date or the completion date shown in the accepted initial or updated schedules, and the delay affects a critical activity while such activity is on the critical path.

6.3.5 Concurrent Delays - Concurrent delays are those delay periods when the prosecution of the Work is delayed during the same period of time due to causes from a combination of the delays defined in Paragraphs 00700-6.3.2, Non-Excusable Delays, 00700-6.3.3, Excusable Delays, or 00700-6.3.4, Compensable Delays. During such concurrent delay periods, time extensions will be granted in accordance with Paragraph 00700-6.4, Time Extensions; however, the Contractor shall not be compensated for its delay damages as defined in Paragraph 00700-6.4.3, or for any other damages, and the City shall not assess its actual costs as defined in Paragraph 00700-6.4.1, Non-excusable Delays.

6.4 Time Extensions

6.4.1 Non-excusable Delays - The City may grant an extension of time for non-excusable delays if the City deems it is in its best interest. If the City grants an extension of time for non-excusable delays, the Contractor agrees to pay the City's actual costs, including charges for engineering, inspection and administration incurred during the extension.

6.4.2 Excusable or Compensable Delays - If the Contractor is delayed in the performance of its work as defined in Paragraphs 00700-6.3.3, Excusable Delays, or 00700-6.3.4, Compensable Delays, then
the Contract completion date may be extended by the City for such time that, in the City's and Construction Manager's determination, the Contractor's completion date will be delayed, provided that the Contractor strictly fulfills the following:

a. The Contractor shall provide notification, in accordance with Paragraph 00700-6.3.1, Notice of Delays, and submit in writing a request for an extension of time to the Construction Manager stating at a minimum the probable cause of the delay and the number of days being requested. The time extension request shall be submitted in accordance with the requirements of Paragraph 01310-4.0, Time Impact Analyses.

b. If requested by the Construction Manager, the Contractor shall promptly provide sufficient information to the Construction Manager to assess the cause or effect of the alleged delay, or to determine if other concurrent delays affected the work.

c. Weather Delays. The Contractor will be granted a non-compensable time extension for weather caused delays, pursuant to Paragraph 00700-6.3.3.2, Weather Delays, over and above an allowance as provided for in Paragraph 01010-5.0, Weather Days. No time extensions for weather delays will be granted until the total number of weather days exceeds this allowance.

Should the Contractor fail to fulfill any of the foregoing, which are conditions precedent to the right to receive a time extension, the Contractor waives the right to receive a time extension.

During such extension of time, neither extra compensation for engineering, inspection and administration nor damages for delay will be charged to the Contractor. It is understood and agreed by the Contractor and City that time extensions due to excusable or compensable delays will be granted only if such delays involve controlling operations which would prevent completion of the whole Work within the specified Contract time.

Should the Contractor fail to complete the work within the time specified in the contract, as extended in accordance with this clause if appropriate, the Contractor shall pay to the City liquidated damages in accordance with Paragraph 00700-6.5, Liquidated Damages.

6.4.3 Delay Damages

6.4.3.1 Indirect Overhead - The Contractor shall be reimbursed for indirect overhead expenses for periods of time when the Work is delayed as defined in Paragraph 00700-6.3.4, Compensable Delays. However, no reimbursement for indirect overhead or any other costs or damages shall be made for compensable delays which occur during a concurrent delay as defined in Paragraph 00700-6.3.5, Concurrent Delays. No reimbursement for indirect overhead as covered in this Section shall be made for any time extensions granted for Contract change orders as provided in Section 01035, Modification Procedures. As a condition precedent to any reimbursement, the Contractor must fulfill all conditions as provided in Paragraph 00700-6.4.2, Excusable or Compensable Delays. No additional markup for overhead or profit shall be provided for such indirect overhead expenses.

Payment to the Contractor for indirect overhead expenses will be made only if the extended Contract period granted for the compensable delay(s) is required to complete the work following the depletion of the original contract period and any time extensions granted other than compensable time extensions. Except as provided herein, the Contractor shall have no claim for damage or compensation for any delay including not limited to extended field costs, extended home office overhead costs, impact, inefficiency, unabsorbed home office overhead, under absorbed home office overhead, hindrance, disruption, or any other damage arising from delay, no matter how characterized, including delay claims of its subcontractors/suppliers of every tier.
6.4.3.1.1 Indirect Field Overhead - For those allowable delay periods as defined in Paragraph 00700-6.4.3, Indirect Overhead, the Contractor shall be reimbursed for its indirect field overhead based on:

a. Invoices for all field office equipment.

b. Actual salary for field office staff.

c. Fair rental values acceptable to the Construction Manager as described in Paragraph 01035-3.0, Force Account Payment for construction equipment idled due to the delay.

6.4.3.1.2 Indirect Home Office Overhead - For those allowable delay periods as defined in Paragraph 00700-6.4.3, Indirect Overhead, the Contractor shall be reimbursed for its daily home office overhead based on the following formula:

\[
\text{Contract Bid Price (\$)} \times (0.04) = \text{Daily Home Office Overhead (\$/Day)}
\]

\[
\text{Contract Period (Days)}
\]

As it is impractical to determine the actual home office overhead, such reimbursement shall be mutually agreed between the City and Contractor to encompass full payment for any home office overhead expenses for such periods of time for the Contractor and all subcontractors. The Contractor agrees to indemnify, defend and hold the City harmless for any indirect overhead claims from its subcontractors.

6.5 Liquidated Damages

It is agreed by the parties to the Contract that time is of the essence in the completion of this Work, and that in case all the Work called for under the Contract is not completed before or upon the expiration of the time limit as set forth in these Contract Documents, as modified by extensions of time granted by the City, damage will be sustained by the City. As it is impracticable to determine the actual delay damage; it is, therefore, agreed that the Contractor shall pay liquidated damages to the City in the amount set forth in Paragraph 01010-4.0, Damages for Delays, per day for each and every day's delay beyond the time prescribed to complete the Work. The Contractor agrees to pay such liquidated damages and in case the same are not paid, agrees that the City may deduct the amount thereof from any monies due or that may become due the Contractor under the Contract.

6.6 Termination By City For Cause

Subject to prior notice from City and Contractor’s cure rights set forth in this Section, City will have the right to terminate the Contract for cause after the occurrence of any of the following events:

a. Contractor becomes insolvent or files for relief under the bankruptcy laws of the United States.

b. Contractor makes a general assignment for the benefit of its creditors or fails to pay its debts as the same become due.

c. A receiver is appointed to take charge of Contractor’s property.
d. The Work is not completed with the applicable Contract Time, as such Contract Time may be adjusted in accordance with this Contract, and Contractor is not diligently prosecuting the completion or correction of the Work.

e. Contractor persistently or repeatedly refuses or fails to supply skilled supervisory personnel, an adequate number of properly skilled workers, proper materials, or necessary equipment to prosecute the Work in accordance with the Contract Documents.

f. Contractor fails to make prompt payment of amounts properly due subcontractors after receiving payment from City.

g. Contractor disregards Applicable Code Requirements.

h. Contractor persistently or materially fails to execute the Work in accordance with the Contract Documents.

i. Contractor persistently or materially fails to comply with applicable safety requirements.

j. Contractor abandons the Work.

k. Contractor is in default of any other material obligation under the Contract Documents.

Upon the occurrence of any of the preceding events, City will have the right to terminate the Contract for cause if Contractor fails to promptly commence to cure such default and diligently prosecute such cure within 5 days after notice from City, or within such longer period of time as is reasonably necessary to complete such cure.

Upon any of the occurrences referred to above, City may, at its election and by notice to Contractor, terminate the Contract and take possession of the Project site and all materials, supplies, equipment, tools, and construction equipment and machinery thereon owned by Contractor; accept the assignment of any or all of the subcontracts; and then complete the Work by any method City may deem expedient. If requested by City, Contractor shall remove any part or all of Contractor's materials, supplies, equipment, tools, and construction equipment and machinery from the Project site within 7 days of such request; and if Contractor fails to do so, City may remove or store, and after 90 days sell, any of the same at Contractor's expense.

If the Contract is terminated by City as provided in this Section, Contractor shall not be entitled to receive any further payment until the expiration of 35 days after Final Completion and acceptance of all Work by City.

If the unpaid balance of the Contract Sum exceeds the cost of completing the Work, including all additional costs and expenses made necessary thereby, including costs for City staff time, plus all losses sustained, including any liquidated damages provided under the Contract Documents and subject to provisions of this Contract that survive termination, such excess shall be paid to Contractor. If such costs, expenses, losses, and liquidated damages exceed the unpaid balance of the Contract Sum, Contractor shall pay such excess to City.

No termination or action taken by City after termination shall prejudice any other rights or remedies of City provided by law or by the Contract Documents upon such termination; and City may proceed against Contractor to recover all losses suffered by City.
6.7 Suspension By City For Convenience

City may, at any time and from time to time, without cause, order Contractor, in writing, to suspend, delay, or interrupt the Work in whole or in part for such period of time, up to 90 days, as City may determine, with such period of suspension to be computed from the date of delivery of the written order. Such order shall be specifically identified as a “Suspension Order” under this Section. The Work may be stopped for such further period as the parties may agree. Upon receipt of a Suspension Order, Contractor shall, at City’s expense, comply with its terms and take all reasonable steps to minimize costs allocable to the Work covered by the Suspension Order during the period of Work stoppage. Within 90 days after the issuance of the Suspension Order, or such extension to that period as is agreed upon by Contractor and City, City shall either cancel the Suspension Order or delete the Work covered by such Suspension Order by issuing a Change Order.

If a Suspension Order is canceled or expires, Contractor shall continue with the Work. A Change Order will be issued to cover any adjustments of the Contract Sum or the Contract Time necessarily caused by such suspension. Any Claim by Contractor for an adjustment of the Contract Sum or the Contract Time shall be made within 21 days after the end of the Work suspension. Contractor agrees that submission of its claim within said 21 days is an express condition precedent to its right to recover on such a claim.

The provisions of this Section shall not apply if a Suspension Order is not issued by City. A Suspension Order shall not be required to stop the Work as permitted or required under any other provision of the Contract Documents.

6.8 Termination By City For Convenience

City may, at its option, terminate this Contract, in whole or from time to time in part, at any time by giving notice to Contractor. Upon such termination, Contractor agrees to waive any claims for damages, including loss of anticipated profits, on account thereof; and, as the sole right and remedy of Contractor, City shall pay Contractor in accordance with this Section.

Upon receipt of notice of termination under this Section, Contractor shall, unless the notice directs otherwise, do the following:

a. Immediately discontinue the Work to the extent specified in the notice.

b. Place no further orders or subcontracts for materials, equipment, services, or facilities, except as may be necessary for completion of such portion of the Work as is not discontinued.

c. Promptly cancel, on the most favorable terms reasonably possible, all orders and subcontracts to the extent they relate to the performance of the discontinued portion of the Work.

d. Thereafter do only such Work as may be necessary to preserve and protect Work already in progress and to protect materials, plants, and equipment on the Project site or in transit thereto.

Upon such termination, the obligations of the Contract shall continue as to portions of the Work already performed and, subject to Contractor’s obligations under this Section above, as to bona fide obligations assumed by Contractor prior to the date of termination.
Upon such termination, City shall pay to Contractor the sum of the following:

- The amount of the Contract Sum allocable to the portion of the Work properly performed by Contractor as of the date of termination, less sums previously paid to Contractor.
- Plus previously unpaid costs of any items delivered to the Project site which were fabricated for subsequent incorporation in the Work.
- Plus any proven losses with respect to materials and equipment directly resulting from such termination.
- Plus reasonable demobilization costs.
- Plus reasonable costs of preparing a statement of the aforesaid costs, expenses, and losses in connection with such termination. The above payment shall be the sole and exclusive remedy to which Contractor is entitled in the event of termination of the Contract by City pursuant to this Section; and Contractor will be entitled to no other compensation or damages and expressly waives same.

6.9 Temporary Suspension of Work

6.9.1 If the Contractor fails to correct defective work as required by Paragraph 00700-5.3, Defective and Unauthorized Work, or fails to carry out the Work in accordance with the Contract Documents or any other applicable rules and regulations, the City, by a written order of the City's representative or signed personally by an agent specifically so empowered by the City, in writing, may order the Contractor to stop the work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the City to stop the Work shall not give rise to any duty on the part of the City to exercise this right for the benefit of the Contractor or any other person or entity. All delays in the Work occasioned by such stoppage shall not relieve the Contractor of any duty to perform the Work or serve to extend the time for its completion. Any and all necessary corrective work done in order to comply with the Contract Documents shall be performed at no cost to the City.

6.9.2 In the event that a suspension of Work is ordered, as provided in this paragraph, the Contractor, at its expense, shall perform all work necessary to provide a safe, smooth, and unobstructed passageway through construction for use by public, pedestrian, and vehicular traffic, during the period of such use by suspension. Should the Contractor fail to perform the Work as specified, the City may perform such work and the cost thereof may be deducted from monies due the Contractor under the Contract.

6.9.3 The City shall also have authority to suspend the Work wholly or in part, for such period as the City may deem necessary, due to unsuitable weather, or to such other conditions as are considered unfavorable for the suitable prosecution of the Work. Such temporary suspension of the Work will be considered justification for time extensions to the Contract in an amount equal to the period of such suspension if such suspended work includes the current critical activity on the latest favorably reviewed progress schedule. The Contractor as directed by the City shall provide the provisions as stipulated in Paragraph 00700-6.6.2 above. Such additional work shall be compensated as provided for in Paragraph 00700-7.0, Changes in the Work.
7.0 **SCOPE OF WORK - CHANGES IN THE WORK**

7.1 Changes

The City reserves the right to make such alterations, deviations, additions to, deletions or omissions from the plans and specifications, including the right to increase or decrease the quantity of any item or portion of the work, as may be deemed by the Engineer to be necessary or advisable and to require such extra work as may be determined by the Engineer to be required for the proper completion or construction of the whole work contemplated. Such changes, no matter how many, shall be within the contemplation of this Contract and shall not be the basis for a compensable delay or a claim for lost profits.

Any such changes will be set forth in a contract change order which will specify, in addition to the work to be done in connection with the change made, adjustment of contract time, if any, and the basis of compensation for such work. A contract change order will not become effective until approved by the authorized City official and/or the City Council.

For contracts approved by the City Council for initial prices under One Hundred Thousand Dollars ($100,000), cumulative change orders which exceed the charter limit $75,000 require City Council approval. For contracts with initial prices of One Hundred Thousand Dollars ($100,000) or more, cumulative change orders which exceed the charter limit $75,000 plus ten percent (10%) of the initial contract price over One Hundred Thousand Dollars ($100,000) require City Council approval. Change orders not meeting the above criteria require approval by the authorized City official executing this Contract. The dollar amounts of change orders approved by specific City Council action, plus the dollar amounts of any change orders which predate such specific City Council action, shall not be counted in computing the authority limits set forth above for City officials to approve change orders hereunder.

In emergency situations, the authorized City official may issue a change order beyond the authority limits described above in order to:

a. Prevent interruption of the work which would result in a substantial increase in the costs to, or liability of, City; or

b. Protect the work, equipment, materials to be used in the work, human safety, or the environment at or near the work from substantial and immediate danger or injury; or

c. Protect, where damage or injury has occurred, the work, equipment or materials to be used in the work, human safety, or the environment at or near the site of the work from further or additional damage or injury or deterioration.

The authorized City official shall have the authority to issue change orders in such sums as is reasonably necessary for such emergency purposes. After issuing a change order in an emergency situation described above, the authorized City official shall report such action and the reasons therefore to the City Council in writing not later than its next regularly scheduled meeting or as soon thereafter as is practicable.

Upon receipt of an approved contract change order, the Contractor shall proceed with the ordered work. If ordered in writing by the Engineer, the Contractor shall proceed with the work so ordered prior to actual receipt of an approved contract change order therefore. In such cases, the Engineer will, as soon as practicable, issue an approved contract change order for such work and the
provisions in Paragraph 7.1.1, Procedure and Protest, shall be fully applicable to such subsequently issued contract change order.

When the compensation for an item of work is subject to adjustment under the provisions of Paragraph 00700-7.1, Changes, the Contractor shall, upon request, promptly furnish the Engineer with adequate detailed cost data for such item of work.

**7.1.1 Procedure and Protest - A contract change order approved by the Engineer may be issued to the Contractor at any time. Should the Contractor disagree with any terms or conditions set forth in an approved contract change order which he has not executed, he shall submit a written protest to the Engineer within 15 days after the receipt of such approved contract change order. The protest shall state the points of disagreement, and if possible, the contract specification references, quantities, and costs involved. If a written protest is not submitted, payment will be made as set forth in the approved contract change order and such payment shall constitute full compensation for all work included therein or required thereby. Such unprotested approved contract change orders will be considered as executed contract change orders as that term is used in Paragraphs 00700-7.1.2 to 7.1.4, inclusive.

Where the protest concerning an approved contract change order relates to compensation, the compensation payable for all work specified or required by said contract change order to which such protest relates will be determined as provided in Paragraphs 00700-7.1.2 to 7.1.4, inclusive. The Contractor shall keep full and complete records of the cost of such work and shall permit the Engineer to have such access thereto as may be necessary to assist in the determination of the compensation payable for such work.

Where the protest concerning an approved contract change order relates, to the adjustment of contract time for the completion of the work, the time to be allowed therefore will be determined as provided in Paragraph 00700-6.5, Liquidated Damages.

Proposed contract change orders may be presented to the Contractor for his consideration prior to approval by the Engineer. If the Contractor signifies his acceptance of the terms and conditions of such proposed contract change order by executing such documents and if such change order is approved by the City Manager or City Council and issued to the Contractor, payment in accordance with the provisions as to compensation therein set forth shall constitute full compensation for all work included therein or required thereby. A contract change order executed by the City Manager or City Council is an executed contract change order as that term is used in Paragraph 00700-7.1.2 to 7.1.4, inclusive. An approved contract change order shall supersede a proposed, but unapproved, contract change order covering the same work.

**7.1.2 Eliminated Items - The City reserves the right to eliminate any contract item of work prior to the award of the contract without incurring any obligation to pay therefore. Should any contract item of the work be eliminated in its entirety following the award of the contract and in the absence of an executed contract change order covering such elimination, payment will be made to the Contractor for actual costs incurred in connection with such eliminated contract item if incurred prior to the date of notification in writing by the Engineer of such elimination.

If acceptable material is ordered by the Contractor for the eliminated item prior to the date of notification of such elimination by the Engineer, and if orders for such material cannot be canceled, it will be paid for at the actual cost to the Contractor. In such case, the material paid for shall become the property of the City and the actual cost of any further handling will be paid for by the City. If the material is returnable to the vendor and if the Engineer so directs, the material shall be returned and the Contractor will be paid for the actual cost of charges made by the vendor for returning the material. The actual cost of handling returned material will be paid for.
The actual costs or charges to be paid by the City to the Contractor as provided in this Paragraph 00700-7.1.2 will be computed in the same manner as if the work were to be paid for on a force account basis as provided in Paragraph 01035-3.0.

7.1.3 Changes in Character of Work - If an ordered change in the plans or specification materially changes the character of the work of a contract item from that on which the Contractor based his bid price, and if the change increases or decrease the actual unit cost of such changed item as compared to the actual or estimated actual cost of performing the work of said item in accordance with the plans and specification originally applicable thereto, an adjustment in compensation therefore will be made by executed contract change order specifying the compensation payable, in accordance with the following:

The basis of such adjustment in compensation will be the difference between the actual unit cost to perform the work of said item or portion thereof involved in the change as originally planned and the actual unit cost of performing the work of said item or portion thereof involved in the change, as changed. Actual unit costs will be determined by the Engineer in the same manner as if the work were to be paid for on a force account basis as provided in Paragraph 01035-3.0; or such adjustment will be as agreed to by the Contractor and the Engineer. Any such adjustment will apply only to the portion of the work of said item actually changed in character. At the option of the Engineer, the work of said item or portion of item which is changed in character will be paid for by force account as provided in Paragraph 01035-3.0.

Failure of the Engineer to recognize a change in character of the work shall not be construed as relieving the Contractor of his duty and responsibility of filing a written notice in accordance with Paragraph 00700-7.5.2.1, Notice.

7.1.4 Extra Work - New, unforeseen work will be classed as extra work when determined by the Engineer that such work is not covered by any of the various items for which there is a bid price or by combinations of such items. In the event portions of such work are determined by the Engineer to be covered by some of the various items for which there is a bid price or combinations of such items, the remaining portion of such work will be classed as extra work. Extra work also includes work specifically designated as extra work in the plans and specifications.

The Contractor shall do such extra work and furnish labor, material, and equipment therefore upon receipt of an approved contract change order or written emergency order of the Engineer, and in the absence of such approved contract change order or written emergency order of the Engineer he shall not be entitled to payment of such extra work.

7.2 Change Orders

7.2.1 Without invalidating the Contract and without notice to sureties or insurers, the City through the Construction Manager, may at any time or from time to time, order additions, deletions, or revisions in the Work; these will be authorized by Field Directive, Field Order, or Change Order. A Change Order will not be issued for a Field Directive unless the Construction Manager concurs with an appeal by the Contractor that such Field Directive is a change in the scope of the Contract. The Contractor shall comply promptly with the requirements for all Change Orders, Field Orders, or Field Directives. The work involved in Change Orders shall be executed under the applicable conditions and requirements of the Contract Documents. If any Field Order causes an increase or decrease in the Contract Amount or an extension or shortening of the Contract Time, an equitable adjustment will be made by issuing a Change Order. If the Contractor accepts a Change Order that does not include a time extension, the Contractor waives any claim for additional time for the
work covered by that Change Order. Additional or extra work performed by the Contractor without written authorization of a Field Order or Change Order will not entitle the Contractor to an increase in the Contract Amount or an extension of the Contract Time. A reservation of rights, non-waiver of claims, or similar exceptions or reservations by the Contractor on a Change Order for additional time, money, or anything else shall not be permitted and are of no force or effect. It is the intent of the City to have all Change Orders issued comprehensively to address all issues known and unknown relating to time and/or costs.

7.2.2 Extra work shall be that work not shown or detailed on the Contract Drawings and not specified. Such work shall be governed by all applicable provisions of the Contract Documents. In giving instructions, the Construction Manager shall have authority to make minor changes in the work, not involving extra cost, and not inconsistent with the purposes of the work; but otherwise, except in an emergency endangering life or property, no extra work or change shall be made unless in pursuance of a written order by the City through the Construction Manager, and no claim for an addition to the total amount of the Contract shall be valid unless so ordered.

7.2.3 In case any change increases or decreases the work shown, the Contractor shall be paid for the work actually done at a mutually agreed upon adjustment to the Contract price, based upon the provisions of Section 01035 - Modification Procedures.

7.2.4 If the Contractor refuses to accept a Change Order, the City may issue it unilaterally. The Contractor shall comply with the requirements of the Change Order. The City shall provide for an equitable adjustment to the Contract, and compensate the Contractor accordingly. If the Contractor does not agree that the adjustment is equitable, it may submit a claim in accordance with Paragraph 00700-7.5.2, Potential Claims/Change Orders.

7.2.5 Elimination Of Work - In accordance with Section 7.1.2 above, the City shall be allowed and authorized to eliminate portions of work from the Contract Work at its discretion, and in the best interests of the public, during the course of action of the Project, and not only prior to award of contract. Said elimination of work shall not be determined to be a Termination for Convenience even if said elimination brings the Contract Work to a close. Upon elimination of work under this provision, the payment provisions of 7.1.2 shall apply.

7.3 Differing Site Conditions

Pursuant to Public Contract Code Section 7104, the Contractor shall promptly, and before such conditions are disturbed, notify the Construction Manager in writing, of any:

a. Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

b. Subsurface or latent physical conditions at the site differing from those indicated.

c. Unknown physical conditions at the site of any unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract.

The City shall promptly, investigate the conditions, and if it finds that the conditions do materially differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost

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of, or the time required for, performance of any part of the work the City shall cause to be issued a change order under the procedures provided in Paragraph 00700-7.2, Change Orders. In the event that a dispute arises between the City and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all work to be performed under the Contract. The Contractor shall retain any and all rights provided either by Contract or by law which pertain to the resolution of disputes and protests between the contracting parties, Paragraph 00700-7.5, Resolution of Disputes.

No claim of the Contractor under this clause shall be allowed unless the Contractor has given the notice required.

7.4 Value Engineering Change Proposals (VECP)

Refer to Section 01090, References, for the definition of a Value Engineering Change Proposal.

7.4.1 Applicability - The provisions of this Section shall apply only to Value Engineering Change Proposals (VECPs) resulting in net cost savings of Twenty Thousand dollars ($20,000) or greater.

7.4.1.1 Future Changes - The Contractor is entitled to share in the net cost savings of the VECP to the full extent provided for in this Section and in the change order implementing the VECP. However, the net cost savings shall not continue to subsequent contract change orders nor other modifications of the contract which may change the service provided or increase the quantity of any item related to the VECP.

7.4.2 VECP Submittal - The Contractor must submit all VECPs to the Construction Manager after receipt of the Notice To Proceed and prior to surpassing forty percent (40%) of the contract time allowed in Section 01010-3.0, Time Allowed For Completion. The number of copies of the VECP submitted shall be in accordance with that designated for submittals in Section 01300, Submittals.

The Contractor shall include the following information for each VECP, in a form acceptable to the Construction Manager:

a. Description of the differences between the existing design and the proposed design.

b. Description of the advantages and disadvantages of the existing design and the proposed design.

c. If the function of an item is altered, the justification for altering that function.

d. The effect of the proposed modifications on the performance of the system or facility.

e. Any test data regarding the proposed modification.

f. A listing and analysis of all design criteria and specifications that must be changed if the VECP is accepted.

g. A separate detailed estimate of the impact on the project costs, together with a copy of the Contractor’s approved schedule of values or costs.
h. A description and estimate of costs the City may incur to implement the VECP, including, but not limited to, design changes, inspection, testing, and evaluation costs.

i. A prediction of any effects the VECP may have on life-cycle costs.

j. The effect of the VECP on design and construction schedules.

k. All preliminary engineering data necessary to support approval of the VECP.

7.4.3 Acceptance of VECP by City - The City shall have sole discretion to determine whether or not to accept a VECP. The City's decision shall be final.

A VECP will be rejected if it causes an increase to the contract amount.

Within thirty (30) days after receipt of a VECP by the Construction Manager, the Contractor shall be notified in writing that the VECP is acceptable, rejected or additional time is required for the Construction Manager's response.

If determined acceptable, the Construction Manager will initiate a contract change order to implement the VECP. A VECP which is acceptable shall be incorporated into the project only through a contract change order.

7.4.4 Contractor's Right to Withdraw VECP - The Contractor has the right to withdraw part or all of any VECP at any time prior to written acceptance by the City. Such withdrawal shall be made in writing. Each VECP submitted by the Contractor shall remain valid for a period of thirty (30) days from the date received, unless extended by the Construction Manager. If the Contractor desires to withdraw the VECP prior to its acceptance or rejection, the Contractor shall be liable for the costs incurred by the City in reviewing the VECP.

7.4.5 Change Order Content For Accepted VECP - The contract change order for an accepted VECP shall offer to the Contractor fifty percent (50%) of the net cost savings, as determined by the Construction Manager. The change order shall detail the cost savings of each contract item that is part of the final accepted VECP. The net cost savings shall be accomplished through progress payments for the various items of work listed in the contract change order. The Contractor's costs for development, design and/or implementation of the VECP are not eligible for reimbursement. The cost for review by the Construction Manager and all City design consultants will be added to the cost of the value engineering proposal prior to determining the reduction of cost.

7.4.6 Identical VECP - A VECP identical to a VECP submitted under any other contract, by the Contractor, or any other contractor, may also be submitted under this Contract, provided that the VECP originated with such contractor and not with the City, Design Consultant, or Construction Manager.

7.4.7 Restrictions - The Contractor may restrict the City's right to use any VECP data by marking it with the following statement:

This data, furnished pursuant to the Value Engineering Change Proposal Section of this Contract, shall not be duplicated, used or disclosed, in whole or in part, for any purpose except to evaluate the VECP, unless the VECP is accepted by the City. This restriction does not limit the City's right to use information contained in this data if it is or has been obtained, or is otherwise available from the Contractor or from other sources, without limitations. When this VECP is accepted by the City, the City shall have the right to duplicate, use and disclose any data in any manner and for any purpose whatsoever, and have others do so whether under this or any other contract.
7.4.8 The City's acceptance, approval or use of the VECP shall not in any way reduce, limit or waive Contractor's responsibility under the Contract Documents, including, but not limited to, to perform all work and services, including that called for by or because of the VECP, in a competent and workmanlike manner, and pursuant to the standards required by the Contract Documents.

7.4.9 The VECP must not impair any of the essential functions and characteristics of the Project, such as service life, reliability, economy of operation, ease of maintenance, safety and necessary standardized features.

7.4.10 In the event that the contractor and the City cannot reach agreement as to the reduction in contract price associated with the VECP, the VECP will be declared null and void and the original contract conditions will apply. The contractor will bear sole responsibility for the costs of review of the VECP in this case.

7.5 Contract Interpretation

7.5.1 Contract Interpretation by the Construction Manager - Questions regarding the meaning and intent of the Contract Documents shall be referred in writing by the Contractor to the Construction Manager. Where practical, the Construction Manager shall respond to the Contractor in writing with a decision within ten (10) days of receipt of the request.

At the City’s discretion, the City may deduct from monies due the Contractor, time and expense costs incurred by the City, Construction Manager, and Design Consultant for reviewing and responding to unnecessary RFIs. This may include RFIs submitted to inquire about means, methods, or potential modifications for the Contractor’s convenience.

7.5.2 Potential Claims/Change Orders

7.5.2.1 Notice – Inclusive of the provisions in Paragraph 00700-7.7, Dispute Resolution, if the Contractor disagrees with the Construction Manager's decision in Paragraph 00700-7.5.1, Contract Interpretation by the Construction Manager, or in any case where the Contractor deems additional compensation or a time extension to the Contract period is due the Contractor for work or materials not covered in the Contract or which the Construction Manager has not recognized as extra work, the Contractor shall notify the Construction Manager, in writing, of its intention to make a claim or request a change order. Potential claims or change orders pertaining to decisions provided in Paragraph 00700-7.5.1 or such other determinations by the Construction Manager shall be filed in writing to the Construction Manager prior to Contractor performing the work giving rise to the potential claim or change order, if based on an act or failure to act by the City, or in all other cases, within five (5) days after the event or occurrence giving rise to the potential claim or change order. Written notice shall use the words “Notice of Potential Claim/Change Order.” Such Notice of Potential Claim/Change Order shall state the circumstances and the reasons for the claim, but need not state the amount.

Additionally, no claim for additional compensation or extension of time for a delay will be considered unless the provisions of Paragraphs 00700-6.3, Delays, 6.4, Time Extensions, 7.7, Dispute Resolution, are complied with. No claim filed after the date of final payment will be considered.

It is agreed that unless notice as required by the Contract Documents is properly given, the Contractor shall have waived all rights to recover, and shall not recover, costs incurred by it as a result of the alleged extra work, changed work or other situation which had proper notice been given would have given rise to a right for additional compensation. The Contractor should understand that timely notice of potential claims and change orders is of great importance to the
Construction Manager and City, and is not merely a formality. Such notice allows the City to consider preventative action, to monitor the Contractor's increased costs resulting from the situation, to marshal facts, and to plan its affairs. Such notice by the Contractor, and the fact that the Construction Manager has kept account of the cost as aforesaid, shall not in any way be construed as proving the validity of the claim.

7.5.2.2 Records of Disputed Work - In proceeding with a disputed portion of the Work, the Contractor shall keep accurate records of its costs and shall make available each day, to the Construction Manager or his designated representative, a daily summary of the hours and classification of equipment and labor utilized on the disputed work, as well as a summary of any materials or any specialized services used. Such information shall be submitted to the Construction Manager on a weekly basis, receipt of which shall not be construed as an authorization for or acceptance of the disputed work. It is the intent of this Section that these records be provided such that the Construction Manager and Contractor can determine and agree upon the Contractor's daily effort expended on the disputed work and determine accurate costs for the disputed work. Such determination shall not be construed as authorization for or acceptance of the disputed work.

7.5.2.3 Meetings - From time to time the Construction Manager may call a special meeting to discuss outstanding claims and potential change orders should it deem this of possible help. The Contractor shall cooperate and attend prepared to discuss its claims, making available the personnel necessary for resolution, and all documents which may reasonably be requested by the Construction Manager.

7.5.3 Claims - The term “Claim” means a written demand or assertion by Contractor seeking an adjustment or interpretation of the terms of the Contract Documents, payment of money, extension of time, or other relief with respect to the Contract Documents, including a determination of disputes or matters in question between City and Contractor arising out of or related to the Contract Documents or the performance of the Work. The term "Claim" shall not include, and the Claims procedures provided under this Section, including but not limited to arbitration, shall not apply to the following:

a. Claims respecting penalties for forfeitures prescribed by statute or regulation that a government agency is specifically authorized to administer, settle, or determine.

b. Claims respecting personal injury, death, reimbursement, or other compensation arising out of or resulting from liability for personal injury or death.

c. Claims respecting stop notices.

Inclusive of the provisions in paragraph 00700-7.7, Claim must include the following:

a. A statement that it is a Claim and a request for a decision.

b. A detailed factual narrative of events fully describing the nature and circumstances giving rise to the Claim, including but not limited to, necessary dates, locations, and items of work affected.

c. A certification, executed by Contractor, that the claim is filed in good faith. The certification language is identified below. The language of the Claim Certification form may not be modified.

d. A certification, executed by each subcontractor claiming not less than 5% of the total monetary amount sought by the claim, that the subcontractor’s portion of the claim is filed.
in good faith. The certification language is identified below. The language of the Claim Certification form may not be modified.

e. A statement demonstrating that a Change Order Request was timely submitted as required by Section 7 of the General Conditions and Section 01035.

f. If a Cost Proposal or declaration was required by Section 7 of the General Conditions and Section 01035, a statement demonstrating that the Cost Proposal or the declaration was timely submitted as required by Section 7 of the General Conditions.

g. A detailed justification for any remedy or relief sought by the Claim, including to the extent applicable, the following:

If the Claim involves Extra Work, a detailed cost breakdown of the amounts claimed, including the items specified in Section 7 of the General Conditions and Section 01035. The cost breakdown must be provided even if the costs claimed have not been incurred when the Claim is submitted. To the extent costs have been incurred when the Claim is submitted, the Claim must include actual cost records (including without limitation, payroll records, material and rental invoices and the like) demonstrating that costs claimed have actually been incurred. To the extent costs have not yet been incurred at the time the Claim is submitted, actual cost records must be submitted on a current basis not less than once a week during any periods costs are incurred. A cost record will be considered current if submitted within 7 days of the date the cost reflected in the record is incurred. At the request of the Construction Manager or City’s Representative, claimed extra costs may be subject to further verification procedures (such as having an inspector verify the performance of alleged Extra Work on a daily basis). The cost breakdown must include an itemization of costs for i) labor including names, classifications, regular hours and overtime hours worked, dates worked, and other pertinent information; ii) materials stored or incorporated in the work including invoices, purchase orders, location of materials either stored or incorporated into the work, dates materials were transported to the project or incorporated into the work, and other pertinent information; and iii) itemization of machinery and equipment including make, model, serial number, hours of use, dates of use and equipment rental rates of any rented equipment.

If the Claim involves an extension of the Contract Time, written documentation demonstrating the Contractor’s entitlement to a time extension under Section 6 of the General Conditions and Section 01310, including the specific dates for which a time extension is sought and the specific reasons for entitlement of a time extension. The Contract Schedule must demonstrate Contractor’s entitlement to an adjustment of Contract Time under Section 6 of the General Conditions and Section 01310.

If the Claim involves an adjustment of the Contract Sum for delay, written documentation demonstrating the Contractor’s entitlement to such an adjustment under Section 6 of the General Conditions and Section 01310, including but not limited to, a detailed time impact analysis of the Contract Schedule. The Contract Schedule must demonstrate Contractor’s entitlement to such an adjustment under Section 6 of the General Conditions and Section 01310.

For each claim submitted or filed by Contractor, including, but not limited to, any claim on behalf of Contractor and/or any claim by or on behalf of any subcontractor or supplier, of any tier, Contractor shall include the following certification, signed in the same manner as the Contract was signed:

I, being the (must be an officer) of (general contractor or subcontractor), declare under penalty of perjury under the laws of the State of California, and do personally certify and attest that: I have thoroughly reviewed the attached claim for additional compensation and/or extension of time, and know its contents and said claim is made in good faith; the supporting data is truthful and accurate; that the amount requested accurately reflects the Contract adjustment for which the Contractor believes the City is liable; and, further, that I am familiar with California Penal Code Section 72 and California Government Code Section 12650, et. seq., pertaining to false claims, and further know
and understand that submission or certification of a false claims may lead to fines, imprisonment and/or severe legal consequences.”

7.6. **Assertion of Claims**

Claims by Contractor shall be first submitted to the Construction Manager for decision.

Notwithstanding the making of any Claim or the existence of any dispute regarding any Claim, unless otherwise directed by Construction Manager, Contractor shall not cause any delay, cessation, or termination in or of Contractor’s performance of the Work, but shall diligently proceed with performance of the Work in accordance with the Contract Documents.

Contractor shall submit a Claim in writing, together with all supporting data specified in Section 7.5 above, to Construction Manager as soon as possible but not later than 30 days after the date the Claim arises under Sections 6 and 7 of the General and Supplemental Conditions.

7.7 **Dispute Resolution**

All claims by Contractor for a time extension, payment of money or damages arising from work done by, or on behalf of, Contractor pursuant to the Contract and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or as to the amount of payment which is disputed by the City of Three Hundred Seventy-Five Thousand Dollars ($375,000) or less shall be subject to the provisions set forth in Public Contract Code Section 20104, et. seq. Those sections require that the claim be in writing, include the documents necessary to substantiate the claim, and be filed on or before the final date of payment, subject to all time limits and notice requirements for filing claims under the Contract.

**Arbitration**

**Claims Subject to Public Contract Code Section 9204; Procedure**

Application. This Section applies solely to the handling and resolution of a claim(s) sent to the City by registered mail or certified mail with return receipt requested in accordance with Public Contract Code Section 9204(c)(1). With respect to such claim(s), the provisions of Public Contract Code Section 9204 shall apply, and are hereby incorporated by reference into these documents and set forth in full at the end of this Section.

Mediation Procedures. Mediation conducted pursuant to Public Contract Code Section 9204 shall be in accordance with the following procedures:

b. **Request for Mediation**: A request for mediation must be in writing and set forth a brief statement that identifies the claim(s), the asserted damages, the names, addresses, and contact information of the parties, and identify their authorized representative, if any, that will participate in the mediation. Contractor hereby expressly waives all claims not timely submitted to mediation in accordance with this Section.

c. **Selection of Mediator**: The parties agree that any neutral selected or appointed to preside over the mediation shall be an attorney admitted to practice law in the State of California or a retired judge, and he or she shall possess at least 10 years’ experience practicing law in the substantive areas of public contracting, public construction contracts and construction litigation.
d. **Time and Place of Mediation:** The mediator, using advice and input from the parties, shall set the time of each mediation session, as well as the mediation protocol (i.e., submission of briefs, statement of damages, etc.). The mediation will be held at any convenient location agreeable to the mediator and the parties, as the mediator determines. All reasonable efforts will be made by the parties and the mediator to schedule the first session within thirty (30) calendar days after selection of the mediator.

e. The mediation may be terminated: (a) by the execution of a settlement agreement by the parties; (b) by a written declaration of the mediator to the effect that further efforts at mediation are no longer worthwhile; or (c) by a writing on behalf of a party or parties to the effect that the mediation proceedings are terminated.

f. All meetings, communications and correspondence relative to the mediation procedures set forth in this Section shall be subject to any applicable mediation or settlement-related privilege afforded under California law, including, without limitation, California Evidence Code §§1115, et seq. and 1152.

g. If, at the termination of the mediation proceedings pursuant to this Section, the claim(s), or any portion thereof, remain(s) in dispute, and as a condition precedent to the commencement by Contractor of any litigation or arbitration, the provisions of California law applicable to the presentation of claims and prosecution of disputes by the Contractor shall apply to claims asserted by the Contractor, including, without limitation, 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 Government Code. Contractor shall be responsible to fully satisfy and comply with all such requirements as may be applicable to any claim(s) presented by Contractor, 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 (commencing with §900) and Chapter 2 (commencing with §910) of Part 3 of Division 3.6 of Title 1 of the Government Code. Contractor expressly waives the removal provisions of California Code of Civil Procedure Section 394.

h. In the event of any dispute between the City and Contractor, or during the pendency of any claim(s) or associated proceedings under this Section, Contractor shall not stop, or delay performance of, the Work, but shall prosecute the Work diligently to completion in the manner directed by the Engineer.

**Other Claims.** The procedures and remedies provided herein do not apply to: (1) any claim(s) made by or on behalf of the City, unless the City consents to the application of these procedures and remedies; (2) any claim or dispute relating to stop payment notices; (3) any claim related to the approval, refusal to approve, or substitution of subcontractors, regardless of tier, and suppliers.
Public Contract Code - §9204 - Legislative findings and declarations regarding timely and complete payment of contractors for public works projects; claims process:

(a) The Legislature finds and declares that it is in the best interests of the state and its citizens to ensure that all construction business performed on a public works project in the state that is complete and not in dispute is paid in full and in a timely manner.

(b) Notwithstanding any other law, including, but not limited to, Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2, Chapter 10 (commencing with Section 19100) of Part 2, and Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3, this Section shall apply to any claim by a contractor in connection with a public works project.

(c) For purposes of this Section:

(1) “Claim” means a separate demand by a contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following:

(A) A time extension, including, without limitation, for relief from damages or penalties for delay assessed by a public entity under a contract for a public works project.

(B) Payment by the public entity of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public works project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled.

(C) Payment of an amount that is disputed by the public entity.

(2) “Contractor” means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who has entered into a direct contract with a public entity for a public works project.

(3)(A) “Public entity” means, without limitation, except as provided in subparagraph (B), a state agency, department, office, division, bureau, board, or commission, the California State University, the University of California, a city, including a charter city, county, including a charter county, city and county, including a charter city and county, district, special district, public corporation, or nonprofit transit corporation wholly owned by a public agency and formed to carry out the purposes of the public agency.

(B) “Public entity” shall not include the following:

(i) The Department of Water Resources as to any project under the jurisdiction of that department.

(ii) The Department of Transportation as to any project under the jurisdiction of that department.

(iii) The Department of Parks and Recreation as to any project under the jurisdiction of that department.

(iv) The Department of Corrections and Rehabilitation with respect to any project under its jurisdiction pursuant to Chapter 11 (commencing with Section 7000) of Title 7 of Part 3 of the Penal Code.

(v) The Military Department as to any project under the jurisdiction of that department.

(vi) The Department of General Services as to all other projects.

(vii) The High-Speed Rail Authority.
(4) “Public works project” means the erection, construction, alteration, repair, or improvement of any public structure, building, road, or other public improvement of any kind.

(5) “Subcontractor” means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who either is in direct contract with a contractor or is a lower tier subcontractor.

(d)(1)(A) Upon receipt of a claim pursuant to this Section, the public entity to which the claim applies shall conduct a reasonable review of the claim and, within a period not to exceed 45 days, shall provide the claimant a written statement identifying what portion of the claim is disputed and what portion is undisputed. Upon receipt of a claim, a public entity and a contractor may, by mutual agreement, extend the time period provided in this subdivision.

(B) The claimant shall furnish reasonable documentation to support the claim.

(C) If the public entity needs approval from its governing body to provide the claimant a written statement identifying the disputed portion and the undisputed portion of the claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the public entity shall have up to three days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide the claimant a written statement identifying the disputed portion and the undisputed portion.

(D) Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. If the public entity fails to issue a written statement, paragraph (3) shall apply.

(2)(A) If the claimant disputes the public entity's written response, or if the public entity fails to respond to a claim issued pursuant to this Section within the time prescribed, the claimant may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the public entity shall schedule a meet and confer conference within 30 days for settlement of the dispute. Upon receipt of a claim sent by registered mail or certified mail, return receipt requested, the public entity shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(B) Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the public entity shall provide the claimant a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. Any disputed portion of the claim, as identified by the contractor in writing, shall be submitted to nonbinding mediation, with the public entity and the claimant sharing the associated costs equally. The public entity and claimant shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this Section.

(C) For purposes of this Section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this Section.
(D) Unless otherwise agreed to by the public entity and the contractor in writing, the mediation conducted pursuant to this Section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

(E) This Section does not preclude a public entity from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under this Section does not resolve the parties' dispute.

(3) Failure by the public entity to respond to a claim from a contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this Section shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the public entity’s failure to have responded to a claim, or its failure to otherwise meet the time requirements of this Section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.

(4) Amounts not paid in a timely manner as required by this Section shall bear interest at 7 percent per annum.

(5) If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a public entity because privity of contract does not exist, the contractor may present to the public entity a claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the contractor present a claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the claim be presented to the public entity shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the contractor shall notify the subcontractor in writing as to whether the contractor presented the claim to the public entity and, if the original contractor did not present the claim, provide the subcontractor with a statement of the reasons for not having done so.

(e) The text of this Section or a summary of it shall be set forth in the plans or specifications for any public works project that may give rise to a claim under this Section.

(f) A waiver of the rights granted by this Section is void and contrary to public policy, provided, however, that (1) upon receipt of a claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable, and (2) a public entity may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the provisions of this Section, so long as the contractual provisions do not conflict with or otherwise impair the timeframes and procedures set forth in this Section.

(g) This Section applies to contracts entered into on or after January 1, 2017.

(h) Nothing in this Section shall impose liability upon a public entity that makes loans or grants available through a competitive application process, for the failure of an awardee to meet its contractual obligations.

(i) This Section shall remain in effect only until January 1, 2020, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2020, deletes or extends that date.

8.0 PAYMENT
8.1 Scope of Payment

8.1.1 General - The Contractor shall accept the compensation, as herein provided, as full payment for furnishing all labor, materials, tools, equipment, and incidentals necessary for completing the Work according to the Contract Documents, and no additional compensation will be allowed therefore. Neither the payment of any partial payment estimate nor of any retained percentage shall relieve the Contractor of any obligation to make good any defective work or material.

8.1.2 Payment for Patents and Patent Infringement - All fees or claims for any patented invention, article, or arrangement that may be used upon, or in any manner connected with, the performance of the work or any part thereof shall be included in the price bid for doing the work, and the Contractor and its sureties shall defend, protect, and hold the City, the Construction Manager, and Design Consultants, together with all their officers, agents, and employees harmless against liability of any nature or kind for any and all costs, legal expenses, and damages made for such fees or claims and against any and all suits and claims brought or made by the holder of any invention or patent, or on account of any patented or unpatented invention, process, article, or appliance manufactured for or used in the performance of the Contract, including its use by the City, unless otherwise specifically stipulated in the Contract. Before final payment is made on the Contract, the Contractor shall furnish an affidavit to the City regarding patent rights for the project. The affidavit shall state that all fees and payments due as a result of the work incorporated into the project or methods utilized during construction have been paid in full. The Contractor shall certify in the affidavit that no other fees or claims exist for work in this project.

8.1.3 Payment of Taxes - The Contractor shall pay and shall assume exclusive liability for all taxes levied or assessed on or in connection with the Contractor's performance of this Contract, including, but not limited to, State and local sales and use taxes, Federal and State payroll taxes or assessments, and excise taxes, and no separate allowance will be made therefore, and all costs in connection therewith shall be included in the total amount of the Contract price.

8.1.4 Payment for Labor and Materials - The Contractor shall pay and require its subcontractors to pay any and all accounts for labor including worker's compensation premiums, state unemployment and federal social security payments and other wage and salary deductions required by law. The Contractor also shall pay and cause its subcontractors to pay any and all accounts for services, equipment, and materials used by the Contractor and its subcontractors during the performance of work under this Contract. Such accounts shall be paid as they become due and payable. If requested by the City, the Contractor shall furnish proof of payment of such accounts to the City.

8.2 Partial Payments

In consideration of the faithful performance of the work prosecuted in accordance with the provisions of these Specifications and the Contract, the City will pay the Contractor for all such work installed on the basis of percentage completion. Amounts earned will be based on accepted Cost Breakdown (Section 01025, Measurement and Payment).

Payments will be made by the City to the Contractor on estimates duly certified and approved by the Construction Manager, based on the value of equipment installed and tested, labor and materials incorporated into said permanent work by the Contractor during the preceding month, and acceptable materials and equipment on hand (materials and equipment furnished and delivered to the site by the Contractor and not yet incorporated into the work accompanied by an approved invoice). Payments will not be made for temporary construction or material submittals unless specifically provided for in the Contract Documents.
Partial payments will be made monthly based on work accomplished as of a day mutually agreed between the City and the Contractor. Prior to submitting its payment estimate, the Contractor shall meet with the Construction Manager to reach agreement on the percent completion and materials on hand for that payment period.

The Contractor shall submit its estimate of the work completed during the prior month and the work completed to date in a format acceptable to the Construction Manager and corresponding to the accepted cost breakdown. Additionally, the Contractor shall submit a detailed statement of the Contractor's request for payment of acceptable materials and equipment on hand in compliance with Paragraph 00700-8.3, Partial Payments - Inclusion of Materials on Hand. Upon receipt of Contractor's requests for payment, the City shall act in accordance with the following:

a. The Construction Manager shall review the submitted estimates, as soon as practical after receipt, for the purpose of determining that the estimates are a proper request for payment, and shall prepare a certified estimate of the total amount of work done and acceptable materials and equipment on hand.

b. Any request for payment determined not to be a proper payment request suitable for payment shall be returned to the Contractor as soon as practicable, but not later than seven (7) days after receipt. A request for payment returned pursuant to this paragraph shall be accompanied by a document setting forth in writing the reasons why the request for payment is not proper.

c. The number of days available to the City to make a payment without incurring interest pursuant to this Section shall be reduced by the number of days by which the City exceeds the seven (7) day return requirement set forth in subdivision (b) above.

Payment will be made by the City to the Contractor in accordance with City's normal accounts payable procedures; the City shall retain amounts in accordance with Paragraph 00700-8.4, Right to Withhold Amounts.

No such estimate or payment shall be required to be made, when in the judgment of the Construction Manager, the Work is not proceeding in accordance with the provisions of the Contract, or when in the Construction Manager's judgment the total value of the Work done since the last estimate amounts to less than One Thousand Dollars ($1,000.00). Additionally, no payments shall be made until the Construction Manager has received an acceptable monthly schedule update covering the latest required period, certified payrolls and other required pay records, and a conditional waiver and release upon progress payment from Contractor for the current pay period and an unconditional waiver and release upon progress payment for the prior progress payment period. The City reserves the right to require, as a condition precedent to payment, that Contractor provide conditional and unconditional waivers and releases from Contractor's subcontractors and suppliers.

Subject to the provisions of this Section, the City shall pay the Contractor within thirty (30) days after receipt of undisputed and properly submitted requests for payment from the Contractor. In accordance with Public Contract Code, if the City fails to pay an undisputed request for payment within the allotted thirty (30) days, the City shall pay interest to the Contractor equivalent to the legal rate set forth in the Code of Civil Procedure.

8.3 Partial Payments - Inclusion of Materials on Hand

Materials, as used herein, shall be considered to be those items which are fabricated and manufactured goods and equipment. Only those materials for which the Contractor can transfer
clear title to the City will be qualified for partial payment. The Contractor may request payment of seventy-five (75) percent of the actual net cost of these materials.

To receive partial payment for materials and equipment delivered to the Site, but not incorporated in the Work, it shall be necessary for the Contractor to submit to the Construction Manager a list of such materials, at least seven (7) days prior to submitting the monthly estimate of amount earned for work completed. At the Construction Manager's sole discretion, the Construction Manager will approve items for which partial payment is to be made subject to the following:

a. Only equipment or materials which have received favorable review of shop drawings will qualify.

b. Eligible equipment or materials must be delivered and properly stored, protected, and maintained in a manner favorably reviewed by the Construction Manager, at the job site or at a bonded warehouse.

c. The Contractor's actual net cost for the materials must be supported by paid invoices of suppliers, or other documentation requested by the Construction Manager.

d. Materials or equipment delivered to the Site less than thirty (30) days prior to their scheduled incorporation in the Work shall not qualify.

e. Final payment shall be made only for materials actually incorporated in the Work. Upon acceptance of the Work, all materials remaining for which advance payments had been made shall revert to the Contractor, unless otherwise agreed, and partial payments made for these items shall be deducted from the final payment for the Work.

f. Partial payments for materials and equipment on hand shall not be deemed to be final payment for the material nor relieve the Contractor of its obligations under the Contract.

g. Partial payments for materials and equipment on hand shall be subject to retention in accordance with Paragraph 00700-8.4., 

8.4 Right to Withhold Amounts

8.4.1 Retention - The City will deduct from each partial payment and retain as part security, five (5) percent of the amount earned until the final payment.

Pursuant to Public Contract Code, for monies earned by the Contractor and withheld by the City to ensure the performance of the Contract, the Contractor, may, at his or her option, choose to substitute securities meeting the requirements of said Code. In the event the Contractor wishes to choose this option, the Contractor shall enter into an escrow agreement with the City, and the escrow agent, a qualified bank to be chosen by City, in the form of the agreement included in the project specifications. The costs of such escrow shall be paid by the Contractor. The securities to be deposited in said escrow account shall be equivalent, in fair market value, to the amount to be withheld as performance retention. The securities shall be held in accordance with the provisions of the Public Contract Code, and the implementing agreement.

Contractor shall have the obligation of ensuring that such securities deposited are sufficient so as to maintain, in total fair market value, an amount equal to the cash amount of the sums to be withheld under the Contract. If, upon written notice from the City, or from the appropriate escrow agent, indicating that the fair market value of the securities has dropped below the dollar amount
of monies to be withheld by the City to ensure performance, Contractor shall, within five days of the date of such notice, post additional securities as necessary to ensure that the total fair market value of all such securities held by the City, or in escrow, is equivalent to the amount of money to be withheld by the City under the Contract.

Any Contractor wishing to exercise this option shall give notice in writing to City, and shall thereafter execute an escrow agreement in the following form:
This Escrow Agreement is made and entered into by and between;

______________________________________________________
whose address is _______________________________________
hereinafter called "City", and ______________________________
whose address is _______________________________________
hereinafter called "Contractor", and _________________________
whose address is _______________________________________
hereinafter called "Escrow Agent."

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

1. Pursuant to the Public Contract Code of the State of California, Contractor has the option to deposit securities which meet the requirements set forth in said Code, with Escrow Agent, as a substitute for retention earnings required to be withheld by City pursuant to the Construction Contract entered into between City and Contractor for _________________________ in the amount of _________________________ (hereinafter referred to as the "Contract"). Alternatively, on written request of the Contractor, the City shall make payments of the retention earnings directly to the Escrow Agent. When Contractor deposits the securities as a substitute for Contract earnings, the Escrow Agent shall notify the City within 10 days of the deposit. The market value of the securities at the time of the substitution shall be at least equal to the cash amount then required to be withheld as retention under the terms of the Contract between the City and Contractor. Securities shall be held in the name of City, and shall designate the Contractor as the beneficial owner.

2. City shall make progress payments to Contractor for such funds which otherwise would be withheld from progress payments pursuant to the Contract provisions, provided that the Escrow Agent holds securities in the form and amount specified above.

3. When the City makes payment of retention earned directly to the Escrow Agent the Escrow Agent shall hold them for the benefit of the Contractor until such time as the escrow created under this Contract is terminated. The Contractor may direct the investment of the payments into securities. All terms and conditions of this agreement and the rights and responsibilities of the parties shall be equally applicable and binding when the City pays the 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 the City. These expenses and payment terms shall be determined by the City, Contractor, and Escrow Agent.

5. The interest earned on the securities or the money market accounts held in escrow and all interest earned on that interest shall be for the sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to the 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 the
Escrow Agent that City consents to the withdrawal of the amount sought to be withdrawn by Contractor.

7. The City shall have a right to draw upon the securities in the event of default by the Contractor. Upon seven days' written notice to the Escrow Agent from the City of the default, the Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by the City.

8. Upon receipt of written notification from the City certifying that the Contract is final and complete, and that the 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 upon disbursement of all moneys and securities on deposit and payments of fees and charges.

9. Escrow Agent shall rely on the written notifications from the City and the Contractor pursuant to Sections (4) to (6), inclusive, of this Agreement, and City and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of the securities and interest as set forth above.

10. The names of the persons who are authorized to give written notice or to receive written notice on behalf of the City and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

On Behalf of City:          On Behalf of Contractor:

Title

Name

Signature

Address

General Conditions
00700-49
On Behalf of Escrow Agent:

____________________________
Title

____________________________
Name

____________________________
Signature

____________________________
Address

At the time the Escrow Account is opened, City and Contractor shall deliver to the Escrow Agent a fully executed counterpart of this Agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement by their proper officers on the date first set forth above.

CITY: ________________________ CONTRACTOR: ________________________

____________________________
Title

____________________________
Title

____________________________
Name

____________________________
Name

____________________________
Signature

____________________________
Signature
8.4.2 Other Withholds - In addition to the amount which the City may otherwise retain under the Contract, the City may withhold a sufficient amount or amounts of any payment or payments otherwise due the Contractor, as in its judgment may be necessary to cover:

a. Payments which may be past due and payable for just claims against the Contractor or any subcontractor for labor or materials furnished for the performance of this Contract.

b. Defective work not remedied.

c. Failure of the Contractor to make proper payments to its subcontractors or suppliers.

d. A reasonable doubt that the Contract can be completed for the balance then unpaid.

e. Damage to another Contractor or third party, or to property.

f. Failure of the Contractor to keep its work progressing in accordance with its progress schedule or maintaining current "As-Built" record drawings.

g. The City's costs for the Contractor's failure to complete within the allowed time.

h. Cost of insurance arranged by the City due to cancellation or reduction of the Contractor's insurance.

i. Failure of the Contractor to make proper submissions, as herein specified.

j. Failure to submit, revise, resubmit, or otherwise conform to the requirements herein for preparing and maintaining a construction schedule.

k. Payments due the City from the Contractor.

l. Reduction of Contract Amount because of modifications.

m. The Contractor's neglect or unsatisfactory prosecution of the work including failure to clean up.

n. Provisions of law that enable or require the City to withhold such payments in whole or in part.

When the above reasons for withhold amounts are removed, payment may be made to the Contractor for amounts withheld.

The City in its discretion may apply any withheld amount or amounts to the payment of valid claims. In so doing, the City shall be deemed the agent of the Contractor, and any payment so made by the City shall be considered as a payment made under the Contract by the City to the Contractor, and the City shall not be liable to the Contractor for such payment made in good faith. Such payments may be made without prior judicial determination of the claim or claims. The City will render to the Contractor a proper accounting of such funds disbursed in behalf of the Contractor.
8.5 Substantial Completion

When the Contractor considers that the Work is substantially complete, the Contractor shall notify the Construction Manager in writing. Upon receipt of the notification, the Construction Manager, the City and/or their authorized representatives will make inspection, to determine if the Work is sufficiently complete in accordance with the Contract Documents so the City can occupy or utilize the Work for its intended use. If items are found which prevent such use or occupancy, the Construction Manager shall notify the Contractor in writing of such items.

Upon the completion of such corrective work, the Contractor shall notify the Construction Manager in writing. The Construction Manager shall inspect the Work to determine its acceptability for Substantial Completion and for determination of other items which do not meet the terms of the Contract. Upon verification that the project is substantially complete the Construction Manager shall prepare a Certificate of Substantial Completion. The Certificate shall establish the date of Substantial Completion and the responsibilities of the City and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, commencement of warranties required by the Contract Documents, and shall fix the time, not to exceed 60 days, within which the Contractor shall finish all items on the punch list accompanying the Certificate. When the preceding provisions have been approved by both the City and the Contractor, they shall sign the Certificate to acknowledge their written acceptance of the responsibilities assigned to them in such Certificate. By such acknowledgement, the Contractor agrees to pay the City’s actual costs including, but not limited to, charges for engineering, inspection and administration incurred due to the failure to complete the punch list within the time period provided in the Certificate of Substantial Completion.

City shall have the right to exclude Contractor from the Site after the date of Substantial Completion, but City will allow Contractor reasonable access to complete the Work or correct items on any deficiency list or punch lists at times and in areas designated by the City in its sole discretion and without additional compensation to Contractor.

8.6 Final Inspection and Payment

Upon completion of the Work, and upon completion of final cleaning, the Contractor shall so notify the Construction Manager in writing. Upon receipt of the notification, the Construction Manager, the City and/or their authorized representatives will make the final inspection, to determine the actual status of the Work in accordance with the terms of the Contract. If materials, equipment, or workmanship are found which do not meet the terms of the Contract, the Construction Manager shall prepare a punch list of such items and submit it to the Contractor. Following completion of the corrective work by the Contractor, the Construction Manager shall notify the City that the Work, has been completed in accordance with the Contract. Final determination of the acceptability of the Work shall be made by the City. After completion of the work, but prior to its acceptance by the City, the last partial payment will be made to the Contractor in accordance with Paragraph 00700-8.2, Partial Payments.

After receipt of the last partial payment, but prior to acceptance of the Work by the City, the Contractor shall send a letter to the Construction Manager. The letter shall state that acceptance of the final payment described below shall operate as and shall be, a release to the City, the Construction Manager, the Design Consultant, and their duly authorized agents, from all claims of and/or liability to the Contract arising by virtue of the Contract related to those amounts. Disputed Contract claims in stated amounts previously filed, as provided in Paragraph 00700-7.5, may be specifically excluded by the Contractor from the operation of the release.

Neither final payment nor any retention shall become due until Contractor submits the following items to Construction Manager:
a. The final Application For Payment and all submittals required in accordance with the General Conditions.

b. All guarantees and warranties procured by Contractor from subcontractors, all operation and maintenance manuals for equipment installed in the Project, as-built documents, and all other submittals required by the Contract Documents.

c. Unconditional waivers and releases upon final payment from all subcontractors and suppliers and a conditional waiver and release upon final payment from Contractor.

d. Certified payroll records and all other pay records as determined by the City.

Following receipt of all required submittals and the Construction Manager's written statement that construction is complete and recommendation that the City accept the project, the City will take formal action on acceptance.

Within ten (10) days of the acceptance by the City of the completed work embraced in the Contract, the City will cause to be recorded in the office of the County Recorder a Notice of Completion.

Thirty-five (35) days after recording the Notice of Completion of the work involved in the Contract, the City will pay the Contractor in lawful money such sums of money as may be due the Contractor including all sums retained but excluding such sums as have previously been paid the Contractor. This payment will constitute the final payment to the Contractor under this Contract.

8.7 Warranty of Title

No material, supplies, or equipment for the work under this 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 the seller or supplier. The Contractor warrants good title to all material, supplies, and equipment installed or incorporated in the work and agrees upon completion of all work to deliver the premises, together with all improvements and appurtenances constructed or placed thereon by the Contractor, to the City free from any claim, liens, security interest, or charges, and further agrees that neither the Contractor nor any person, firm, or corporation furnishing any materials or labor for any work covered by this Contract shall have any right to a lien upon the premises or any improvement or appurtenances thereon.

9.0 EXISTING UTILITIES

9.1 General

Pursuant to Government Code Section 4216, et. seq., the Contractor shall notify the appropriate notification center, U.S.A., 1-800-642-2444.

9.2 Notification and Location

At least three (3) working days before performing any excavation work, the Contractor shall request the utility owners to mark or otherwise indicate the location of their service.
It shall be the Contractor's responsibility to determine the exact location and depth of all utilities, including service connections, which have been marked by the respective owners and which the Contractor believes may affect or be affected by the Contractor's operations. If no pay item is provided in the Contract for this work, full compensation for such work shall be considered as included in the prices bid for other items of work.

9.3 Damage and Protection

The Contractor shall immediately notify the Construction Manager and utility owner of any damage to a utility.

For work within a public right of way or utility easement, the party responsible for the cost of repairing and/or relocating damaged utilities shall be as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Responsible Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Utility mains delineated incorrectly on City’s plans</td>
<td>City/Utility Company</td>
</tr>
<tr>
<td>b. Utility mains delineated correctly on City’s plans but information provided incorrectly by utility company</td>
<td>Utility Company</td>
</tr>
<tr>
<td>c. Utility mains not shown on City’s plan</td>
<td>Utility Company</td>
</tr>
<tr>
<td>d. Utility mains incorrectly marked in the field by utility company</td>
<td>Utility Company</td>
</tr>
<tr>
<td>e. Utility mains incorrectly marked and/or delineated on City’s plans</td>
<td>Contractor</td>
</tr>
<tr>
<td>f. Utility service laterals whether indicated or not indicated on plans and whether correctly or incorrectly shown on City’s plans</td>
<td>Contractor</td>
</tr>
</tbody>
</table>

9.4 Utility Relocation and Rearrangement

The right is reserved to the City and the owners of utilities or their authorized agents to enter upon the Work area for the purpose of making such changes as are necessary for the rearrangement of their facilities or for making necessary connections or repairs to their properties. The Contractor shall cooperate with forces engaged in such work and shall conduct its operations in such a manner as to avoid any unnecessary delay or hindrance to the work being performed by such forces and shall allow the respective utilities time to relocate their facility.

The Contractor assumes responsibility for the removal, relocation, or protection of existing facilities wherein said facilities are identified by the Plans, field located by a utility company, or as provided for in the General Requirements. The Contractor shall coordinate with the owner of utility facilities for the rearrangement of said facilities.
In the event that underground utilities are found that are not shown in the Contract Documents or are found to exist in a different location than shown in the Contract Documents, the Contractor shall: (1) notify the Construction Manager of the existence of said facilities immediately; and (2) take steps to ascertain the exact location of all underground facilities prior to doing work that may damage such facilities.

Requests for extensions of time arising out of utility rearrangement delays shall be determined by Construction Manager. In accordance with Government Code Section 4215 the Contractor shall not be assessed liquidated damages for delay in completion of the project, when such delay is caused by the failure of the City or utility company to provide for the removal or relocation of facilities for which they are the responsible party as defined in Paragraph 00700-9.3, Damage and Protection.

Where it is determined by the Construction Manager that the rearrangement of an underground main, the existence of which is not shown on the Plans, Specifications, or in the General Requirements, is essential in order to accommodate the contemplated improvement, the Construction Manager will provide for the rearrangement of such facility by other forces or by the Contractor in accordance with the provisions of Paragraph 00700-7.2, Change Orders.

When the General Requirements, Specifications, or Plans indicate that a utility is to be relocated, altered or constructed by others, the City will conduct all negotiations with the utility company and the work will be done at no cost to the Contractor.

Temporary or permanent relocation or alteration of utilities desired by the Contractor for its own convenience shall be the Contractor's responsibility and it shall make arrangements and bear all costs.

10.0 APPLICABLE LAW/CODE REQUIREMENTS

Contractor shall perform the Work in accordance with the following Applicable Law/Code Requirements and all code requirements listed in the Scope of Work:

a. All laws, statutes, the most recent building codes, ordinances, rules, regulations, and lawful orders of all public authorities having jurisdiction over City, Contractor, any subcontractor, the Project, the Project site, the Work, or the prosecution of the Work, including, but not limited to:
   (1) any federal, state or local law, code, regulation or consent order or agreement having the force of law;
   (2) any formally adopted and generally applicable rule, requirement, determination, standard, policy, implementation schedule or order of any governmental or regulatory agency having appropriate jurisdiction;
   (3) any established interpretation of law or regulation utilized by an appropriate governmental or regulatory agency if such interpretation is documented by such governmental or regulatory agency and generally applicable; and,
   (4) any governmental or regulatory agency approval, in each case applicable from time to time to the siting, permitting, design, acquisition, construction, equipping, financing, ownership, possession, start-up, testing, operation, maintenance, repair, replacement or management of the Facilities


General Conditions
00700-55
c. All Applicable Code Requirements relating to nondiscrimination, payment of prevailing wages, payroll records, apprentices, and work day.

Contractor shall comply with and give notices required by all Applicable Code Requirements, including all environmental laws and all notice requirements under the State of California Safe Drinking Water and Enforcement Act of 1986 (State of California Health and Safety Code Section 25249.5, and applicable Sections that follow). Contractor shall promptly notify City’s Representative in writing if Contractor becomes aware during the performance of the Work that the Contract Documents are at variance with Applicable Code Requirements.

If Contractor performs Work which it knows or should know is contrary to Applicable Code Requirements, without prior notice to City and City’s Representative, Contractor shall be responsible for such Work and any resulting damages including, without limitation, the costs of correcting Defective Work.

The Applicable Code Requirements under this Section shall be those in existence at the time the Contract is approved by the City Council. Any significant change in the Applicable Code Requirements that occurs after approval of the Contract by the City Council, and that significantly changes the scope or cost of work in the respective stages, shall be addressed through the change order and modifications procedures established in the Contract Documents.

11.0 USE OF SITE AND CLEAN UP

Contractor shall confine operations at the Project site to areas permitted by law, ordinances, permits, and the Contract Documents. Contractor shall not unreasonably encumber the Project site with materials or equipment.

Contractor shall, during performance of the Work, keep the Project site and surrounding area free from the accumulation of excess dirt, waste materials, and rubbish caused by Contractor. Contractor shall remove all excess dirt, waste material, and rubbish caused by the Contractor; tools; equipment; machinery; and surplus materials from the Project site and surrounding area at the completion of the Work.

Personnel of Contractor and subcontractors shall not occupy, live upon, or otherwise make use of the Project site during any time that Work is not being performed at the Project site, except as otherwise provided in the Contract Documents.

Contractor shall conduct and cause all working forces at the site to maintain the site in a neat orderly manner throughout the construction operations. The work shall be conducted in a manner that will control the dust. When ordered to provide dust control, the Contractor shall use water or turn soil to reduce the dusty conditions, all to the satisfaction of the City’s Representative and in accordance with Section 10 of the City of Stockton Standard Specifications. During construction, Contractor shall remove all rubbish and debris as it is generated to the satisfaction of the Engineer.

12.0 CORRECTION OF DEFECTIVE WORK AND GUARANTEE TO REPAIR PERIOD

The term “Guarantee To Repair Period” means a period of 1 year from Final Completion, unless a longer period of time is specified.

Contractor shall (1) correct Defective Work that becomes apparent during the progress of the Work or during the Guarantee To Repair Period, and (2) replace, repair, or restore to City’s satisfaction...
any other parts of the Work and any other real or personal property which is damaged or destroyed as a result of Defective Work or the correction of Defective Work. Contractor shall promptly commence such correction, replacement, repair, or restoration upon notice from City’s Representative or City, but in no case later than 10 days after receipt of such notice; and Contractor shall diligently and continuously prosecute such correction to completion. Contractor shall bear all costs of such correction, replacement, repair, or restoration, and all losses resulting from such Defective Work, including additional testing, inspection, and compensation for City’s Representative’s services and expenses. Contractor shall perform corrective Work at such times that are acceptable to City and in such a manner as to avoid, to the extent practicable, disruption to City’s activities.

If immediate correction of Defective Work is required for life safety or the protection of property and is performed by City or Separate Contractors, Contractor shall pay to City all reasonable costs of correcting such Defective Work. Contractor shall replace, repair, or restore to City’s satisfaction any other parts of the Construction Work and any other real or personal property which is damaged or destroyed as a result of such Defective Work or the correction of such Defective Work.

Contractor shall remove from the Project site portions of the Construction Work and materials which are not in accordance with the Contract Documents and which are neither corrected by Contractor nor accepted by City.

If Contractor fails to commence correction of Defective Work within 10 days after notice from City or City’s Representative or fails to diligently prosecute such correction to completion, City may correct the Defective Work; and, in addition, City may remove the Defective Work and store salvageable materials and equipment at Contractor’s expense.

If Contractor fails to pay the costs of such removal and storage as required by the Contract Documents within 10 days after written demand, City may, without prejudice to other remedies, sell such materials at auction or at private sale, or otherwise dispose of such material. Contractor shall be entitled to the proceeds of such sale, if any, in excess of the costs and damages for which Contractor is liable to City, including compensation for City’s Representative’s services and expenses. If such proceeds of sale do not cover costs and damages for which Contractor is liable to City, the Contract Sum shall be reduced by such deficiency. If there are no remaining payments due Contractor or the remaining payments are insufficient to cover such deficiency, Contractor shall promptly pay the difference to City.

Contractor’s obligations under this Section are in addition to, and not in limitation of, its warranty under Section 01015 or any other obligation of Contractor under the Contract Documents. Enforcement of Contractor’s express warranties and guarantees to repair contained in the Contract Documents shall be in addition to and not in limitation of any other rights or remedies City may have under the Contract Documents or at law or in equity for Defective Work, including, but not limited to, under CCP Sections 337.1 and 337.15. Nothing contained in this Section shall be construed to establish a period of limitation with respect to other obligations of Contractor under the Contract Documents. Establishment of the Guarantee To Repair Period relates only to the specific obligation of Contractor to correct the Work and in no way limits either Contractor’s liability for Defective Work or the time within which proceedings may be commenced to enforce Contractor’s obligations under the Contract Documents.

***END OF SECTION***
INTENTIONALLY LEFT BLANK
SECTION 00800 - SUPPLEMENTARY CONDITIONS

1.0 LOCAL EMPLOYMENT (For contracts valued at $100,000 and above)

Contractor shall make a good-faith effort, with the assistance of local labor union hiring halls or community organizations designated by the City to employ qualified individuals who are, and have been for one year prior to the effective date of the contract, residents of Stockton in sufficient numbers so that no less than 50% of the contractor's total construction work force, including any subcontractor work force, measured in labor work hours, is comprised of Stockton residents.

Contractor or subcontractor shall make a good faith effort to employ apprentices who are enrolled in and participating in a viable apprenticeship program serving the San Joaquin Valley and approved by the State Department of Apprenticeship Standards. This apprenticeship requirement shall apply for each apprenticable craft or trade in which the contractor employs workers in performing any of the work under the contract.

If, in response to a written request made at least 48 hours (excluding Saturdays, Sundays and holidays) before the date on which one or more apprentices are required, an apprenticeship program(s) does not dispatch any apprentice or dispatches fewer apprentices than requested to a contractor (that has agreed to employ and train apprentices in accordance with California Labor Code Section 1777.5) within 72 hours of such request (excluding Saturdays, Sundays and holidays), that contractor shall be considered in compliance with the apprentice employment requirement for that trade or craft for a 90-day period from the request date, provided the contractor employs those apprentices who are dispatched. Where there is more than one viable apprenticeship program for that trade or craft serving the San Joaquin Valley, a contractor, that is not a participant in or an affiliate of an apprenticeship program and receives fewer apprentices dispatched than requested, shall not be considered in compliance with the apprentice employment requirement unless the contractor has made a written request for the dispatch of apprentices from at least two viable apprenticeship programs. A contractor, that is a participant in or an affiliate of an apprenticeship program, shall make dispatch requests to the program in which it is affiliated or participating.

In the event that no viable apprenticeship program exists for a particular craft or trade, the contractor shall be exempt from the requirements of this Section with regard to that craft or trade.

A contractor employing apprentices pursuant to this Section shall employ apprentices in a ratio of not less than one apprentice for each five journeymen in the apprenticeship craft or trade classification that are employed on the public work contract unless to do so would result in apprentice employment in ratios below the minimum ratios prescribed by California Labor Code Section 1777.5 in which case apprentice employment shall be at least in the ratios prescribed by California Labor Code Section 1777.5.

This Section shall not be construed so as to exempt a contractor from any otherwise applicable requirement imposed upon the contractor by the California Labor Code.

1.1 GOOD FAITH EFFORT

A bidder or contractor who fails to meet the goal of having 50 percent of its work force be residents of Stockton shall, nevertheless, be deemed to have made a "good faith effort" to hire sufficient numbers of residents of Stockton if, prior to execution of the contract with the City, six (6) or more of the following employee recruitment activities have been undertaken and documented:
(A) Placing a valid job order for existing and projected position vacancies with the local office of the State Employment Development Department, for no less than 10 consecutive calendar days.

(B) Placing a valid job order for existing and projected position vacancies with Worknet of San Joaquin County, for no less than 10 consecutive calendar days.

(C) Advertising existing and projected position vacancies, job informational meetings, job application workshops, job application centers and job interviews by posting notices which identify the positions to be filled, the qualifications required, and where to obtain additional information about the application process, in conspicuous local authorized public places, including but not limited to the City Hall, schools, post offices, libraries, and senior citizens' centers.

(D) Conducting a job informational meeting to inform the community of employment opportunities of the contractor, to be held at a City or other public facility (may be combined with other contractors).

(E) Providing ongoing assistance to Stockton residents in completing job application forms.

(F) Conducting a job application workshop to assist the community in applying and interviewing for jobs in the contracting industry, to be held at a City or other public facility (may be combined with other contractors).

(G) Establishing a job application center located in the City of Stockton, where job applications may be obtained, delivered to and collected.

(H) Conducting job interviews within 10 miles of the location designated for contract performance.

(I) Advertising valid existing and projected position vacancies through the local media, such as community television network, local newspapers of general circulation, and trade papers or minority focus newspapers.

(J) Telephone solicitation of known potential local subcontractors or employees.

(K) Any other means of obtaining employees who are residents of Stockton that are reasonably calculated to comply with the goals of this ordinance.

1.2 REQUIRED DOCUMENTATION

The contractor shall keep, and provide to the City, on standardized forms acceptable to the City, an accurate record showing the name, place of residence, hours employed and per diem wages and benefits of each person employed by the contractor, and the contractor's subcontractors, on the specific public works project, including full-time, part-time, permanent and temporary employees.

The contractor shall keep, and provide to the City, on forms acceptable to the City, an accurate record, documenting the contractor's good faith efforts to comply with the local resident employment and apprentice employment provisions of this Section. Said records shall include: a listing by name and address of all local recruitment sources contacted by the contractor; the date of the local
recruitment contact and the identity of the person contacted; the trade and classification and number of employment referrals requested; the number of local residents employed as a result of the contact; and the identity and address of the person(s) employed pursuant to the contact.

1.3 FORMS SUBMITTED UNDER PENALTY OF PERJURY

All forms required under this Section shall attest to the veracity of the information set forth therein and shall be submitted under penalty of perjury.

1.4 IRRESPONSIBLE BIDDER DECLARATION

Should any contractor or subcontractor fail to abide by the good-faith local resident employment and apprentice employment provisions of this Section, the contractor or subcontractor may be declared by the City to be an irresponsible bidder on future projects pursuant to Section 3.72.010 of this Code.

1.5 BINDING ON SUBCONTRACTORS

The good-faith local resident employment and apprentice employment provisions of this Section shall bind the contractor both with respect to persons employed directly by the contractor and to all persons employed by the contractor's subcontractors. The contractor shall be responsible for assuring that all subcontractors document said compliance by submitting, and making available to the City, the forms required by this Section.

1.6 DEFINITIONS

As used in this Section, the following terms shall have the following definitions:

(A) "Qualified individual" means an individual who is in a certified state or federally approved apprenticeship program in an applicable trade or has become a journeyperson in his or her applicable trade.

(B) "Contract for public works or improvement" means any contract with the City for construction, alteration, demolition or repair work.

(C) "Resident of Stockton" means an individual who has been domiciled, as defined by Section 200(b) of the California Elections Code, within the boundaries of Stockton for at least one year immediately preceding the date of the award of contract by the City and who can verify his or her domicile upon request of the contractor or City by producing documentation such as a rent/lease agreement, telephone and utility bills or payment receipts, a valid California driver's license or identification card, and/or any other similar, reliable evidence that verifies that the individual is domiciled within Stockton. For the purposes of this Section, the following Zip Code areas are considered to be within Stockton: 95202, 95203, 95204, 95205, 95206, 95207, 95209, 95210, 95212, 95215 and 95219.

(D) "Viable apprenticeship program" means an apprenticeship program approved by the California Department of Apprenticeship Standards that has graduated apprentices annually for at least the past five years. Any apprenticeship program that has been approved for less than ten years shall be deemed a viable apprenticeship program.
provided that, following the fifth anniversary of its approval by the California Department of Apprenticeship Standards, it graduates apprentices each subsequent year.

1.7 CONTRACTS - SUBCONTRACTS

Contracts and bid documents shall incorporate this Section by reference and shall provide that the failure of any contractor or subcontractor to comply with any of the requirements of this Section shall be deemed a material breach of the contract or subcontract.

All subcontracts shall expressly acknowledge the City's status as a third party beneficiary to that subcontract and further expressly acknowledge that the City, as a third party beneficiary, shall have the right to enforce the provisions of this Section with regard to that subcontract or seek remedies available under this Section should a party to the subcontract fail to comply with any of the provisions of this Section that apply to the subcontract. However, nothing set forth herein shall create a contractual relationship, or privity, between the City and any subcontractor. Bidders or contractors and subcontractors shall maintain records necessary for monitoring their compliance with this Section.

1.8 EXCEPTIONS

The provisions of this Section shall not apply:

(A) Where the City determines that the contract is necessary to respond to a declared emergency which endangers the public health, welfare, or safety and there is no time to apply the provisions of this Section.

To City construction contracts or portions thereof, wherein the work is of a highly specialized nature as determined by the City Council when the contract specifications are approved (Ord. 011-09 § 1, eff. 10-01-09)
LOCAL EMPLOYMENT ORDINANCE COMPLIANCE DOCUMENTATION

Final Report

For

DELTA WATER SUPPLY INTAKE PUMP STATION IMPROVEMENTS
PROJECT NO. M17029

CITY OF STOCKTON
MUNICIPAL UTILITIES DEPARTMENT

Notice to Proceed: ____________________________ Date

Supplementary Conditions
00800-5
General Information

The Prime Contractor and every subcontractor shall complete this page and the accompanying forms no later than 30 days after Substantial Completion of the Project.

Project Name: 

Project Number: 

Contract Date: 

Contractor: 

Address: 

City: STATE: ZIP: 

Phone: 

Contractor’s License Number: 

Type of Contractor’s License (s): 

Supplementary Conditions
00800-6
SUMMARY SHEET FOR LOCAL RESIDENT PARTICIPATION

List the actual number of hours performed in Table 1

TABLE 1

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>HOURS TO DATE</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>Total number of hours performed at the jobsite</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Qualifying number of labor hours performed at the jobsite</td>
<td></td>
</tr>
</tbody>
</table>

Qualifying hours are defined as hours performed by Local Residents.

Percent local participation: \( \frac{B}{A} \times 100 = \)
### SUMMARY SHEET FOR APPRENTICESHIP REQUIREMENT

#### TABLE 2

<table>
<thead>
<tr>
<th>Trade/Classification</th>
<th>Number of Journeymen</th>
<th>Number of Apprentices</th>
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</table>
BREAKDOWN OF WORK HOURS PERFORMED AT THE JOBSITE

TABLE 3

<table>
<thead>
<tr>
<th>Employee Name *</th>
<th>Zip Code of Residence</th>
<th>Local Resident Yes/No</th>
<th>Meets one year Residency Requirement Yes/No</th>
<th>Hours Employed</th>
<th>Base Hourly Pay</th>
<th>Total Hourly Pay</th>
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</table>

If apprentice, please indicate with an asterisk (*)

Please provide supporting documentation for proof of residence and one year residency requirement.
GOOD FAITH EFFORT DOCUMENTATION

CITY OF STOCKTON
MUNICIPAL UTILITIES DEPARTMENT

Please check all boxes that apply:

☐ Placed a valid job order for existing and projected position vacancies with the local office of the State Employment Development Department, for no less than 10 consecutive calendar days.

☐ Placed a valid job order for existing and projected position vacancies with Worknet of San Joaquin County, for no less than 10 consecutive calendar days.

☐ Advertised existing and projected position vacancies, job informational meetings, job application workshops, job application centers and job interviews by posting notices which identify the positions to be filled, the qualifications required, and where to obtain additional information about the application process, in conspicuous local authorized public places, including but not limited to the City Hall, schools, post offices, libraries, and senior citizens’ centers.

☐ Conducted a job informational meeting to inform the community of employment opportunities of the contractor, to be held at a City facility (may be combined with other contractors).

☐ Provided ongoing assistance to Stockton residents in completing job application forms.

☐ Conducted a job application workshop to assist the community in applying and interviewing for jobs in the contracting industry, to be held at a City facility (may be combined with other contractors).

☐ Established a job application center located in the City of Stockton, where job applications may be obtained, delivered to and collected.

☐ Conducted job interviews within 10 miles of the location designated for contract performance.

☐ Advertised valid existing and projected position vacancies through the local media, such as community television network, local newspapers of general circulation, and trade papers or minority focus newspapers.

☐ Telephone solicitation of known potential local subcontractors or employees.

☐ Any other means of obtaining employees who are residents of Stockton that are reasonably calculated to comply with the goals of this ordinance.

Please provide supporting documentation for all boxes checked.
I declare under the penalty of perjury that the foregoing information is true and correct.

By my signature below, I acknowledge that I have met the requirements of the City of Stockton’s Local Employment Ordinance.

I understand this information is subject to audit verification, and I acknowledge and am hereby advised that upon, and as a result of, a finding of non-compliance with the Local Employment Ordinance Provisions, the City may determine that I and/or my firm is not a responsible bidder on future projects.

Owner/Authorized Representative (Signature)  
Name of Firm

Name and Title (Print)  
Date
2.0 COMMUNITY WORKFORCE AND TRAINING AGREEMENT (For contracts valued at $1,000,000 and above)
COMMUNITY WORKFORCE AND TRAINING AGREEMENT FOR THE CITY OF STOCKTON

INTRODUCTION/FINDINGS

The purpose of this Agreement is to promote efficiency of construction operations performed for and within the City of Stockton and to provide for peaceful settlement of labor disputes and grievances without strikes or lockouts, thereby promoting the public interest in assuring the timely and economical completion of the projects subject to this Agreement, and to support the efforts of the City to increase employment opportunities for workers who reside in Stockton, to help increase training and employment opportunities for the City's students in the construction trades through apprenticeship and pre-apprentice programs as the students graduate from the City's schools.

WHEREAS, the City adopts a five-year Capital Improvement Plan that identifies the public projects necessary to maintain and improve the physical properties of the City, including buildings, parks, entertainment venues, golf courses, utility systems, the transportation system and other facilities; and

WHEREAS, the City undertakes and anticipates undertaking many of the projects identified in the current and proposed Capital Improvement Plan and other City public works projects that involve significant construction costs in excess of threshold set forth in this Agreement; and

WHEREAS, the City Council has determined that the successful and cost-effective completion of these Capital Improvement Plan projects and other major City public works projects is of the utmost importance to the City and its taxpayers and the residents it serves; and

WHEREAS, the City has determined that applying the same Agreement to the Capital Improvement Plan and other public works construction projects that exceed the threshold set forth in this Agreement during the term of this Agreement will provide efficiencies for the City and its contractors; and

WHEREAS, large numbers of workers of various skills will be required in the performance of the construction work, including those workers represented by Unions affiliated with the San Joaquin Building and Construction Trades Council ("the Council") and employed by contractors and subcontractors who are signatory to agreements with said labor organizations; and

WHEREAS, it is recognized that projects with multiple contractors and bargaining units on the job site at the same time over an extended period of time, the potential for work disruption is substantial without an overriding commitment to maintain continuity of work; and
WHEREAS, the interests of the general public, the City and the Contractor(s)/Employer(s) would be best served if the construction work proceeded in an orderly manner without disruption due to labor disputes; and

WHEREAS, the Contractor(s)/Employer(s) and the Unions desire to mutually establish and stabilize wages, hours and working conditions for the workers employed on the construction projects subject to this Agreement in order to promote a satisfactory, continuous and harmonious relationship among the parties to this Agreement; and

WHEREAS, unemployment rates in Stockton have been consistently higher than in California as a whole and statistics indicate that the higher unemployment level in Stockton correlates to a higher number of families living in poverty and to a higher crime rate; and

WHEREAS, due to the lack of jobs, much of the work force residing in Stockton is forced to commute long distances to find work, causing increased traffic, increased pollution, and other serious environmental impacts; and

WHEREAS, because of the shortage of local jobs, many residents of Stockton must leave for work very early in the morning and return late in the evening, often leaving children and teenagers alone and unsupervised during the day; and

WHEREAS, absentee parents and unsupervised youth can result in increased problems for families, communities, and the City as a whole; and

WHEREAS, the contracts for the construction of the projects will be awarded in accordance with the applicable provisions of the California State Public Contract Code and state, local and federal laws and regulations; and

WHEREAS, the City has the absolute right to select the lowest responsive and responsible bidder for the award of construction contracts on the projects; and

WHEREAS, the parties signatory to this Agreement pledge their full good faith and trust to work towards mutually satisfactory completion of the Capital Improvement Plan projects and other major City public works projects that will be subject to this Agreement; and

NOW, THEREFORE, IT IS AGREED BETWEEN AND AMONG THE PARTIES HERETO, AS FOLLOWS:

ARTICLE I
DEFINITIONS

1.1 "Agreement" means this Community Workforce and Training Agreement.

1.2 "City" means the City of Stockton and its public employees, including managerial personnel.
1.3 "Contractor(s)/Employer(s)" or "Contractor" means any individual, firm, partnership or corporation, or combination thereof, including joint ventures, that is an independent business enterprise and has entered into a contract with the City or Project Manager or any of its contractors or subcontractors of any tier, with respect to the construction of any part of the Project under contract terms and conditions approved by the City and which incorporate this Agreement.

1.4 "Construction Contract" means a contract awarded by the City for public work within the meaning of Chapter 1 (commencing with Section 1720) of Part 7 of Division 2 of the California Labor Code.

1.5 "Project" means any construction project of the City whose value as determined by the higher of the engineer's estimate of the total cost of the project or the actual cumulative bid amounts submitted by the contractor or contractors awarded the Construction Contracts for the Project, exceeds one million dollars ($1,000,000). By mutual consent of the City and the Council, this threshold amount may be reduced to an amount not below two hundred and fifty thousand dollars ($250,000) after one year from the effective date of this Agreement.

1.6 "Union" or "Unions" means the San Joaquin Building and Construction Trades Council, AFL-CIO ("the Council") and any other labor organization, including those affiliated with the Council, signatory to this Agreement, acting in their own behalf and on behalf of their respective affiliates and member organization whose names are subscribed hereto and who have through their officers executed this Agreement ("Local Unions").

1.7 "Stockton Resident" means a resident of the City of Stockton as defined by Stockton Municipal Code Section 3.68.095(I)(3).

1.8 "Local Area Resident" means any Stockton Resident or any individual domiciled within the boundaries of San Joaquin County according to the criteria set forth in Stockton Municipal Code Section 3.68.095(I)(3) for Stockton Residents.

1.9 "Project Manager" means the business entity or City employee designated by the City to oversee all phases of construction on the Project.

1.10 "Master Agreement" or "Schedule A" means the Master Collective Bargaining Agreement of each craft union signatory hereto, which shall be on file with the City.

1.11 "Completion" means that point at which the City accepts a project at issue by filing a Notice of Completion, or as otherwise provided by applicable state law. "Punch List" items and any other work within the scope of this Agreement not completed prior to commencement of revenue service shall nonetheless be included within the scope of this Agreement. It is understood by the parties that portions of the Project may be completed in phases and Completion of any such phase may occur prior to Completion of the Project.
ARTICLE II
SCOPE OF AGREEMENT

2.1 Parties: The Agreement shall apply and is limited to the City and all Contractor(s)/Employer(s) performing construction contracts on the Project, including surveying and on-site testing and inspection where such work is traditionally covered by a Master Agreement with a Union, and the Council and any other labor organization signatory to this Agreement, acting in their own behalf and on behalf of their respective affiliates and member organizations whose names are subscribed hereto and who have through their officers executed this Agreement.

2.2 Project Description: The Agreement shall govern the award of all Construction Contracts identified by the City as part of the Project. The City has the absolute right to combine, change, consolidate, suspend or cancel Construction Contract(s) or portions of Construction Contract(s) identified as part of the Project. Should the City suspend or remove any individual contract from the Project and thereafter authorize that construction work be commenced on such contract, then such contract shall be performed under the terms of this Agreement. Once a Construction Contract is completed it is no longer covered by this Agreement except when a Contractor is directed to engage in repairs, warranty work or modifications required by its Construction Contract with the City. For the purposes of this Agreement, a Construction Contract shall be considered Completed as set forth in Section 1.11 of this Agreement.

2.3 Covered Work: This Agreement covers, without limitation, all site preparation, surveying, on-site construction, alteration, demolition, installation, improvement, painting or repair of buildings, structures, modular furniture installations, and other works and related activities for the Project that is within the craft jurisdiction of one of the Unions and that is part of the Project, including, without limitation to the following examples, geotechnical and exploratory drilling, temporary HVAC, landscaping and temporary fencing, pipelines (including those in linear corridors built to serve the Project), pumps, pump stations, on-site soils and material inspection and testing, and demolition of any existing structures required to be performed to complete the Project. This Agreement shall apply to any start-up, calibration, commissioning, performance testing repair, and operational revisions to systems and/or subsystems for the Project performed after completion, unless it is performed by City employees. On-site work includes work done for the Project in temporary yards or areas adjacent to the Project, and at any on-site or off-site batch plant constructed solely to supply materials to the Project. This Agreement covers all onsite fabrication work over which the City or any Contractor(s)/Employer(s) possess the right of control (including work done for the Project in any temporary yard or area established for the Project.) This Agreement also covers all off-site work, including fabrication traditionally performed by the Unions, that is part of the Project, provided such off-site work is covered by a current "Master Agreement" or local addenda to a National Agreement of the applicable Union(s) that is in effect as of the execution date of this Agreement. The furnishing of supplies, equipment or materials which are stockpiled for later use shall not be considered Covered Work; however, the delivery of ready-mix, asphalt, aggregate, sand or other fill material which are directly incorporated into the construction process as well as the off-hauling of debris and excess fill, material and/or mud shall be covered by the terms and conditions of this Agreement. Contractor(s)/Employer(s), including brokers, of persons providing construction trucking work shall provide certified payroll records to the City within ten (10) days of a written request or as required by bid specifications.
2.4 **Exclusions from Covered Work**

2.4.1 The Agreement shall be limited to construction work on the Project and is not intended to, and shall not affect or govern the award of public works contracts by the City which are not a part of the Project.

2.4.2 The Agreement shall not apply to a Contractor's/Employer's non-construction craft employees, including but not limited to executives, managerial employees, engineering employees and supervisors above the level of General Foreman (except those covered by existing Master Agreements), staff engineers or other professional engineers, administrative and management personnel.

2.4.3 This Agreement shall not apply to work by employees of the City.

2.4.4 This Agreement shall not apply to any work performed on or near or leading to the site of work covered by this Agreement that is undertaken by state, county, City or other governmental bodies or their contractors; or by public or private utilities or their contractors that is not part of the Project.

2.4.5 This Agreement shall not apply to the Project where the Agreement is prohibited by state or federal law or where the express conditions for the receipt of non-de minimis state or federal funding prohibit the City from applying this Agreement to the Project.

2.5 **Project Labor Disputes**: All Project labor disputes involving the application or interpretation of the Master Agreement to which a signatory Contractor(s)/Employer(s) and a signatory Union are parties shall be resolved pursuant to the resolution procedures of the Master Agreement. All disputes relating to the interpretation or application of this Agreement shall be subject to resolution by the Grievance Committee and the Grievance and Arbitration Procedure set forth in Article XII.

2.6 Work covered by this Agreement within the following craft jurisdictions shall be performed under the terms of their National Agreements as follows: the National Transient Lodge ("NTL") Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, and the National Agreement of Elevator Constructors, and any instrument calibration work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Technicians, with the exception that Articles IV, XII, XIII of this Agreement shall apply to such work.

2.7 **Award of Contracts.** It is understood and agreed that the City has the absolute right to select any qualified bidder for the award of contracts under this Agreement. The bidder need only be willing, ready and able to execute and comply with this Agreement. It is further agreed that this Agreement shall be included in all invitations to bid or solicitations for proposals from contractors or subcontractors for work on the Project that are issued on and after the effective date of this Agreement.
ARTICLE III
EFFECT OF AGREEMENT

3.1 By executing the Agreement, the Unions and the City agree to be bound by each and all of the provisions of the Agreement.

3.2 This Agreement shall be included as a condition of the award of Construction Contracts for the Project. By accepting the award of a Construction Contract for the Project, whether as contractor or subcontractor, the Contractor(s)/Employer(s) agrees to be bound by each and every provision of the Agreement and agrees that it will evidence its acceptance prior to the commencement of work by executing the Agreement to be Bound in the form attached hereto as Addendum A.

3.3 At the time that any Contractor(s)/Employer(s) enters into a subcontract with any subcontractor providing for the performance of a Construction Contract, the Contractor(s)/Employer(s) shall provide a copy of this Agreement to said subcontractor and shall require the subcontractor as a part of accepting an award of a construction subcontract to agree in writing, to be bound by each and every provision of this Agreement prior to the commencement of work by executing the Agreement to be Bound in the form attached hereto as Addendum A.

3.4 This Agreement shall only be binding on the signatory parties hereto, their successors and assigns, and shall not apply to the parents, affiliates, subsidiaries, or other ventures of any such party. Each Contractor shall alone be liable and responsible for its own individual acts and conduct and for any breach or alleged breach of this Agreement. Any dispute between the Union(s) and the Contractor(s) respecting compliance with the terms of the Agreement, shall not affect the rights, liabilities, obligations and duties between the signatory Union(s) and other Contractor(s)/Employer(s) party to this Agreement.

3.5 It is mutually agreed by the parties that any liability by a signatory Union to this Agreement shall be several and not joint. Any alleged breach of this Agreement by a signatory Union shall not affect the rights, liabilities, obligations and duties between the signatory Contractor(s) and the other Union(s) party to this Agreement.

3.6 The provisions of this Agreement, including the Master Agreements of the Local Unions having jurisdiction over the work on the Project, incorporated herein by reference, shall apply to the work covered by this Agreement, notwithstanding the provisions of any other local, area and/or national agreements which may conflict with or differ from the terms of this Agreement. Where a subject covered by the provisions of this Agreement is also covered by a Master Agreement, the provisions of this Agreement shall prevail. Where a subject is covered by the provisions of a Schedule A and is not covered by this Agreement, the provisions of the Master Agreement shall prevail.

ARTICLE IV
WORK STOPPAGES. STRIKES. SYMPATHY STRIKES AND LOCKOUTS

4.1 The Unions, City and Contractor(s)/Employer(s) agree that for the duration of the Project:

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(1) There shall be no strikes, sympathy strikes, work stoppages, picketing, hand billing or otherwise advising the public that a labor dispute exists, or slowdowns of any kind, for any reason, by the Unions or employees employed on the Project, at the job site of the Project or at any other facility of the City because of a dispute on the Project. Nor shall the Unions or any employees employed on the Project participate in any strikes, sympathy strikes, work stoppages, picketing, hand billing, slowdowns, or otherwise advising the public that a labor dispute exists at the jobsite of the Project because of a dispute between Unions and Contractor(s)/Employer(s) on any other project. It shall not be considered a violation of this Article if labor is withheld by a Union due to lack of payments to a Trust Fund or failure to make payroll on the Project. Nothing stated in this Agreement shall prevent Unions from participating in the actions mentioned in this section on jobsites other than the Project jobsite because of disputes between the Unions and Contractor(s)/Employer(s) on projects other than the Project.

(2) As to employees employed on the Project, there shall be no lockout of any kind by a Contractor(s)/Employer(s) covered by the Agreement.

(3) If a Master Agreement between a Contractor(s)/Employer(s) and the Union expires before the Contractor(s)/Employer(s) completes the performance of a Construction Contract for work covered under this Agreement and the Union or Contractor(s)/Employer(s) gives notice of demands for a new or modified Master Agreement, the Union agrees that it will not strike the Contractor(s)/Employer(s) on said contract for work covered under this Agreement and the Union and the Contractor(s)/Employer(s) agree that the expired Master Agreement shall continue in full force and effect for work covered under this Agreement until a new or modified Master Agreement is reached between the Union and Contractor(s)/Employer(s). If the new or modified Master Agreement reached between the Union and Contractor(s)/Employer(s) provides that any terms of the Master Agreement shall be retroactive, the Contractor(s)/Employer(s) agrees to comply with any retroactive terms of the new or modified Master Agreement which is applicable to employees employed on the Project within seven (7) days after the effective date of the new or modified Master Agreement.

4.1.1. Notification: If the City contends that any Union has violated this Article, it will notify in writing (including email) the Senior Executive of the Council and the Senior Executive of the Union, setting forth the facts alleged to violate the Article, prior to instituting the expedited arbitration procedure set forth below. The Senior Executive of Council will immediately use his/her best efforts to cause the cessation of any violation of this Article. The Senior Executive of the Union will immediately inform the membership of their obligations under this Article. A Union complying with this obligation shall not be held responsible for unauthorized acts of employees it represents.

4.2 Expedited Arbitration: Any party to this Agreement shall institute the following procedure, prior to initiating any other action at law or equity, when a breach of this Article is alleged to have occurred:

(1) A party invoking this procedure shall notify Robert Hirsch, as the permanent arbitrator, or, William Rizer, as the alternate under this procedure. In the event that the permanent arbitrator is unavailable at any time, the alternate will be contacted. If neither is available, then a selection shall be made from the list of arbitrators in Article XII. Notice to the arbitrator shall be
by the most expeditious means available, with notices by facsimile, electronic mail or telephone to
the party alleged to be in violation, to the City, to the Council and to the involved Local Union if a
Union is alleged to be in violation.

(2) Upon receipt of said notice, the City will contact the designated arbitrator
named above or his alternate who will attempt to convene a hearing within twenty-four (24)
hours if it is contended that the violation still exists.

(3) The arbitrator shall notify the parties by facsimile or telephone of the place
and time for the hearing. Said hearing shall be completed in one session, which, with appropriate
recesses at the arbitrator's discretion, shall not exceed twenty-four (24) hours unless otherwise
agreed upon by all parties. A failure of any party to attend said hearings shall not delay the
hearing of evidence or the issuance of any award by the arbitrator.

(4) The sole issue at the hearing shall be whether or not a violation of Article IV,
Section 4.1 of the Agreement has occurred. The arbitrator shall have no authority to consider any
matter of justification, explanation or mitigation of such violation or to award damages, which issue
is reserved for court proceedings, if any. The award shall be issued in writing within three (3) hours
after the close of the hearing, and may be issued without a written opinion. If any party desires a
written opinion, one shall be issued within fifteen (15) days, but its issuance shall not delay
compliance with or enforcement of the award. The arbitrator may order cessation of the violation of
this Article and other appropriate relief and such award shall be served on all parties by hand or
registered mail upon issuance.

(5) Such award may be enforced by any Court of competent jurisdiction upon the
filing of this Agreement and all other relevant documents referred to above in the following
manner. Written notice of the filing of such enforcement proceedings shall be given to the other
party. In the proceeding to obtain a temporary order enforcing the arbitrator's award as issued
under Section 4.2 of this Article, all parties waive the right to a hearing and agree that such
proceedings may be ex-parte. Such agreement does not waive any party's right to participate in a
hearing for a final order or enforcement. The Court's order or orders enforcing the arbitrator's
award shall be served on all parties by hand or delivered by certified mail.

(6) Any rights created by statute or law governing arbitration proceedings
inconsistent with the above procedure, or which interfere with compliance, are waived by the
parties.

(7) The fees and expenses of the arbitrator shall be divided equally between the
party instituting the arbitration proceedings provided in this Article and the party alleged to be in
breach of its obligation under this Article.
ARTICLE V
PRE-CONSTRUCTION CONFERENCE

5.1 The Project Manager shall convene a pre-construction conference to be held at least fourteen (14) days prior to the commencement of each construction phase, at a time and location mutually agreeable to the Council. Such conference shall be attended by a representative each from the participating Contractor(s)/Employer(s) and Union(s) and the Project Manager.

5.2 Review Meetings: In order to ensure the terms of this Agreement are being fulfilled and all concerns pertaining to the City, the Unions, and the Contractors are addressed, the Project Manager, General Contractor and Senior Executive of the Council or designated representatives thereof shall meet on a periodic basis during the term of construction. The City and the Council shall have the right to call a meeting of the appropriate parties to ensure the terms of this Agreement are being fulfilled.

ARTICLE VI
NO DISCRIMINATION

6.1 The Contractor(s)/Employer(s) and Unions agree to comply with all anti-discrimination provisions of federal, state and local law, to protect employees and applicants for employment, on the Project.

ARTICLE VII
UNION SECURITY

7.1 The Contractor(s)/Employer(s) recognize the Union(s) as the sole bargaining representative of all craft employees working within the scope of this Agreement.

7.2 All employees performing work covered by this Agreement shall, as a condition of employment on or before the eighth (8th) cumulative day of employment on the Project, be responsible for the payment of the applicable periodic working dues and fees uniformly required for union membership in the Local Union that is a signatory to this Agreement for the duration of his or her employment on the Project. Nothing in this Agreement is intended to prevent any non-union employees from joining the Local Union.

7.3 Authorized representatives of the Unions shall have access to the Project whenever work covered by this Agreement is being, has been, or will be performed on the Project.

ARTICLE VIII
REFERRAL

8.1 Contractor(s)/Employer(s) performing construction work on the Project described in the Agreement shall, in filling craft job requirements, utilize and be bound by the registration facilities and referral systems established or authorized by the Local Unions ("Job Referral System"). Such Job Referral System shall be operated in a non-discriminatory manner and in full compliance with all federal, state, and local laws and regulations, including those which require
equal employment opportunities and non-discrimination. The Contractor(s)/Employer(s) shall have the right to reject any applicant referred by the Union(s), in accordance with the applicable Master Agreement.

8.2 The Contractor(s)/Employer(s) shall have the unqualified right to select and hire directly all supervisors above general foreman it considers necessary and desirable, without such persons being referred by the Union(s).

8.3 In the event that referral facilities maintained by the Union(s) are unable to fill the requisition of a Contractor(s)/Employer(s) for employees within a forty-eight (48) hour period (Saturdays, Sundays and Holidays excluded) after such requisition is made by the Contractor(s)/Employer(s), the Contractor(s)/Employer(s) shall be free to obtain workpersons from any source. A Contractor who hires any personnel to perform covered work on the Project pursuant to this Section shall immediately provide the appropriate Union with the name and address of such employee(s) and shall immediately refer such employee(s) to the appropriate Union to satisfy the requirements of Article VII of this Agreement.

8.4 Unions will exert their utmost efforts to recruit sufficient numbers of skilled craft persons to fulfill the requirements of the Contractor(s)/Employer(s). Recognizing the special needs of the Project and the acute shortage of skilled craftsmen, the Unions shall consider a Contractor's request to transfer key employees to work on this Project in a manner consistent with the Union's referral procedures.

8.5 The parties to this Agreement support the development of increased numbers of skilled construction workers from the City of Stockton and San Joaquin County. To the extent allowed by law, and consistent with the Local Unions' hiring hall provisions, and as long as they possess the requisite skills and qualifications, Local Area Residents, including journeymen and apprentices, shall be referred for Project work covered by this Agreement.

ARTICLE IX
WAGES AND BENEFITS

9.1 All Contractors/Employers agree to pay contributions to the established vacation, pension and other form of deferred compensation plan, apprenticeship, and health benefit funds established by the applicable Master Agreement for each hour worked on the Project in the amounts designated in the Master Agreements of the appropriate Local Unions.

9.2 By signing this Agreement, the Contractor(s)/Employer(s) adopts and agrees to be bound by the written terms of the legally established Trust Agreements, as described in section 9.1, specifying the detailed basis on which payments are to be made into, and benefits paid out of, such Trust Funds established by such appropriate local agreements. The Contractor(s)/Employer(s) authorizes the parties to such local trust agreements to appoint trustees and successor trustees to administer the trust funds and hereby ratify and accept the trustees so appointed as if made by the Contractor(s)/Employer(s).

9.3 Wages, Hours, Terms and Conditions of Employment: The wages, hours and other terms and conditions of employment on the Project shall be governed by the Master Agreement of the respective crafts, copies of which shall be on file with the City to the extent such Master Agreement is consistent with this Agreement.
Agreement is not inconsistent with this Agreement. All employees covered by this Agreement shall be classified and paid in accordance with the classification and wage scales contained in the appropriate local agreements which have been negotiated by the historically recognized bargaining entity and in compliance with the applicable general prevailing wage determination made by the Director of Industrial Relations pursuant to the California Labor Code.

9.4 During the period of construction on this Project, the Contractor(s)/Employer(s) agrees to recognize and put into effect such increases in wages and recognized fringe benefits as shall be negotiated between the various Unions and the historically recognized local bargaining entity on the effective date as set forth in the applicable agreement. The Unions shall notify the Contractor(s)/Employer(s) in writing of the specific increases in wages and recognized fringe benefits and the date on which they become effective.

9.5 **Holidays:** Holidays shall be in compliance with the applicable Schedule A agreement.

**ARTICLE X**

**EMPLOYEE GRIEVANCE PROCEDURE**

10.1 All disputes involving discipline and/or discharge of employees working on the Project shall be resolved through the grievance and arbitration provision contained in the Master Agreement for the craft of the affected employee. No employee working on the Project shall be disciplined or dismissed without just cause.

**ARTICLE XI**

**COMPLIANCE**

11.1 It shall be the responsibility of the Contractor(s)/Employer(s) and Unions to investigate and monitor compliance with the provisions of the Agreement contained in Article IX. Nothing in this agreement shall be construed to interfere with or supersede the usual and customary legal remedies available to the Unions and/or employee benefit Trust Funds to collect delinquent Trust Fund contributions from Employers on the Project. The City shall monitor and enforce compliance with the prevailing wage requirements of the state and Contractors'/Employers' compliance with this Agreement.

**ARTICLE XII**

**GRIEVANCE ARBITRATION PROCEDURE**

12.1 The parties understand and agree that in the event any dispute arises out of the meaning, interpretation or application of the provisions of this Agreement, the same shall be settled by means of the procedures set out herein. No grievance shall be recognized unless the grieving party (Local Union or City on its own behalf, or on behalf of an employee whom it represents, or a contractor on its own behalf) provides notice in writing to the signatory party with whom it has a dispute within five (5) days after becoming aware of the dispute but in no event more than thirty (30) days after it reasonably should have become aware of the event giving rise to the dispute. The time limits in this Section 12.1 may be extended by mutual written agreement of the parties.
12.2 Grievances shall be settled according to the following procedures:

**Step 1:** Within five (5) business days after the receipt of the written notice of the grievance, the Business Representative of the involved Local Union or City, or his/her designee, or the representative of the employee, and the representative of the involved Contractor(s)/Employer(s) shall confer and attempt to resolve the grievance.

**Step 2:** In the event that the representatives are unable to resolve the dispute within the five (5) business days after the meeting to resolve the dispute in Step 1, the International Union Representative and the Contractor(s)/Employer(s) involved shall meet within seven (7) working days of the referral of the dispute to this second step to arrive at a satisfactory settlement thereof. Meeting minutes shall be kept by the Contractor. In the event that these representatives are unable to resolve the dispute after its referral to Step 2, either involved party may submit it within three (3) business days to the Grievance Committee, which shall meet within five (5) business days after such referral (or such longer time as is mutually agreed upon by all representatives on the Grievance Committee), to confer in an attempt to resolve the grievance. The Grievance Committee shall be comprised of two (2) representatives of the City; and one (1) representative of the Project Manager, and three (3) representatives of the San Joaquin Building & Construction Trades Council. If the dispute is not resolved within such time (five (5) business days after its referral or such longer time as mutually agreed upon) it may be referred within five (5) business days by either party to Step 3.

**Step 3:** If the grievance is not settled in Step 2 within five (5) business days, either party may request the dispute be submitted to arbitration or the time may be extended by mutual consent of both parties. Within five (5) business days after referral of a dispute to Step 3, the representatives shall choose a mutually agreed upon arbitrator for final and binding arbitration. If the parties are unable to agree on an arbitrator, an arbitrator shall be selected by the alternate striking method from the list of five (5) below. The order of striking names from the list of arbitrators shall be determined by a coin toss, the winner of which shall decide whether they wish to strike first or second. If any of the arbitrators listed below or in Article 4 is no longer working as a labor arbitrator at the time of selection, the City and the Council shall mutually agree to a replacement. In addition, the City and the Council may mutually agree to add additional arbitrators to those listed below.

1. William Riker
2. Barry Winograd
3. Thomas Angelo
4. Robert Hirsch
5. William Engler

12.3 The Arbitrator shall arrange for a hearing on the earliest available date from the date of his/her selection. A decision shall be given to the parties within five (5) calendar days after completion of the hearing unless such time is extended by mutual agreement. A written opinion may be requested by a party from the presiding arbitrator. The decision of the Arbitrator shall be...
final and binding on all parties. The Arbitrator shall have no authority to change, amend, add to or deduct from any of the provisions of the Agreement. The expense of the Arbitrator shall be borne equally by both parties.

12.4 The time limits specified in any step of the Grievance Procedure set forth in Section 12.2 may be extended by mutual agreement of the parties initiated by the written request of one party to the other, at the appropriate step of the Grievance Procedure. However, failure to process a grievance, or failure to respond in writing within the time limits provided above, without an agreed upon extension of time, shall be deemed a waiver of such grievance without prejudice, or without precedent to the processing of and/or resolution of like or similar grievances or disputes. In order to encourage the resolution of disputes and grievances at Steps 1 and 2 of this Grievance Procedure, the parties agree that such settlements shall not be precedent setting.

ARTICLE XIII
WORK ASSIGNMENTS AND JURISDICTIONAL DISPUTES

13.1 The assignment of Covered Work will be solely the responsibility of the Employer performing the work involved; and such work assignments will be in accordance with the Plan for the Settlement of the Jurisdictional Disputes in the Construction Industry (the "Plan") or any successor Plan.

13.2 All jurisdictional disputes on this Project between or among the building and construction trades Unions and the Employers parties to this Agreement, shall be settled and adjusted according to the present Plan established by the Building and Construction Trades Department or any other plan or method of procedure that may be adopted in the future by the Building and Construction Trades Department. Decisions rendered shall be final, binding and conclusive on the Employers and Unions parties to this Agreement.

13.3 If a dispute arising under this Article involves the Northern California Carpenters Regional Council or any of its subordinate bodies, an Arbitrator shall be chosen by the procedures specified in Article V, Section 5, of the Plan from a list composed of John Kagel, Thomas Angelo, Robert Hirsch, and Thomas Pagan, and the Arbitrator’s hearing on the dispute shall be held at the offices of the California State Building and Construction Trades Council in Sacramento, California within fourteen (14) days of the selection of the Arbitrator. All other procedures shall be as specified in the Plan.

13.4 All jurisdictional disputes shall be resolved without the occurrence of any strike, work stoppage, or slow-down of any nature and the Employer's assignment shall be adhered to until the dispute is resolved. Individual employees violating this section shall be subject to immediate discharge. Each Employer will conduct a pre-job conference with the Council prior to commencing work. The Project Manager and City will be advised in advance of all such conferences and may participate if they wish. Pre-job conferences for different Employers may be held together.
ARTICLE XIV MANAGEMENT RIGHTS

14.1 The Contractor(s)/Employer(s) shall retain full and exclusive authority for the management of their operations, including the right to direct their workforce in their sole discretion. Except as provided by Section 2.3 and by the lawful manning provisions in the applicable Master Agreement, no rules, customs or practices shall be permitted or observed which limit or restrict production, or limit or restrict the working efforts of employees.

ARTICLE XV
HELMETS TO HARDHATS

15.1 The Contractor(s)/Employer(s) and the Unions recognize a desire to facilitate the entry into the building and construction trades of veterans and members of the National Guard and Reserves who are interested in careers in the building and construction industry. The Contractor(s)/Employer(s) and Unions agree to utilize the services of the Center for Military Recruitment, Assessment and Veterans Employment (hereinafter "Center), a joint Labor-Management Cooperation Trust Fund, established under the authority of Section 6(b) of the Labor-Management Cooperation Act of 1978, 29 U.S.C. Section 175(a), and Section 302(c)(9) of the Labor-Management Relations Act, 29 U.S.C. Section 186(c)(9), and a charitable tax exempt organization under Section 501(c)(3) of the Internal Revenue Code, and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties.

15.2 The Unions and Contractor(s)/Employer(s) agree to coordinate with the Center to participate in an integrated database of veterans and members of the National Guard and Reserves interested in working on the Project and of apprenticeship and employment opportunities for this Project. To the extent permitted by law, the Unions will give credit to such veterans for bona fide, provable past experience.

15.3 Nothing in this Article shall be interpreted to preclude any Contractor(s)/Employer(s) that is not signatory to a Master Agreement to utilize an alternative plan or program for recruiting, training and facilitating construction industry employment opportunities for military veterans and members of the National Guard and Reserves. Before utilizing such alternative program on the Project, such Contractor(s)/Employer(s) shall provide the City with a description of such plan or program.

ARTICLE XVI
DRUG & ALCOHOL TESTING

16.1 The use, sale, transfer, purchase and/or possession of a controlled substance, alcohol and/or firearms at any time during the work day is prohibited.

16.2 The Parties agree to recognize and use the Substance Abuse Program contained in each applicable Union's Schedule A.
ARTICLE XVII
TERM SAVINGS CLAUSE

17.1 The parties agree that in the event any article, provision, clause, sentence or word of the Agreement is determined to be illegal or void as being in contravention of any applicable law, by a court of competent jurisdiction, the remainder of the Agreement shall remain in full force and effect. The parties further agree that if any article, provision, clause, sentence or word of the Agreement is determined to be illegal or void, by a court of competent jurisdiction, the parties shall substitute, by mutual agreement, in its place and stead, an article, provision, clause, sentence or word which will meet the objections to its validity and which will be in accordance with the intent and purpose of the article, provision, clause, sentence or work in question.

17.2 The parties also agree that in the event that a decision of a court of competent jurisdiction materially alters the terms of the Agreement such that the intent of the parties is defeated, then the entire Agreement shall be null and void.

17.3 If a court of competent jurisdiction determines that all or part of the Agreement is invalid and/or enjoins the City from complying with all or part of its provisions and the City accordingly determines that the Agreement will not be required as part of an award to a Contractor(s)/Employer(s), the unions will no longer be bound by the provisions of Article IV.

ARTICLE XVIII
LOCAL HIRE, PRIORITY APPRENTICE AND WORKFORCE DEVELOPMENT PROGRAM

18.1 The objective of the City in creating this Local Hire, Priority Apprentice and Workforce Development Program is to enhance and encourage employment opportunities for Stockton residents and to enable effective construction career pathways for Local Area Residents through California State approved Joint Apprenticeship Programs. To that end, as part of the Agreement, the City establishes goals for the hiring, training and retention of Local Area Residents.

18.2 Local Hire. The City establishes the following Local Hire goals and commitments:

18.2.1 The parties agree to make a good faith effort to refer on a priority basis, consistent with the non-discriminatory referral procedures of the applicable Union, qualified and available, Local Area Residents for Project work. The parties agree to a goal that Stockton residents shall perform a minimum of 50% of the hours worked on the Project by the Contractors’ total construction workforce. In the event that a sufficient number of Stockton residents are not available to fulfill the 50% local hire requirement, the next tier of residents shall come from anywhere in San Joaquin County. The Contractor(s) shall make good faith efforts to reach this goal through the utilization of the Unions’ hiring hall procedures. The Unions shall exercise their best efforts in their recruiting and training of Stockton resident workers and in utilizing their hiring hall procedures to facilitate this 50% goal.

18.2.2 The parties also recognize and support the City’s commitment to provide opportunities for participation on the Project to Stockton businesses through the City’s Local Business Preference Ordinance. In furtherance of this commitment, the parties agree that such
Stockton contractors and subcontractors awarded work on the Project may request by name, and the Local Union will honor, referral of persons who have applied to the Local Union for Project work, and who demonstrate the following qualifications:

(1) possess any license required by state or federal law for the Project work to be performed;

(2) have worked a total of at least two thousand (2,000) hours in the construction craft during the prior two (2) years;

(3) were on the Contractor’s active payroll for at least ninety (90) out of the one hundred and twenty (120) calendar days prior to the contract award;

(4) have the ability to perform safely the basic functions of the applicable trade;

and

(5) are Stockton residents.

The Union will refer to such Contractor one journeyman employee from the hiring hall out-of-work list for the affected trade or craft, and will then refer one of such Contractor’s “core” employees as a journeyman and shall repeat the process, one and one, until such Contractor’s crew requirements are met or until such Contractor has hired five (5) “core” employees, whichever occurs first. Thereafter, all additional employees in the affected trade or craft shall be hired exclusively from the hiring hall out-of-work list(s). For the duration of the Contractor’s work, the ratio shall be maintained and when the Contractor’s workforce is reduced, employees shall be reduced in the same ratio of core employees to hiring hall referrals as was applied in the initial hiring.

18.2.3 The Contractor shall notify the appropriate Union of the name and social security number of each direct hire and each direct hire shall register with the Union’s hiring hall and comply with Article VII before commencing Project work. If there is any question regarding an employee’s eligibility under Section 18.2, the City, at a Union’s request, shall obtain satisfactory proof of such from the Contractor.

18.3 Priority Apprenticeship and Workforce Development

18.3.1 Recognizing the need to develop adequate numbers of competent workers in the construction industry, the Contractor(s)/Employer(s) shall employ apprentices of a California State approved Joint Apprenticeship Program in the respective crafts to perform such work as is within their capabilities and which is customarily performed by the craft in which they are indentured. The apprentice ratios will be in compliance with the applicable provisions of the California Labor Code and Prevailing Wage Rate Determination.

18.3.2 The parties agree to a goal that 50% of apprentices employed on the Project shall be residents of the City of Stockton or other Local Area Residents. In achieving this goal, at-risk youth who reside in the following zip codes within the City of Stockton, shall be given priority in the apprenticeship recruitment process: 95202, 95203, 95204, 95205, and 95206. If sufficient numbers of Stockton residents are not available, then a good faith effort will be made by the Unions to utilize residents of San Joaquin County. All apprentices referred to Contractors under this
Agreement shall be enrolled in State of California approved Joint Apprenticeship Programs. Subject to any legal restrictions, the parties agree to a goal that apprentices will perform twenty percent (20%) of the total craft hours worked on the Project unless an applicable Master Agreement provides for a greater percentage. The Unions agree to cooperate with the Contractors in furnishing apprentices as requested and they shall be properly supervised and paid in accordance with the provisions of the applicable Master Agreement.

18.3.3 The Contractors and Unions shall make good faith efforts to reach the apprenticeship goals set forth in this Section 18.3 through the utilization of normal hiring hall and apprentice procedures and, when appropriate, the identification of potentially qualified apprentices through community-based organizations working in collaboration with the apprentice programs. The Unions are committed to working with the Contractors and community based organizations to achieve these goals. At least annually, the Unions and the City will each conduct a Community Career Fair to provide at-risk youth, veterans and others an opportunity to learn about each craft and the process for entering their apprenticeship program.

18.4 Good Faith Efforts. A Contractor or subcontractor must take the following good faith steps to demonstrate that it has made every effort to reach the Local Hire, Priority Apprenticeship and Workforce Development Program goals of the City. The Contractor or subcontractor shall attend scheduled Pre-Job meetings held under this Agreement and shall submit written workforce projections and projected work hours on a craft-by-craft basis.

18.4.1 Within seven (7) calendar days after Notice to Proceed, the Contractor or subcontractor shall meet with the Unions and the City to present its plan for reaching the Local Hire, Priority Apprenticeship and Workforce Development Program goals.

18.4.2 The Contractor or subcontractor shall notify the Project Manager of the City by U.S. Mail or electronic mail if a Union hiring hall cannot, upon request by the Contractor or subcontractor, dispatch Local Area Residents to the Project. It shall be the responsibility of the Contractor or subcontractor to retain all evidence of such good faith efforts.

18.4.3 The Contractor or subcontractor may use the “Name Call”, “Rehire” or other available hiring hall procedures to reach the goals of this Article XVIII.

18.5 Enforcement, Compliance and Reporting

18.5.1 Contractors will be required to submit Certified Weekly Payrolls to the City along with monthly workforce utilization reports documenting the Contractor’s compliance with the requirements described in this Article. At a minimum, the monthly reports must include: 1) data on Stockton and Local Area Residents work hour utilization on the Project and Local Area Residents; and 2) documentation showing any requests made to the Union’s dispatchers for Stockton residents and the Union’s response to the request.

18.5.2 The City staff shall monitor the operation of the Local Hire, Priority Apprenticeship and Workforce Development Program and shall consider allegations of non-compliance with the goals stated in this Article. If there is a determination by the City that a Contractor or subcontractor has not complied with the goals or demonstrated good faith efforts to
do so, the City and the Contractor or subcontractor shall meet and confer in order to identify necessary actions to resolve the issue and ensure a good faith effort to achieve the objectives of this Article.

18.5.3 For any Project subject to this Agreement, the Local Hire, Priority Apprentice and Workforce Development Program requirements of this Article shall apply in lieu of the requirements of Stockton Municipal Code Section 3.68.095 and no separate compliance with Section 3.68.095 will be required of the Contractors/Employers working on the Project.

**ARTICLE XIX. TERM**

19.1 This Agreement shall become effective 30 days after the day the City Council takes action to authorize its execution, and it shall continue in full force and effect for a period of three (3) years, at which time this Agreement may be considered for extension or renewal. The terms of this Agreement shall apply to any Project that is bid or solicited after the effective date and before the expiration of this Agreement. The Agreement shall continue to apply to any Project subject to this Agreement until the completion of all Covered Work on the Project.

**CITY OF STOCKTON**

Name: KURT O. WILSON
Title: CITY MANAGER

Date: 8/24/16

**ATTEST:**

By: BONNIE PAIGE, CITY CLERK

**APPROVED AS TO FROM:**

By: JOHN M. LUHBBERKE
Title: CITY ATTORNEY

**APPROVED AS TO FORM:**

By: DANIEL CARDozo
Title: ATTORNEY FOR SAN JOAQUIN BTC

SAN JOAQUIN BUILDING AND CONSTRUCTION TRADES COUNCIL, AFL-CIO COUNCIL

Name:
Title:

Date: ____________________

Supplementary Conditions
00800-30
do so, the City and the Contractor or subcontractor shall meet and confer in order to identify necessary actions to resolve the issue and ensure a good faith effort to achieve the objectives of this Article.

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CITY OF STOCKTON

Name: KURT O. WILSON
Title: CITY MANAGER

Date:

ATTEST:

By: BONNIE PAIGE, CITY CLERK

APPROVED AS TO FORM

By: DANIEL CARDozo

APPROVED AS TO FROM

By: JOHN M. LUEBBERKE
Title: CITY ATTORNEY

SAN JOAQUIN BUILDING AND CONSTRUCTION TRADES COUNCIL, AFL-CIO COUNCIL

Name: Sam Kharufeh
Title: Secretary/Treasurer

Date: 8/24/16

Supplementary Conditions
00800-31
UNIONS

Daniel C. Chiuella
Electrical Workers # 595.

[Signature]

Sheet Metal Workers # 104

[Signature]

Boilermakers # 549

[Signature]

Cement Masons # 400

[Signature]

District Council # 16

[Signature]

Heat & Frost Insulators & Asbestos # 16

[Signature]

Iron Workers # 378

[Signature]

Underground Utility/Landscape # 355

[Signature]

Sign & Display # 510

[Signature]

Operating Engineers # 8

[Signature]

Northern California Carpenters Regional Council on behalf of itself and its affiliated local Unions

[Signature]

Plasterers and Cement Masons # 300

[Signature]

Plumbers and Pipefitters # 642

[Signature]

On behalf of Business Manager Shawn Babcock, Commerce Agent Paul Utter

Road Sprinkler Fitters # 659

[Signature]

Roofers and Waterproofers # 81

[Signature]

Iron Workers # 118

[Signature]

Laborers # 73

[Signature]

Teamsters # 439
Addendum A

CITY OF STOCKTON COMMUNITY WORKFORCE AND TRAINING AGREEMENT

AGREEMENT TO BE BOUND

The undersigned, as a Contractor or Subcontractor, including construction material trucking company/entity, (CONTRACTOR) on the City of Stockton Project, (hereinafter PROJECT), for and in consideration of the award to it of a contract to perform work on said PROJECT, and in further consideration of the mutual promises made in this Community Workforce and Training Agreement (hereinafter AGREEMENT), a copy of which was received and is acknowledged, hereby:

(1) Accepts and agrees to be bound by the terms and conditions of the AGREEMENT for this Project, together with any and all amendments and supplements now existing or which are later made thereto:

(2) The CONTRACTOR agrees to be bound by the legally established local trust agreements designated in the applicable Schedule A as set forth in Article IV of this AGREEMENT.

(3) The CONTRACTOR authorizes the parties to such local trust agreements to appoint trustees and successor trustees to administer the trust funds and hereby ratifies and accepts the trustees so appointed as if made by the CONTRACTOR;

(4) Certifies that it has no commitments or agreements which would preclude its full and complete compliance with the terms and conditions of said AGREEMENT.

(5) Agrees to secure from any CONTRACTOR(S) (as defined in said AGREEMENT) which is or becomes a subcontractor (of any tier) to it, a duly executed Agreement to be Bound in form identical to this document.

(6) This Agreement to be Bound constitutes a subscription agreement to the extent of its terms. However, the undersigned agrees to execute a separate Subscription Agreement(s) or contributing employer agreement for Trust Funds when such Trust Fund(s) requires such document(s).

Date: ____________________________________________

Name of Contractor

________________________________________________

(Name of Contractor Representative)

________________________________________________

(Authorized Officer & Title)

________________________________________________

CSLB # or Motor Carrier Permit
COMMUNITY WORKFORCE AND TRAINING AGREEMENT
COMPLIANCE DOCUMENTATION

Monthly Workforce Utilization Report
MM/DD/YYYY through MM/DD/YYYY

For

PROJECT NAME
PROJECT NO.

CITY OF STOCKTON
___________________ DEPARTMENT
General Information

The Prime Contractor and every subcontractor shall complete this page and the accompanying forms to be submitted monthly.

Project Name: ________________________________________________________________
Project Number: _____________________________________________________________
Contract Date: ______________________________________________________________
Contractor: _________________________________________________________________
Address: _____________________________________________________________________
City: ___________________________ STATE: _______ ZIP: _________________________
Phone: __________________________
Contractor’s License Number: ________________________________________________
Type of Contractor’s License (s): ______________________________________________
### SUMMARY SHEET FOR LOCAL WORKFORCE UTILIZATION

#### TABLE 1

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Total hours performed at the jobsite</td>
<td>((\Sigma 2 + \Sigma 3))</td>
</tr>
<tr>
<td>B</td>
<td>Labor hours performed at the jobsite by Stockton Residents</td>
<td>((\Sigma 1))</td>
</tr>
<tr>
<td>C</td>
<td>Labor hours performed by Local Area (San Joaquin) Residents</td>
<td>((\Sigma 2))</td>
</tr>
<tr>
<td>D</td>
<td>Labor hours performed at the jobsite by Apprentices</td>
<td>((\Sigma 5 + \Sigma 6))</td>
</tr>
<tr>
<td>E</td>
<td>Labor hours performed at the jobsite by Stockton Apprentices</td>
<td>((\Sigma 4))</td>
</tr>
<tr>
<td>F</td>
<td>Labor hours performed by Local Area (San Joaquin) Apprentices</td>
<td>((\Sigma 5))</td>
</tr>
</tbody>
</table>

#### Local Hire Requirements:

- **Primary Goal**  
  \[
  \frac{B}{A} \times 100\% = \, \% \quad \text{must be equal to or greater than 50%}
  \]

  *If the primary goal of 50% is not achieved, provide as an attachment, documentation showing any requests made to the Union dispatchers for Stockton residents and the Union’s response to the request.*

- **Secondary Goal**  
  \[
  \frac{C}{A} \times 100\% = \, \% \quad \text{must be equal to or greater than 50%}
  \]

#### State of California, Department of Industrial Relations, Division of Apprenticeship Standards Requirements:

\[
\frac{D}{A} \times 100\% = \, \% \quad \text{must be equal to 20%}
\]

#### Priority Apprenticeship and Workforce Development Requirements:

- **Primary Goal**  
  \[
  \frac{E}{D} \times 100\% = \, \% \quad \text{must be equal to or greater than 50%}
  \]

  *If the primary goal of 50% is not achieved, provide as an attachment, documentation showing any requests made to the Union dispatchers for Stockton residents and the Union’s response to the request.*

- **Secondary Goal**  
  \[
  \frac{F}{D} \times 100\% = \, \% \quad \text{must be equal to or greater than 50%}
  \]
# BREAKDOWN OF WORK HOURS PERFORMED AT THE JOBSITE

## TABLE 2

<table>
<thead>
<tr>
<th>Employee Name *</th>
<th>Union</th>
<th>Zip Code of Residence</th>
<th>Employee Residency</th>
<th>S.J. County (Local Area) Resident</th>
<th>Neither</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Check, if Yes</td>
<td>Number of Hours Worked</td>
<td>Check, if Yes</td>
</tr>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

**TOTAL**

<table>
<thead>
<tr>
<th>Σ1</th>
<th>Σ2</th>
<th>Σ3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If apprentice, please indicate with an asterisk (*)

**Stockton Resident** means a resident of the City of Stockton as defined by Stockton Municipal Code Section 3.68.095 (I) (3).

**Local Area Resident** means any Stockton Resident or any individual domiciled within the boundaries of San Joaquin County.

You may be required to provide supporting documentation for proof of residency.

Priority zip codes are: 95202, 95203, 95204, 95205, and 95206.

Supplementary Conditions

00800-38
## BREAKDOWN OF WORK HOURS PERFORMED AT THE JOBSITE BY APPRENTICES

### TABLE 3

<table>
<thead>
<tr>
<th>Trade/Classification</th>
<th>Number of Journeymen Hours</th>
<th>Number of Apprentices Hours</th>
<th>Apprentice Residency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Stockton Resident</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Check, if Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Number of Hours Worked</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>S.J. County (Local Area) Resident</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Check, if Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Number of Hours Worked</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Neither</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Check, if Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Number of Hours Worked</td>
</tr>
</tbody>
</table>

|TOTAL| Σ4| Σ5| Σ6|

Stockton Resident means a resident of the City of Stockton as defined by Stockton Municipal Code Section 3.68.095(I)(3).

Local Area Resident means any Stockton Resident or any individual domiciled within the boundaries of San Joaquin County.
I declare under the penalty of perjury that the foregoing information is true and correct.

By my signature below, I acknowledge that I have met the requirements of the City of Stockton’s Community Workforce and Training Agreement.

I understand this information is subject to audit verification, and I acknowledge and am hereby advised that upon, and as a result of, a finding of non-compliance with the Community Workforce and Training Agreement, the City may determine that I and/or my firm is not a responsible bidder on future projects.

Owner/Authorized Representative (Signature)  Name of Firm

Name and Title (Print)  Date
3.0 Labor, Working Hours:

3.1. No Work shall be done between [6:00 p.m. and 7:00 a.m.] without permission of the City. However, emergency work may be done without prior permission.

3.2. Night Work may be undertaken as a regular procedure with the permission of the City; such permission, however, may be revoked at any time by the City if Contractor fails to maintain adequate equipment and supervision for the proper prosecution and control of the Work at night.

4.0 Services, Materials, and Equipment:

A. Interfaces to Equipment, Instruments, and Other Components:

1. The drawings, specifications, and overall design are based on preliminary information furnished by various equipment manufacturers which identify a minimum scope of supply from the manufacturers. This information pertains to, but is not limited to, instruments, control devices, electrical equipment, packaged mechanical systems, and control equipment provided with mechanical systems.

2. Provide all material and labor needed to install the actual equipment furnished, and include all costs to add any additional conduit, wiring, terminals, or other electrical hardware to the work, which may be necessary to make a complete, functional installation based on the actual equipment furnished. Make all changes necessary to meet the manufacturer’s wiring requirements.

3. Submit all such changes and additions to the Construction Manager for acceptance in accordance with the General Conditions.

4. Review the complete set of drawings and specifications in order to ensure that all items related to the electrical power and control systems are completely accounted for. Include any such items that appear on drawings or in specifications from another discipline in the scope of Work.

B. Until Substantial Completion of the Work is acknowledged by the City, Contractor shall have the responsible charge and care of the Work and of materials to be used herein, including materials for which Contractor has received partial payment or materials which have been furnished by the City, and shall bear the risk of injury, loss, or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the nonexecution of the Work.

C. Contractor shall rebuild, repair, restore, and make good all injuries, losses, or damages to any portion of the Work or the materials occasioned by any cause before the Work's completion and acceptance and shall bear the expense thereof. Where necessary to protect the Work or materials from damage, Contractor shall, at Contractor's own expense, provide suitable drainage and erect such temporary structures or rent such structures as are necessary to protect the Work or materials from damage. The suspension of the Work or the granting of an extension of time from any cause whatever shall not relieve Contractor of Contractor's responsibility for the Work and materials as specified herein.

D. When the quality of a material, process, or article is not specifically set forth in the Contract Documents, the best available quality of the material, process, or article shall be provided.
E. Delivery and Inspection:

1. Deliver products in undamaged condition, in manufacturer's original container or packaging with identifying labels intact and legible. Include date of manufacture on label.

***END OF SECTION***
SECTION 00810 - MODIFICATIONS TO GENERAL CONDITIONS

NONE

***END OF SECTION***
SECTION 00820 - LIABILITY AND INSURANCE REQUIREMENTS

1.0 INDEMNIFICATION

Indemnity and Hold Harmless. With the exception that this Section shall in no event be construed to require indemnification by CONTRACTOR to a greater extent than permitted under the public policy of the State of California, CONTRACTOR shall, indemnify, protect, defend with counsel approved by CITY and at CONTRACTOR’S sole cost and expense, and hold harmless CITY, its Mayor, Council, officials, representatives, agents employees and volunteers from and against any and all claims, causes of action, liabilities, judgments, awards, losses, liens, claims, stop notices, damages, expenses, and costs (including without limitation attorneys’ fees, expert and contractor fees, and other expenses of litigation) of every nature, including, but not limited to, death or injury to persons, or damage to property, which arise out of or are in any way connected with the work performed, materials furnished, or services provided under this Agreement, or from any violation of any federal, state, or municipal law or ordinance, or CITY Policy, by CONTRACTOR or CONTRACTOR’S officers, agents, employees, volunteers or subcontractors. CONTRACTOR shall not be obligated to indemnify or defend CITY for claims finally determined by a court of law or arbitrator to arise from the active negligence or willful misconduct of the CITY. It is the intent of the Parties that this indemnity obligation is at least as broad as is permitted under California law. To the extent California Civil Code Sections 2782, et seq., limit the defense or indemnity obligations of CONTRACTOR to CITY, the intent hereunder is to provide the maximum defense and indemnity obligations allowed by CONTRACTOR under the law. The indemnity set forth in this Section shall not be limited by insurance requirements or by any other provision of this Agreement.

With the exception that this Section shall in no event be construed to require indemnification, including the duty to defend, by CONTRACTOR to a greater extent than permitted under the public policy of the State of California, the parties agree that CONTRACTOR’S duty to defend CITY is immediate and arises upon the filing of any claim against the CITY for damages which arise out of or are in any way connected with the work performed, materials furnished, or services provided under this Agreement by CONTRACTOR or CONTRACTOR’S officers, agents, employees, volunteers or subcontractors. CONTRACTOR’S duties and obligations to defend the CITY shall apply regardless of whether or not the issue of the CITY’S liability, breach of this Agreement, or other obligation or fault has been determined. CONTRACTOR shall be immediately obligated to pay for CITY’S defense costs of the claim, including, but not limited to, court costs, attorney’s fees and costs, expert contractor and witness fees and costs, other witness fees, document reproduction costs, arbitration fees, and, if after final judgment an appeal is pursued, all of such costs for the appeal. At the conclusion of the claim, if there is any determination or finding of sole active negligence or willful misconduct on the part of the CITY, CITY will then reimburse CONTRACTOR for amounts paid in excess of CONTRACTOR’S proportionate share of responsibility for the damages within 30 days after CONTRACTOR provides CITY with copies of all bills and expenses incurred in the defense of the claim(s). It is agreed between the parties that this reimbursement provision assures CONTRACTOR is not obligated to defend or indemnify CITY in an amount greater than provided for under California law, including, without limitation, California Civil Code Sections 2782, 2782.6, and 2782.8.

With the exception that this Section shall in no event be construed to require indemnification by CONTRACTOR to a greater extent than permitted under the public policy of the State of California, and in addition to the other indemnity obligations in this Agreement, CONTRACTOR shall indemnify, defend, and hold harmless CITY its Mayor, Council, officials, representatives, agents employees and volunteers from and against all claims, losses, expenses, and costs including but not limited to attorneys’ fees, arising out of any claim brought against the CITY by an employee, office, agent, or volunteer of CONTRACTOR, regardless of whether such claim may be covered by any applicable

Liability and Insurance Requirements
00820-1
workers compensation insurance. CONTRACTOR’S indemnification obligation is not limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the CONTRACTOR under workers’ compensation acts, disability acts, or other employee benefit acts.

2.0 INSURANCE REQUIREMENTS

NOTE: The City of Stockton is now using the online insurance program PINS Advantage. Once you have been awarded a contract you will receive an email from the City’s online insurance program requesting you to forward the email to your insurance provider(s). Please see attached flyer regarding PINS Advantage.

Exhibit B:
Insurance Requirements for Construction Contracts

Contractor shall procure and maintain for the duration of the contract, and for five (5) years thereafter, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, their agents, representatives, employees, or subcontractors.

MINIMUM SCOPE AND LIMIT OF INSURANCE

Coverage shall be at least as broad as:

1. Commercial General Liability (CGL): Insurance Services Office (ISO) Form CG 00 01 covering CGL on an “occurrence” basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than $2,000,000 per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit.

2. Automobile Liability: Insurance Services Office Form CA 0001 covering Code 1 (any auto), with limits no less than $2,000,000 per accident for bodily injury and property damage.

3. Workers’ Compensation insurance as required by the State of California, with Statutory Limits, and Employers’ Liability insurance with a limit of no less than $1,000,000 per accident for bodily injury or disease.

4. Surety Bonds as described below.

5. Contractors’ Pollution Legal Liability and/or Asbestos Legal Liability with limits no less than $2,000,000 per occurrence or claim, and $2,000,000 policy aggregate.
If the contractor maintains broader coverage and/or higher limits than the minimums shown above, the City of Stockton requires and shall be entitled to the broader coverage and/or higher limits maintained by the contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City of Stockton.

**Self-Insured Retentions**

Self-insured retentions must be declared to and approved by the City of Stockton Risk Services. At the option of the City of Stockton, either: the contractor shall cause the insurer to reduce or eliminate such self-insured retentions as respects the City of Stockton, its officers, officials, employees, and volunteers; or the Contractor shall provide a financial guarantee satisfactory to the City of Stockton guaranteeing payment of losses and related investigations, claim administration, and defense expenses. The policy language shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or City of Stockton.

**Other Insurance Provisions**

The insurance policies are to contain, or be endorsed to contain, the following provisions:

1. **The City of Stockton, its officers, officials, employees, and volunteers are to be covered as additional insureds** on the CGL policy with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts, or equipment furnished in connection with such work or operations and automobiles owned, leased, hired, or borrowed by or on behalf of the Contractor. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance (at least as broad as ISO Form CG 20 10 11 85 or both CG 20 10, CG 20 26, CG 20 33, or CG 20 38; and CG 20 37 forms if later revisions used). Additional insured Name of Organization shall read “City of Stockton, its officers, officials, employees, and volunteers.” Policy shall cover City of Stockton, its officers, officials, employees, and volunteers for all locations work is done under this contract.

2. For any claims related to this project, the **Contractor’s insurance coverage shall be endorsed as primary** insurance coverage at least as broad as ISO CG 20 01 04 13 as respects the City of Stockton, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by the City of Stockton, its officers, officials, employees, or volunteers shall be excess of the Contractor’s insurance and shall not contribute with it. The City of Stockton does not accept endorsements limiting the Contractor’s insurance coverage to the sole negligence of the Named Insured.

3. Each insurance policy required by this clause shall provide that coverage shall not be canceled, except with notice to the City of Stockton.
Claims Made Policies – (Note – applicable only to professional and/or pollution liability)

If any coverage required is written on a claims-made coverage form:
1. The retroactive date must be shown, and this date must be before the execution date of the contract or the beginning of contract work.

2. Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of contract work.

3. If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a retroactive date prior to the contract effective, or start of work date, the Contractor must purchase extended reporting period coverage for a minimum of five (5) years after completion of contract work.

4. A copy of the claims reporting requirements must be submitted to the City of Stockton for review.

5. If the services involve lead-based paint or asbestos identification/remediation, the Contractors Pollution Liability policy shall not contain lead-based paint or asbestos exclusions. If the services involve mold identification/remediation, the Contractors Pollution Liability policy shall not contain a mold exclusion, and the definition of Pollution shall include microbial matter, including mold.

Acceptability of Insurers

Insurance is to be placed with insurers with a current A.M. Best rating of no less than A: VII, unless otherwise acceptable to the City of Stockton.

Waiver of Subrogation

Contractor hereby agrees to waive rights of subrogation which any insurer of Contractor may acquire from Contractor by virtue of the payment of any loss. Contractor agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation. The Workers’ Compensation policy shall be endorsed with a waiver of subrogation in favor of the City of Stockton for all work performed by the Contractor, its employees, agents and subcontractors.

Verification of Coverage

Contractor shall furnish the City of Stockton with original certificates and amendatory endorsements, or copies of the applicable insurance language, effecting coverage required by this contract. All certificates and endorsements are to be received and
approved by the City of Stockton Risk Services before work commences. However, failure to obtain the required documents prior to the work beginning shall not waive the Contractor’s obligation to provide them. The City of Stockton reserves the right to require complete, certified copies of all required insurance policies, including endorsements, required by these specifications, at any time. Contractor shall, prior to the commencement of work under this Agreement, provide the City of Stockton with a copy of its declarations page(s) and endorsement page(s) for each of the required policies.

**Subcontractors**

Contractor shall require and verify that all subcontractors maintain insurance meeting all the requirements stated herein, and Contractor shall ensure that City of Stockton is an additional insured on insurance required from subcontractors. For CGL coverage subcontractors shall provide coverage with a form at least as broad as CG 20 38 04 13.

**Surety Bonds**

Contractor shall provide the following Surety Bonds:

1. Bid bond
2. Performance bond
3. Payment bond (or Labor and Material bond)
4. Maintenance bond

The Payment Bond and the Performance Bond shall be in a sum equal to one hundred percent (100%) of the contract price. If the Performance Bond provides for a one-year warranty a separate Maintenance Bond is not necessary. If the warranty period specified in the contract is for longer than one year a Maintenance Bond equal to 10% of the contract price is required. Bonds shall be duly executed by a responsible corporate surety, authorized to issue such bonds in the State of California and secured through an authorized agent with an office in California.

**Special Risks or Circumstances**

City of Stockton reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other circumstances.
Certificate Holder Address
Proper address for mailing certificates, endorsements and notices shall be:

City of Stockton
400 E Main Street, 3rd Floor – HR
Attn: City Risk Services
Stockton, CA 95202

***END OF SECTION***
1.0 WORK COVERED BY CONTRACT DOCUMENTS

The work shall be performed in accordance with the intent of the Contract Documents as stated in the Contract Documents, excluding only the Work indicated or specified to be provided by the City or others under separate contract or other arrangement.

2.0 CONTRACT ADMINISTRATION

The following are designated:

2.1 Name of Construction Manager

Amin Kazemi, P.E., M.S.
Associate Civil Engineer
Municipal Utilities Department
(209) 937-8716

2.2 Name of Design Consultant

HDR Engineering, Inc.
2365 Iron Point Road, Suite 300
Folsom, CA 95630-8709
(916) 817-4700

2.3 Name of City's Representative

Even Marcelo, P.E.
Senior Civil Engineer
Municipal Utilities Department
(209) 937-8994

3.0 TIME ALLOWED FOR COMPLETION

In accordance with the provisions of Paragraph 00700-6.2, Time of Completion, substantial completion of this project shall be completed within two-hundred fifty-seven days (257) consecutive calendar days from the effective date of the Notice to Proceed and final completion shall be achieved within thirty days (30) consecutive calendar days following substantial completion.
4.0 DAMAGES FOR DELAYS

In accordance with the provisions of Paragraph 00700-6.5, Liquidated Damages, for the period of time that any portion of the work remains unfinished after the time fixed for substantial completion, and for the period of time that any portion of the work remains unfinished after the time fixed for final completion, in the Contract documents, as modified by extensions of time granted by the City, it is understood and agreed by the Contractor and the City that the Contractor shall pay the City Two Thousand Five Hundred Dollars ($2500) per day liquidated damages. Should work remain unfinished after the time fixed for both substantial completion and final completion, the liquidated damages shall remain Two Thousand Five Hundred Dollars ($2500) per day.

5.0 WEATHER DAYS

In accordance with the provisions of Paragraph 00700-6.4.2.c., Weather Delays, an allowance of Thirty Days (30) calendar days of weather caused delay is provided.

6.0 WORK SEQUENCE AND CONSTRAINTS

Refer to Section 01040, Coordination and Part 1 – General, Section 01-11-00, Summary of Work, of the Technical Specifications.

7.0 OCCUPANCY REQUIREMENTS

Refer to Section 01040, Coordination.

8.0 CITY FURNISHED MATERIALS

8.1 Plans and Specifications - The City will furnish to the Contractor, up to three (3) copies each of the full-sized plans, specifications, and half-sized plans (if available). The cost to provide additional copies of the plans and specifications shall be the responsibility of the Contractor. At the Contractor’s request, the City will deliver original documents to, and pickup up from, a duplication service in the Stockton metropolitan area. The Contractor shall be responsible for the cost of the additional copies, and for picking up such copies. At no time will the City make the original documents available to the Contractor.

9.0 TRENCH EXCAVATION

The maximum amount of trench remaining open without backfill shall be 300 feet. No trench in public areas shall be left open during periods when the Contractor is not at the site of work, trenches in these areas shall either be backfilled and temporarily paved, where applicable, or covered with steel trench plates as specified in the technical specifications. No more than two consecutive trench plates will be allowed at any time when the Contractor is not at the site of work.

10.0 WORK UNDER OTHER CONTRACTS

The City’s Utility Facilities are critical facilities that operate twenty-four hours each and every day. During the life of this contract, other contracts may be let to construct, operate, maintain, or repair
facilities in and/or around the project sites. The Contractor shall refer to the provisions pertaining to cooperation and coordination elsewhere in these Contract Documents, and shall coordinate with the City to minimize interferences to or caused by other contracts.

Other work anticipated to occur during the life of this project includes, but is not limited to, the following: N/A

11.0 CONTRACTOR'S WORK PERCENTAGE

The minimum portion of the work to be performed by the Contractor's forces shall be Fifty One percent (51%) for this contract.

12.0 UNDERGROUND FACILITIES

The Contractor is responsible for coordinating all project documentation, including but not necessarily limited to, the Contract Documents and existing record drawings for the determination of the location of all underground facilities.

The Contractor shall exercise care in all excavations to avoid damage to existing underground facilities. This shall include potholing or hand digging in those areas where underground facilities are known to exist, prior to installation work, until they have been sufficiently located to avoid damage to the facilities.

Prior to fabrication, the Contractor shall verify the location and elevations of existing underground facilities which the Contractor is connecting to.

No additional compensation shall be provided to the Contractor for compliance with the provisions of this Section or for the damage and repair of facilities due to the lack of such care.

13.0 LEGAL AND CITY HOLIDAYS

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<thead>
<tr>
<th>New Year's Day</th>
<th>Martin Luther King's Birthday</th>
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<tr>
<td>Lincoln's Birthday</td>
<td>President's Day</td>
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<td>Cesar Chavez Observance</td>
<td>Memorial Day</td>
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<td>Fourth of July</td>
<td>Labor Day</td>
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<td>Columbus Day</td>
<td>Veteran's Day</td>
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<tr>
<td>Thanksgiving and the Day after</td>
<td>Christmas</td>
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The City will have limited staff and support capabilities available during these holidays. Requests for inspection or other City services on holidays will be paid for by the Contractor at the established holiday pay scale rate for the services required. The City shall determine the appropriate level of response and support needed in terms of any request.

***END OF SECTION***

Summary of Work
01010-3
SECTION 01015 – GENERAL PROVISIONS

1.0 GENERAL

1.1 Description

This Section covers general provisions and requirements for the Work and is supplementary to the Standard Specifications and the Conditions of the Contract.

1.2 Guarantee

The Contractor shall guarantee that the equipment, materials and workmanship furnished under this Contract will be as specified and will be free from defects for a one-year guarantee period, starting from the date of Final Completion of the Work, unless a longer period of time is prescribed by law or required by special provisions elsewhere in the Contract Documents and except as otherwise noted herein. If a specific item (or items) of equipment or material cannot be utilized by the Owner at Final Completion because the Work is incomplete or defective, the guarantee for that item (or items) shall begin when the Owner is provided beneficial use. Beneficial use for any such items shall be provided prior to Final Completion. In addition, the equipment furnished by the Contractor shall be guaranteed to be free from defects in design. Within the guarantee period and upon notification of the Contractor by the Owner, the Contractor shall promptly make all needed adjustments, repairs or replacements arising out of defects, failure or abnormalities which, in the judgment of the Owner, become necessary during such period. The cost of all materials, parts, labor, transportation, supervision, special tools and supplies required for correction of defects, failure or abnormalities shall be paid by the Contractor. In the event warranty work involves repair or replacement of parts, machine work, or any other work which affects the equipment or materials installed under this Contract, the Contractor’s guarantee on such items and work shall be extended for a period of one year from the date of installation of said items, or the performance of said work. If, within ten (10) days, unless specified otherwise by the Owner, after the Owner gives the Contractor notice of a defect, failure, or abnormality of the Work, the Contractor neglects to make the necessary repair or adjustments, the Owner may make the repair or adjustments or order the Work to be done by a third party, with the cost of the Work to be paid by the Contractor. In the event of an emergency where, in the judgment of the Owner, delay would cause serious loss or damage, repairs or adjustments may be made by the Owner, without giving notice to the Contractor, and the cost of the work shall be paid by the Contractor.

1.3 Contractor’s License

The Contractor for this Project shall possess at the time of bid, and maintain throughout the duration of the Contract, a valid California Class A General Engineering Contractor’s License.

1.4 Patents

Royalties and fees from patents covering materials, articles, apparatus, devices, or equipment (as distinguished from processes) used in the Work, shall be included in the Contract amount. The Contractor shall satisfy all demands that may be made at any time for such royalties or fees and he shall be liable for any damage or claims for patent infringements. The Contractor shall, at his own cost and expense, defend all suits or proceedings that may be instituted against the Owner for infringement or alleged infringement of any patents involved in the Work and, in case of an award of damages, the Contractor shall pay such award. Final payment to the Contractor by the Owner will not be made while any suit or claim remains unsettled. The Contractor, however, will not be held liable for the defense of any suit or other proceeding, nor the payment of any damages or other costs for the infringement of any patented process required by the Contract Documents;
except if the Contractor has information that the process so required is an infringement of a patent, the Contractor shall be liable for any damages or claims in connection therewith unless he promptly notifies the Owner of such infringement.

2.0 PRODUCTS (Not applicable in this Section)

3.0 EXECUTION

3.1 Public Complaints.

The Contractor shall respond to public complaints when requested by the Owner.

3.2 Guarantees and Warranties

Except as herein specified, all guarantees and warranties shall conform with applicable requirements of Sections 7-1.23 and 7-1.24 of the Standard Specifications, entitled “Guarantee (General)” and “Guarantee (Specific),” respectively.

3.3 Precedence of Contract Documents

A. Section 00700, Paragraph 1.2 applies.

B. Detail Drawings take precedence over small-scale drawings and full-size Drawings shall be followed in preference to both. Full-size Drawings take precedence over reduced-size Drawings.

3.4 Care and Protection of Property

If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect or misconduct in the execution of the Work on the part of the Contractor, such property shall be restored by the Contractor, at his expense, to a condition, as determined by the City, which is similar or equal to that existing before the damage was done, or he shall make good the damage in another manner acceptable to the Owner. The Contractor is responsible for the following at his own expense:

A. To conduct his operation in a manner which will cause the least amount of damage, inconvenience and interference with the normal use of any public or private property. Such operations shall be confined to the least possible space and shall be accomplished in a neat and workmanlike manner, taking care not to unnecessarily disturb or damage adjoining property, disturbing only those trees, shrubbery, floral pieces or other landscaping planting, fences, buildings, structures or other facilities of any kind or description in the manner and as directed by the Owner. Remove all transplantable trees, shrubs and bushes that may be damaged or destroyed by construction and reset them after construction. Re-vegetation of disturbed property shall be accomplished in such manner as required to return the property to its prior condition or better.

B. To store his apparatus, materials, supplies, and equipment in such orderly fashion at the site of the Work as will not unduly interfere with the progress of his Work or the work of any other contractor.

C. To provide suitable storage facilities for all materials which are liable to injury by exposure to weather, theft, breakage, or otherwise. If the Owner determines that suitable storage for certain materials is not being provided, he may direct the Contractor to remove it from the job site, or to store it properly at the job site.
D. To place upon the Work or any part thereof only such loads as are consistent with the safety of that portion of the Work.

E. To clean up not less than at the end of each work day, all refuse; rubbish, scrap materials, and debris caused by his operations, to the end that at all times the site of the Work shall present a neat, orderly and workmanlike appearance. More frequent clean-up shall be performed as required to maintain access to all other Owner facilities still in operation.

F. To remove and dispose of off-site in accordance with all Federal, State and local regulations, all surplus material, false-work, temporary structures, including foundations thereof, plants of any description and debris of every nature resulting from his operations, and to put the site in a neat, orderly condition before final payment.

G. To affect all cutting, fitting or patching of his Work required to make the same to conform to the Drawings and Specifications and, except with the consent of the Owner, not to cut or otherwise alter the work of any other contractor.

H. To close work access during time when active construction work is not ongoing.

3.5 Field Check of Existing Improvements

It shall be the responsibility of the Contractor to check all dimensions, elevations, and location of existing structures, utilities, pipelines, grades or other existing items affected by or affecting the Work under this Contract, prior to the start of construction and ordering of materials and equipment affected thereby. The Contractor shall be solely responsible for determining the extent and cost of all removal and salvage operations. The Contractor shall notify the Owner if existing conditions are not as shown on drawings.

3.6 Protection of Existing Improvements

A. In the performance of the Work contemplated under this Contract, the Contractor shall take all precautions necessary, including but not limited to those described herein, to ensure that all existing improvements not specifically indicated for removal are not damaged or interfered with in any way. Should the Contractor disturb or damage such improvements without authorization, all expense for replacement or repair of the existing improvements so disturbed or damaged shall be borne by the Contractor. The Owner has diligently attempted to correctly locate and show the existing utilities, pipelines and substructures in the vicinity of the Work, but the Owner does not guarantee that there are not improvements other than those shown, nor that the locations shown are entirely correct. Failure of the Owner to show all the existing utilities, pipelines and substructures and their locations shall not be a basis for claim for extra work. The Contractor shall be held responsible for all damage to existing utilities, pipelines and substructures whether shown or not.

B. Notify Underground Service Alert (U.S.A.), telephone 800-642-2444, at least forty-eight (48) hours prior to performing any excavation for this Work. In coordination with the appropriate authorities probe, pot-hole, or otherwise ascertain the exact location of all existing underground improvements in advance of excavation such that no damage to these improvements will occur. In the event interferences in construction are encountered with the various existing improvements, the Owner reserves the right to appropriately change the alignment and grade of the facilities. Additional materials required to accommodate such change shall be paid in accordance with unit prices as prescribed in Section 9 of the Standard Specifications.
3.7 Cooperation with Others

A. The Contractor is hereby advised that work on other contracts within or adjacent to his contract limits may already be in progress. Contracts for construction may also be subsequently awarded to others and because of relocation and construction of various utilities he may not have exclusive occupancy of the territory within or adjacent to the limits of the Contract.

B. In case of interferences between the operations of different construction contractors, the Owner will determine the work priority of each contractor and the sequence of work necessary to expedite the completion of the entire project. In all such cases, the decision of the Owner shall be accepted as final. The temporary delay of the Contractor’s work due to such circumstances shall not be considered as justification for any claims for additional compensation.

C. The Contractor shall coordinate his activities with the Owner as they relate to utility shutdowns. The Plant must operate 24 hours per day and only the Owner’s staff will be permitted to operate valves or other utilities.

3.8 Unfavorable or Hazardous Construction Conditions

During unfavorable weather, wet ground, or other unsuitable construction conditions, the Contractor shall confine his operation to work which will not be affected adversely thereby. No portion of the Work shall be constructed under conditions which would affect adversely the quality or efficiency thereof, unless special means or precautions are taken by the Contractor to perform the Work in a proper and satisfactory manner as determined by the Owner.

3.9 Testing and Substantial and Final Completion

See Section 01660.

***END OF SECTION***
SECTION 01025 - MEASUREMENT AND PAYMENT

1.0 GENERAL

1.1 Measurement of Quantities

Measurements of the completed work shall be in accordance with, and by instruments and devices calibrated to United States Standard Measures and the units of measurement for payment, and the limits thereof, shall be made as shown on the Plans, Specifications, General Requirements, and Supplementary Conditions.

1.2 Units of Measurement

Measurements shall be in accordance with U.S. Standard Measures. A pound is an avoirdupois pound. A ton is 2,000 pounds avoirdupois. The unit of liquid measure is the U.S. gallon.

1.3 Certified Weights

When payment is to be made on the basis of weight, the weighing shall be done on certified platform scales, or when approved by the Construction Manager, on a completely automated weighing and recording system. The Contractor shall furnish the Construction Manager with duplicate licensed weigh master’s certificates showing the actual net weights. The City will accept the certificates as evidence of the weights delivered.

1.4 Methods of Measurement

Materials and items of work which are to be paid for on the basis of measurement shall be measured in accordance with the method stipulated in the particular sections involved. In determining quantities, all measurements shall be made in a horizontal plane unless otherwise specified.

Material not used from a transporting vehicle shall be determined by the Construction Manager and deducted from the certified tag.

When material is to be measured and paid for on a volume basis and it would be impractical to determine the volume, or when requested by the Contractor in writing and approved by the Construction Manager in writing, the material will be weighed and converted to volume measurement for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the Construction Manager and shall be agreed to by the Contractor before such method of measurement of pay quantities will be adopted.

Full compensation for all expense involved in conforming to the above requirements for measuring and weighing materials shall be considered as included in the unit prices paid for the materials being measured or weighed and no additional allowances will be made therefore.

Quantities of material wasted or disposed of in a manner not called for under the Contract; or rejected loads of material, including material rejected after it has been placed by reason of failure of the Contractor to conform to the provisions of the Contract; or material not unloaded from the
transporting vehicle; or material placed outside the lines indicated on the plans or given by the Construction Manager; or material remaining on hand after completion of the Contract, will not be paid for and such quantities will be deducted from the final total quantities. No compensation will be allowed for hauling rejected material.

2.0 DESCRIPTION OF BID ITEMS

2.1. General

Bid Items 1 through 12 are presented to indicate major categories of the work for purposes of comparative bid analyses, payment breakdown for monthly progress payments. Bid items are not intended to be exclusive descriptions of work categories and the Contractor shall determine and include in its pricing all materials, labor, and equipment necessary to complete each Bid Item (work phase) as shown and specified.

2.2 Duration of Prices

Quoted prices accepted by the City shall be held good and in effect until the Work is completed and accepted by the City, unless modified by Change Order.

2.3 Bid Items

Compensation for all equipment, tools, materials, labor, service, travel, and incidentals, and for doing the work and all other items required to complete the Work in conformity with the Contract Documents will be included in the payment provided in this Section unless specifically excluded. No other compensation will be made except for the items listed in the Bid Proposal. Work for which no separate payment has been provided will be considered as a subsidiary obligation of the Contractor, and the cost therefore included in the applicable contract price for the item to which the work applies. All measurements of work done will be made by the Construction Manager. No adjustment in prices will be made where any quantities provided in the Item Description vary from actual quantities, unless the work described and shown in the Contract Documents has been modified by the City.

2.3.1 Bid Item 1 – Mobilization, Demobilization, Bonds, Permits and Insurance - Bid Item 1 includes preparatory work and operations, including but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to the project site; for the establishment of all offices, buildings and other facilities necessary for work on the project; for the marshaling of equipment; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various contract Items on the project site, including obtaining the bonds, insurance policies, and permits required by the Contract Documents for this Project.

Payment for Bid Item 1 will be in the amount shown in the Bid Schedule and will be made on a lump sum basis at one hundred percent (100%) of the indicated amount contingent upon the Contractor furnishing, and the Construction Manager’s acceptance of, the Construction Schedule, the Contractor’s Cost Breakdown, and proof of acquisition of all required bonds, insurance, and permits. Payment for Bid Item 1 shall be subject to retention in accordance with applicable contract requirements.
2.3.2 **Bid Item 2 – Demolition of All Items on Drawings D01 to D03** - Bid Item 2 includes all labor, material and equipment and incidentals needed to complete the demolition of all items as shown on Drawing Nos. D01 through D03 and as described in the Specifications.

Payment for Bid Item 2 will be made at the lump sum fixed price given in the Bid Schedule, in accordance with the accepted Contractor’s Cost Breakdown and subject to retention in accordance with applicable Contract requirements.

2.3.3 **Bid Item 3 – Furnish and Install New Guard Rail, Fencing, Gate and Bollards** - Bid Item 3 includes all labor, material, equipment and incidentals needed to furnish and install new guard rail, fencing, gate and bollards as shown on the Drawings and as described in the Specifications.

Payment for Bid Item 3 will be made at the lump sum fixed price given in the Bid Schedule, in accordance with the accepted Contractor’s Cost Breakdown and subject to retention in accordance with applicable contract requirements.

2.3.4 **Bid Item 4 – Furnish and Install Sheeting, Shoring and Perform all Site Work** - Bid Item 4 includes all labor, material, equipment and incidentals needed to furnish and install sheeting and shoring and perform site work as shown on the Drawings and as described in the Specifications.

Payment for Bid Item 4 will be made at the lump sum fixed price given in the Bid Schedule, in accordance with the accepted Contractor’s Cost Breakdown and subject to retention in accordance with applicable contract requirements.

2.3.5 **Bid Item 5 – Furnish and Install New 54-Inch Flexible Pipe Joints** - Bid Item 5 includes all labor, material, equipment and incidentals needed to furnish and install flexible pipe joints as shown on the Drawings and as described in the Specifications.

Payment for Bid Item 5 will be made at the unit price given in the Bid Schedule, in accordance with the accepted Contractor’s Cost Breakdown and subject to retention in accordance with applicable contract requirements.

2.3.6 **Bid Item 6 – Furnish and Install New Fabricated Steel Bend** - Bid Item 6 includes all labor, material, equipment and incidentals to furnish and install a new fabricated steel bend as shown on the Drawings and as described in the Specifications.

Payment for Bid Item 6 will be made at the unit price given in the Bid Schedule, in accordance with the accepted Contractor’s Cost Breakdown and subject to retention in accordance with applicable contract requirements.

2.3.7 **Bid Item 7 – Furnish and Install 16-Inch Flexible Joints** - Bid Item 7 includes all labor, material, equipment and incidentals to furnish and install two (2) flexible joints as shown on the Drawings and as described in the Specifications.

Payment for Bid Item 7 will be made at the unit price given in the Bid Schedule, in accordance with the accepted Contractor’s Cost Breakdown and subject to retention in accordance with applicable contract requirements.

2.3.8 **Bid Item 8 – Furnish and Install 16-Inch Flanged Coupling Adapter (FCA)** - Bid Item 8 includes all labor, material, equipment and incidentals to furnish and install one (1) FCA as shown on the Drawings and as described in the Specifications.
Payment for Bid Item 8 will be made at the unit price given in the Bid Schedule, in accordance with the accepted Contractor’s Cost Breakdown and subject to retention in accordance with applicable contract requirements.

2.3.9 **Bid Item 9 – Furnish and Install 16-Inch Pressure Relief and Gate Valves** - Bid Item 9 includes all labor, material, equipment and incidentals to furnish and install one (1) pressure relief valve and two (2) gate valves as shown on the Drawings and as described in the Specifications.

Payment for Bid Item 9 will be made at the lump sum fixed price given in the Bid Schedule, in accordance with the accepted Contractor’s Cost Breakdown and subject to retention in accordance with applicable contract requirements.

2.3.10 **Bid Item 10 – Furnish and Install All Electrical Improvements** - Bid Item 10 includes all labor, material, equipment and incidentals to furnish and install all electrical improvements as shown on the Drawings and as described in the Specifications.

Payment for Bid Item 10 will be made at the lump sum fixed price given in the Bid Schedule, in accordance with the accepted Contractor’s Cost Breakdown and subject to retention in accordance with applicable contract requirements.

2.3.11 **Bid Item 11 – Instruction (O & M) Manuals** - Bid Item 11 includes all labor, material, equipment and incidentals includes performing the work and payment of all related expenses necessary for providing Instruction (O & M) Manuals on all work as shown on the Drawings and as described in the Specifications.

Payment for Bid Item 11 will be made at the lump sum fixed price given in the Bid Schedule, in accordance with the accepted Contractor’s Cost Breakdown and subject to retention in accordance with applicable contract requirements.

2.3.12 **Bid Item 12 – Contractor’s Record Drawings** - Bid Item 12 includes all labor, material, equipment and incidentals includes performance of the work necessary for the maintenance and submission of Contractor’s Record Drawings as shown on the Drawings and as described in the Specifications.

Payment for Bid Item 12 will be made at the lump sum fixed price given in the Bid Schedule, in accordance with the accepted Contractor’s Cost Breakdown and subject to retention in accordance with applicable contract requirements.

2.3.13 **Total Bid** - The total amount bid includes the summation of Bid Items 1 through 12 and represents the total price bid to provide the work as shown on the drawings and as specified.

2.4 **PAYMENT FOR MOBILIZATION**

A. Limit amounts included under mobilization to the following items:

1. Moving on the site any equipment required for first month operations.
2. Installing temporary construction power, wiring, and lighting facilities.
3. Establishing fire protection plan and safety program.
4. Developing construction water supply.
5. Providing field office trailers for the Contractor and the Construction Manager, complete with all specified furnishings and utility services including telephones.
6. Providing on-site sanitary facilities and potable water facilities as specified.
7. Arranging for and erection of Contractor's work and storage yard, employee parking facilities, and entrance road.
8. Submit all required insurance certificates and bonds.
9. Obtaining all required permits, licenses, and fees.
10. Developing construction schedule.
11. Submit preliminary schedule of values of the Work.
12. Provide and erect the project sign.
13. Post all OSHA, (state agency), Department of Labor, and all other required notices.
14. Limits of construction and clearing have been located and flagged.
15. Have Contractor's project manager and/or general superintendent on job site full-time.
16. The Construction Manager is satisfied that responsive and responsible progress on the Contract Work is under way.

B. Furnish data and documentation to substantiate the amounts claimed under mobilization.

C. Limit price for mobilization to no more than five percent (5%) of Contract Price.

D. No payment for mobilization, or any part thereof, will be recommended until all mobilization items listed above have been completed.

2.5 PAYMENT FOR START-UP AND DEMOBILIZATION

A. Total Price for start-up and demobilization shall not be less than 3 percent (3%) of Contract Price.

3.0 CONTRACTOR'S COST BREAKDOWN

Lump Sum Price Breakdown - For work to be performed for a lump sum price, the Contractor shall submit a price breakdown to the Construction Manager prior to the first payment and within ten (10) days after Notice to Proceed. The price breakdown, as agreed upon by the Contractor and the Construction Manager, shall be used for preparing future estimates for partial payments to the Contractor, and shall list the major items of work with a price fairly apportioned to each item.

If not identified as a bid item, mobilization, overhead, bond, insurance, other general costs and profit shall be prorated to each item so that the total of the prices for all items equal the lump sum price. At the discretion of the Construction Manager, mobilization, bond and insurance costs may be provided for separately if accompanied by invoices to verify actual expenses.

The price breakdown shall be generally in the same format as the Contract specifications divisions and subdivisions, with major items of work listed individually. The price breakdown shall be by structure, civil, landscaping, or other logical division of work. The price breakdown for architectural, structural, mechanical, and electrical work shall include separate items for identifiable portions of the structures. The price breakdown shall include separate allowances for any testing and startup work required. Measurable approximate quantities of work performed by the Contractor or its subcontractors shall be provided. For quantities that are the sum total of several individual quantities, backup summaries shall be provided which list the individual descriptions and quantities. These summaries then will be used to determine the quantities of work in place in subsequent progress payment requests.
The above is a statement of the intent of the Contract Documents to provide a moderate level of detail, acceptable to the Construction Manager, to allow a fair and reasonable estimate to be made of the value of work installed. The detail of the price breakdown must be sufficient to provide timely processing of the monthly progress payment request.

The price breakdown will be subject to the approval of the Construction Manager, and upon request, the Contractor shall substantiate the price for any or all items and provide additional level of detail, including quantities of work. The price breakdown shall be sufficiently detailed to permit its use by the Construction Manager as one of the bases for evaluating requests for payments. The Construction Manager shall be the sole judge of the adequacy of the price breakdown.

*** END OF SECTION ***
SECTION 01035 - MODIFICATION PROCEDURES

1.0 CHANGES IN CONTRACT PRICE

Whenever corrections, alterations, or modifications of the work under this Contract are ordered by the Construction Manager and approved by the City and increase the amount of work to be done, such added work shall be known as extra work; and when such corrections, alterations, or modifications decrease the amount of work to be done, such subtracted work shall be known as work omitted.

The difference in cost of the work affected by such change will be added to or deducted from the amount of said Contract price, as the case may be, by a fair and reasonable valuation, which shall be determined in one or more of the following ways as directed by the Construction Manager:

a. By unit prices accepted by the City and stated in the Contract Documents;
b. By unit prices subsequently fixed by agreement between the parties;
c. By an acceptable lump sum proposal from the Contractor; or
d. By Force Account (as described in Paragraph 01035-3.0, Force Account Payment, when directed in writing and administered by the City through its agents or representatives).

When required by the Construction Manager, the Contractor shall submit, in the form prescribed by the Construction Manager, an itemized breakdown with supporting data of the quantities and prices used in computing the value of any change that may be ordered.

The Construction Manager will review the Contractor's proposal for the change and negotiate an equitable adjustment with the Contractor. After there is an agreement the Construction Manager will prepare and process the Change Order and make a recommendation for action by the City. All Change Orders must be approved by the City in writing before the work can be authorized and the Change Order executed.

The prices agreed upon and any agreed upon adjustment in Contract Time shall be incorporated in the written order issued by the City, which shall be written so as to indicate an acceptance on the part of the Contractor as evidenced by its signature. By signature of the Change Order, the Contractor acknowledges that the adjustments to cost and time contained in the Change Order are in full satisfaction and accord, payment in full, and so waives any right to claim any further cost and time impacts at any time during and after completion of the Contract for the changes encompassed by the Change Order.

2.0 NEGOTIATED CHANGE ORDERS

Under the methods described in Paragraph 01035-1.0b and 1.0c above, the Contractor shall submit substantiating documentation with an itemized breakdown of Contractor and subcontractor direct costs, including labor, material, equipment rentals, and approved services, pertaining to such ordered work in the form and detail acceptable to the Construction Manager. The direct costs shall include only the payroll cost for workers and foremen, including wages and fringe benefits as established by negotiated labor agreements or state prevailing wages. To the actual payroll cost will be added a labor surcharge which shall be the actual costs of taxes and insurance. Such labor
surcharge shall constitute full compensation for all payments imposed by State and Federal laws and for all other payments made to, or on behalf of, the workmen, other than actual payroll cost and subsistence and travel allowances. No other fixed labor burdens will be considered, unless approved in writing by the Construction Manager.

Other direct costs include the cost of materials used and equipment delivered and installed in such work as substantiated by appropriate documents; the cost of construction machinery and equipment based on fair rental or ownership values acceptable to the Construction Manager as described in Paragraph 01035-3.0, Force Account Payment; and the cost of incidentals directly related to such work. The direct costs shall not include any payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnerships and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by CONTRACTOR, whether at the Site or in CONTRACTOR's principal or branch office for general administration of the Work, labor or office costs pertaining to the Contractor's managers or superintendents, its office and office facilities, or anyone not directly employed on such work, nor the cost of small tools as all such indirect costs form a part of the Contractor's overhead expense.

Under the method described in Paragraph 01035-1.0b and 1.0c the maximum percentage which will be allowed for the Contractor's combined overhead and profit will be:

a. For work by its own organization, the Contractor may add the following percentages:
   1. Direct Labor 24 percent
   2. Materials 15 percent
   3. Equipment (owned or rented) 15 percent

b. For all such work performed by a subcontractor, approved in accordance with the provisions in Section 00100-17.0 Subcontractors, said subcontractor may add the same percentages listed in (a.) above to its net costs, for combined overhead and profit. The Contractor may add up to five (5) percent of the subcontractor’s net cost, before above markup. Said additional five (5) percent markup shall reimburse the Contractor for additional administrative costs, and no other additional payment will be made by reason of performance of the extra work by a subcontractor.

For all such work performed by a sub tier-subcontractor, approved in accordance with the provisions in Section 00100-17.0 Subcontractors, said sub tier-subcontractor may add the same percentages listed in (a.) above to its net costs, for combined overhead and profit. The sub tier-subcontractor may add up to five (5) percent of the sub tier-subcontractor’s net cost, before markup, for its combined overhead and profit. The Contractor may add up to five (5) percent of the net cost of the sub tier-subcontractor who performed the work, before markup. Said additional five (5) percent markup shall reimburse the sub tier-subcontractor and the Contractor, respectively, for additional administrative costs, and no other additional payment will be made by reason of performance of the extra work by a sub tier-subcontractor.

c. To the total of the actual costs and fees allowed herein under, not more than two (2) percent shall be added for additional bond and insurance other than labor insurance. The above fees represent the maximum limits which will be allowed, and they include the Contractor's and all subcontractors' indirect home office expenses and all costs for cost proposal preparation.

When both additions and credits are involved in any one change, the combined overhead and profit shall be figured on the basis of the net increase, if any, for each area of work, i.e. direct labor, materials, equipment, and subcontractors. The amount of credit to be
allowed by the Contractor to the City for any such change which results in a net decrease in cost will be the amount of the actual net decrease and a credit in accordance with the markups allowed under the use of the method described in Paragraph 01035-3.0, Force Account Payment. The Contractor shall not claim for anticipated profits on work that may be omitted.

3.0 FORCE ACCOUNT PAYMENT

If either the amount of work or payment for a Change Order cannot be determined or agreed upon beforehand, the City may direct by written Change Order or Field Order that the work be done on a force account basis. The term "force account" shall be understood to mean that payment for the work will be done on a time and expense basis, that is, on an accounting of the Contractor's forces, materials, equipment, and other items of cost as required and used to do the work. For the work performed, payment will be made for the documented actual cost of the following:

a. Direct labor cost for workers, including foremen, who are directly assigned to the force account work: Direct labor cost is the actual payroll cost, including wages and fringe benefits as established by negotiated labor agreements or state prevailing wages. To the actual payroll cost will be added a labor surcharge which shall be the actual costs of taxes and insurance. Such labor surcharge shall constitute full compensation for all payments imposed by State and Federal laws and for all other payments made to, or on behalf of, the workmen, other than actual payroll cost and subsistence and travel allowances. No other fixed labor burdens will be considered, unless approved in writing by the City.

b. Material delivered and used on the designated work, including sales tax, if paid for by the Contractor or its subcontractor.

c. Equipment rental, including necessary transportation for items having a value in excess of One Thousand Dollars ($1,000.00).

d. Additional bond.

e. Additional insurance, other than labor insurance.

To the preceding costs, there shall be added the following fees for the Contractor, subcontractor, or sub-subcontractor actually performing the work:

1. A fixed fee not to exceed twenty-four (24) percent of the cost of Item a above, and fifteen (15) percent of the costs of Items b and c above.

2. To the total of the actual costs and fees allowed in Items a, b, and c above, not more than two (2) percent shall be added for additional bond and insurance as the cost of Items d and e above.

For all such work performed by forces other than the Contractor's organization, the Contractor shall reach agreement with such other forces as to the distribution of the payment made by the City for such work. No additional payment therefore will be made by the City by reason of the performance of the work by a subcontractor or other forces.

The added fixed fees shall be considered to be full compensation, covering the cost of general supervision, overhead, profit, and any other general expense. The above fixed fees represent the maximum limits which will be allowed, and they include the Contractor's and all subcontractors' indirect home office expenses and all costs for cost proposal preparation and record keeping.
The City reserves the right to furnish such materials and equipment as it deems expedient and the Contractor shall have no claim for profit or added fees on the cost of such materials and equipment.

For equipment under Item c above, rental or equivalent rental cost will be allowed for only those days or hours during which the equipment is in actual use. Payment shall be based on actual rental and transportation invoices but shall not exceed the monthly rate in the Cal Trans "Labor Surcharge and Equipment Rental Rates" publication. The rental cost allowed for equipment will, in all cases, be understood to cover all fuel, supplies, repairs, ownership, and incidental costs and no further allowances will be made for those items, unless specific agreement to that effect is made. For Contractor owned equipment, costs shall be based on either actual cost accounting records or the Cal Trans "Labor Surcharge and Equipment Rental Rates" publication. Hourly rates shall be determined by dividing the monthly rate by 176 hours.

Prior to the commencement of force account work, the Contractor shall notify the Construction Manager of its intent to begin work. Labor, equipment and materials furnished on force account work shall be recorded daily by the Contractor upon report sheets approved by the Construction Manager. The reports, if found to be correct, shall be signed by both the Contractor and Construction Manager, or inspector, and a copy of which shall be furnished to the Construction Manager no later than the working day following the performance of said work. The daily report sheet shall thereafter be considered the true record of force account work provided. If the Construction Manager, or inspector, do not agree with the labor, equipment and/or materials listed on the Contractor's daily force account report, the Contractor and Construction Manager, or inspector, shall sign-off on the items on which they are in agreement. The Construction Manager shall then review the items of disagreement and will advise the Contractor, in writing, of its determination. If the Contractor disagrees with this determination, it shall have the right to file a claim notice as provided in Paragraph 00700-7.4.2.1, Notice. The Contractor shall maintain its records in such a manner as to provide a clear distinction between the direct costs of work paid for on a force account basis and the costs of other operations.

To receive partial payments and final payment for force account work, the Contractor shall submit, in a manner approved by the Construction Manager, detailed and complete documented verification of the Contractor's and any of its subcontractor's actual costs involved in the force account pursuant to the pertinent Change Order or Field Order. Such costs shall be submitted within thirty (30) days after said work has been performed.

The force account invoice shall itemize the materials used and shall cover the direct costs of labor and the charges for equipment rental, whether furnished by the Contractor, subcontractor, or other forces. The invoice shall be in a form acceptable to the Construction Manager and shall provide names or identifications and classifications of workers, the hourly rate of pay and hours worked, and also the size, type, and identification number of equipment and hours operated. Material charges shall be substantiated by valid copies of vendor's invoices.

When both additions and credits are involved in any one change, the combined overhead and profit shall be figured on the basis of the net increase, if any. The amount of credit to be allowed by the Contractor to the City for any such change which results in a net decrease in cost will be the amount of the actual net decrease and a credit in accordance with the markups allowed under the use of the method described in this Section. The Contractor shall not claim for anticipated profits on work that may be omitted.
4.0 **UNIT PRICE ADJUSTMENTS DUE TO INCREASED OR DECREASED QUANTITIES**

The unit prices as stated in the bid form and as negotiated in Change Orders shall apply to one hundred (100) percent of the quantity indicated to be estimated quantity for the bid item, plus or minus twenty-five (25) percent. Adjustments in unit prices will be made in accordance with Section 9-1.06, Increased or Decreased Quantities, and 9-1.15, Changes in Character of Work, of the State of California Specifications, with the following modifications:

a. Delete all references to "Section 9-1.04" and insert "Paragraph 01035-3.0, Force Account Payment."

b. Delete the last paragraph (fourth paragraph) of Section 9-1.15, Changes in Character of Work.

5.0 **TIME EXTENSIONS FOR CHANGE ORDERS**

If the Contractor requests a time extension for the extra work necessitated by a proposed Change Order, the request must comply with the applicable requirements of Paragraph 01310-6.0, Time Impact Analyses.

6.0 **CONTRACTOR CHANGE REQUESTS**

Change requests may be initiated by the Contractor’s Representative. Such requests must be presented in a format mutually agreeable to the Construction Manager, and shall include the following information:

a. Reason for Request - An introductory statement which clearly identifies the need for the change; change requests which do not directly benefit the City or the project, or which are intended solely as contractual relief shall be rejected.


c. Cost or credit of the Requested Change - The total impact on cost or credit to the City for the change to the System.

7.0 **VALUE ENGINEERING COST PROPOSALS**

Refer to Section 00700-7.4, Value Engineering Change Proposals (VECP).

***END OF SECTION***
SECTION 01040 - COORDINATION

1.0 GENERAL

This Section covers coordination requirements supplementary to those of the Contract and other Sections of these Specifications. These requirements may be modified as mutually agreed upon by the Contractor and Construction Manager.

The Contractor will obtain construction schedules from subcontractors and suppliers, and assume responsibility for correctness.

The Contractor will incorporate schedules from subcontractors and suppliers into Progress Schedule to plan for and comply with sequencing constraints.

2.0 COOPERATION WITH OTHERS

The Contractor is hereby advised that work on other contracts within or adjacent to its contract limits may already be in progress. Contracts for construction may also be subsequently awarded to others and because of relocation and construction of various utilities he may not have exclusive occupancy of the territory within or adjacent to the limits of the Contract.

In case of interferences between the operations of different construction contractors, the Construction Manager will determine the work priority of each contractor and the sequence of work necessary to expedite the completion of the entire project. In all such cases, the decision of the Construction Manager shall be accepted as final. The temporary delay of the Contractor's work due to such circumstances shall not be considered as justification for claims for additional compensation.

The Contractor shall coordinate his activities with the City as they relate to utility shutdowns. The City facilities must operate 24 hours per day, except as otherwise noted elsewhere in these specifications, and only the Owner's staff will be permitted to operate valves or other utilities.

3.0 ORGANIZATION AND COORDINATION

3.1 Monthly Reports

The Contractor shall prepare and submit a progress report to the Construction Manager by the tenth calendar day of each month. This progress report shall include a description of all efforts completed during the previous month, tasks scheduled for the next month, outstanding problems, and personnel changes. The report shall also include updated schedule milestones with narratives.

3.2 Daily Reports

The Contractor shall complete a Contractor's daily report, a copy of which shall be submitted to the Construction Manager on a daily basis by the end of the succeeding work day. The information contained in the daily report shall include, but not necessarily be limited to, the following:
- Project name and number
- Contractor's name
- Date
- Report #__ (also "page ___ of ___")
- Weather conditions
- Staff employed on the project and duties performed
  (Distinguish between field and office staff)
- Trades on job site, respective number of trades persons used, and work description
- Subcontractors on job site, number of respective subcontractor's staff present and work description
- Equipment on job site, type and number and whether or not used.
- Summary of work performed
- Materials delivered to site
- Delays to project
- Visitors to project
- Other comments
- Contractor's signature
- Safety/accident activities

The Contractor's standard daily report form may be used provided it furnishes, as a minimum, all the information cited above.

3.3 Correspondence

All correspondence from the Contractor to the Construction Manager shall be dated and numbered in sequence. The Construction Manager will likewise number its correspondence and transmittals to the Contractor.

4.0 SYSTEM OUTAGE REQUESTS

Modifications to existing facilities, the construction of new facilities, and the connection of new to existing facilities may require the temporary outage or bypass of treatment processes, equipment, utilities, or other facilities. In addition to the Construction Schedule required under Section 01310, the Contractor shall submit a System Outage Request (SOR) and a detailed outage plan and time schedule for all construction activities which will make it necessary to remove a tank, pipeline, channel, electrical circuit, control circuit, equipment, structure, road or other facilities from service.

The SOR and outage plan shall be submitted to the Construction Manager for review and acceptance a minimum of two weeks in advance of the time that such outage is needed. The outage plan shall be coordinated with the construction schedule specified in Section 01310 and shall meet the restrictions and conditions specified in this Section. The detailed plan shall describe the Contractor's method for preventing bypassing of other facilities; the length of time required to complete said operation; any necessary temporary power, controls, instrumentation or alarms required to maintain control, monitoring and alarms for the City's facilities; and the manpower, plant and equipment which the Contractor shall provide in order to ensure proper operation of associated treatment units.

In addition, the outage plan shall describe the Contractor's contingency plan that shall be initiated in the event that his temporary facilities fail or it becomes apparent that the time constraints described in the approved outage plan cannot be met. The contingency plan shall conform to all specified outage requirements. All costs for preparing and implementing both the outage and contingency plans shall be borne by the Contractor with no additional compensation therefore.
The Contractor shall provide, Monday through Friday at least two days prior to the actual shutdown, written confirmation of the shutdown date and time, or written notification that the schedule for performing the work has changed or revisions to the outage plan are required.

5.0 **SEQUENCING OF THE WORK**

Operations of the City’s facilities are critical to the public health and safety of the citizens of Stockton. Sufficient facilities to serve the needs and demands of the City shall remain in service at all times. The City shall be the sole judge as its needs and the facilities that must remain in service to provide adequate service.

The Contractor shall coordinate and cooperate with the City to establish his schedule for work at all of the project facilities. The approved project schedule shall be subject to change as it pertains to site work and shutdowns, when required by the City to accommodate unforeseen or emergency situations in the operation of its facilities.

6.0 **ACCESS TO PROJECT FACILITIES**

The City will provide keys and alarm codes to the Contractor to provide access to each facility site included in this contract work. Keys and alarm codes will be provided only to the Contractor’s Representative and jobsite foremen; the actual number of keys provided shall be determined by the City, based upon the Contractor’s scheduling for work crews.

The Contractor shall ensure that each site is locked and secure, with alarm activated, at all times that workers are not at the site.

*** END OF SECTION ***
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SECTION 01050 - FIELD ENGINEERING

1.0 CHECK OF EXISTING IMPROVEMENTS

It shall be the responsibility of the Contractor to check all dimensions, elevations, and location of existing structures, utilities, pipelines, grades or other existing items affected by or affecting the Work under this Contract, prior to the start of construction and ordering of materials and equipment affected thereby. The Contractor shall be solely responsible for determining the extent and cost of all removal and salvage operations. The Contractor shall notify the Construction Manager if existing conditions are not as shown on the Contract Documents.

2.0 DATUM

Where applicable, elevation datum for this Project is based on the Project bench mark shown on the Drawings. All connections shall be installed based on actual elevations of existing structures to which connections are made.

3.0 LINES AND GRADES

The Contractor shall lay out all work, including structures and pipelines, and shall be responsible for any errors resulting there from. In all questions arising as to proper location of lines and grades, the Construction Manager’s decision will be final.

As part of the bid price for the construction of the improvements the Contractor shall provide and be responsible for the layout of all work on this project. The Contractor shall provide all necessary surveys, field staking, and positioning for the construction of all components at the proper alignment, elevations, grades, and positions, as indicated on the Drawings and as required for the proper operation and function. The Contractor shall stake the work limits.

The Contractor’s layout shall be based on existing structures, survey control and bench marks established by the City.

The Contractor shall supply such labor as required, at no extra charge, to aid and assist the Construction Manager in checking location and grades of the work as set by the Contractor, if requested by the Construction Manager. This shall include moving materials and equipment located between monuments and the construction work.

*** END OF SECTION ***
SECTION 01060 - REGULATORY REQUIREMENTS

1.0  APPLICABLE CODES

This Section summarizes without limitation the laws and codes by which the Work has been designed and to which the Contractor shall conform in the prosecution of the Work. The Contractor shall make available for their use at the site such copies of laws, regulations, or codes applicable to the Work as the City may request of it.

1.1  Laws and Regulations

As specified in Sections 00700-4.11 and 00700-4.12 of the General Conditions, and in Section 7-1.09 of the Standard Specifications.

1.2  Codes

b. Title 8, Industrial Relations, California Administrative Code, Chapter 4, Division of Occupational Health and Safety, Safety Orders.
c. Title 19, Public Safety, California Administrative Code, State Fire Marshal.
d. Codes and Standards listed in Section 16010 of these Specifications.
e. Local Mechanical Code.
f. Local Plumbing Code.
h. National Electric Code
i. State and Local Public Health Codes.
j. San Joaquin Valley Unified Air Pollution Control District Regulations.

1.3  Specifications

Standard Specifications and State of California Specifications, as defined in Section 01090.

2.0  LICENSES, FEES, AND PERMITS

The City will pay the fee for City of Stockton and County of San Joaquin issued permits specific to the Project; the Contractor will be responsible for picking up said permits at the appropriate times. For those permits and licenses generally required to work or do business as a Contractor, the Contractor shall procure the permit or license and pay all charges and fees. In all cases, the Contractor shall pay all costs for complying with special requirements of permits and shall give notice necessary and incidental to the prosecution of the Work. For any permits obtained by the City after the Contract Bid Date, an adjustment (add or deduct) in the Contract Price, as appropriate, will be made by change order, to account for all costs incurred in complying with the requirements of the respective permit. See also Section 00700-4.9 of the General Conditions.
2.1 Contractor’s License

The Contractor shall possess at the time of bid and maintain throughout the duration of the contract, a valid California Class A Contractor License.

2.2 Business License

The Contractor shall possess prior to the execution of the contract and maintain throughout the duration of the contract, a valid City of Stockton business license.

2.3 Permits

N/A

*** END OF SECTION ***
SECTION 01090 - REFERENCES

1.0 DEFINITIONS

Unless otherwise stated, the words directed, required, permitted, ordered, instructed, designated, applicable, appropriate, sufficient, proper, desirable, necessary, prescribed, approved, acceptable, satisfactory or words of like import, refer to actions, expressions, and prerogatives of the City Design Consultant, or Construction Manager.

Masculine gender words include the feminine. References to gender, such as "workman" and "flagman" and the pronouns "he" or "his" referring to such titles, are abstract in the specifications, used for the sake of brevity, and are intended to refer to persons of either sex.

Singular words include the plural and "person" includes firms, companies, and corporations.

Where used in the Contract Documents, the following words and terms shall have the meanings indicated. The meanings shall be applicable to the singular, plural, masculine, and feminine of the words and terms.

Acceptance - The formal written acceptance by the City of an entire Contract which has been completed in all respects in accordance with the Contract Documents and any modifications thereof previously approved.

Act of God - An earthquake, flood, cyclone, or other cataclysmic phenomenon of nature. A rain, windstorm, high water, or other natural phenomenon, which might reasonably have been anticipated from historical records of the general locality of the work, shall not be construed as an Act of God.

Addenda - Written or graphic instruments issued prior to the bid which modify or interpret the Contract Documents, drawings, and specifications, by additions, deletions, clarifications, or corrections.

Agreement - The written document covering the performance of the Work as more fully described in the Contract Documents.

Authorized City Official - The City Manager or his designee.

Beneficial Occupancy - The City operating and maintaining specific constructed facilities for the purpose for which they are intended, after City has provided written acceptance of substantial completion for such facilities.

Bid - The offer or proposal of the Bidder submitted on the prescribed form setting forth the price for the work to be performed.

Bidder - Any properly licensed and qualified individual, firm, partnership, corporation, joint venture, or combination thereof, submitting a proposal for the work contemplated, acting directly or through a duly authorized representative.

Bond(s) - Bid, Performance, or Labor and Material Bonds and other instruments of surety, furnished by the Contractor and Contractor's surety in accordance with the Contract Documents.
Calendar Day - Any day including legal holidays, Saturdays and Sundays.

City - A public or quasi-public agency or authority, corporation, association, partnership, or individual for whom the work is to be performed. Under this contract, the City is identified by name in the agreement.

City's Representative - The person designated, in writing, by the City to act as its agent on specified matters relating to this Contract. The City's Representative is an employee of the City or other individual who has been designated to represent the City. The City's Representative may also act as the Construction Manager.

Construction Manager - The person designated, in writing, by the City to act as its representative at the construction site and to perform construction inspection services and administrative functions relating to this Contract. Initial contact by the Contractor with the City shall be through the Construction Manager.

Contract Change Order - A written order to the Contractor, covering changes in the plans or quantities, or both, and establishing the basis of payment and time adjustments for the work affected by the changes. Also referred to as a Change Order.

Contract Documents - The words "Contract Documents" shall mean any or all of, but not limited to, the following items, as applicable:

- Notice Inviting Bids
- Instructions to Bidders
- Official Bidding Documents
- Designation of Subcontractors
- Bid Guaranty Bond
- Agreement
- Acknowledgments
- Performance Bond
- Payment Bond
- General Conditions
- Supplementary Conditions
- General Requirements
- Standard Specifications
- Technical Specifications
- Drawings and Plans
- Addenda, if any
- Executed Change Orders, if any
- Notice of Award
- Notice to Proceed
- Standard Drawings

Each of these items is to be considered by reference as part of the Contract Documents, also referred to as Contract.

Contract Price - The amount payable to the Contractor under the terms and conditions of the Contract based on the price given on the bidding schedule, with adjustments made in accordance with the Contract. The base amount given in the bidding schedule shall be either a lump sum bid or the summation of the unit price bids multiplied by the estimated quantities set forth in the bid form. Also referred to as Contract Amount or Contract Sum.
**Contract Time** - Number of calendar days stated in the Contract for the completion of the Work.

**Contract Completion Date** - The date on which the City accepts the work as being complete.

**Contractor** - The person or persons, firms, partnership, corporation, or combination thereof, who have entered with the City, as party or parties of the second part of its or their legal representatives.

**Contractor’s Plant and Equipment** - Equipment, material, supplies, and all other items, except labor, brought onto the site by the Contractor to carry out the Work, but not to be incorporated in the Work.

**Day(s)** - Calendar Day(s).

**Direct** - Action of the City or Construction Manager by which the Contractor is ordered to perform or refrain from performing work under the Contract.

**Drawings** - Refers to the Contract drawings, profiles, cross sections, elevations, details, and other working drawings and supplementary drawings, or reproductions thereof, signed by the Design Consultant, approved by the City, and are referred to in the Contract Documents, which show the location, character, dimensions, and details of the work to be performed. The terms drawing, plan and plans have the same meaning as the term drawings unless otherwise stated or specified.

**Design Consultant** - The engineer or architect designated by the City to have design control over the Work or a specified portion of the Work, acting either directly or through duly authorized representatives. Such representatives shall act within the scope of the particular duties delegated to them.

**Engineer** - See Resident Engineer.

**Field Directive** - Written documentation of the actions of the City or Construction Manager in directing the Contractor. Also referred to as a Directive.

**Field Order** - A written instruction given to the Contractor authorizing work that is a change to the scope of work carried out on a time and material basis.

**Final Completion** - Final Completion is the date upon which written acceptance by the City has occurred stating that the Construction of all work as required by the Contract Documents has been completed in accordance with the Contract Documents.

**Float** - Float or "total float" shall be defined as provided in the Associated General Contractors of America "CPM in Construction, A Manual for General Contractors."

**Furnish** - To deliver to the job site or other specified location any item, equipment, or material.

**General Conditions** - Part of the Contract Documents representing the general clauses that establishes how the project is to be administered.

**General Requirements** - Part of the Contract Documents establishing special conditions or requirements peculiar to the work and supplementary to the General Conditions.
**Geotechnical Engineer** - Registered professional engineer in the State of California who conducted the site sub-surface investigation and prepared the soils report utilized for design purposes.

**Herein** - Refers to information presented in the Contract Documents.

**Holidays** - Legal holidays designated by the City or specifically identified in the Contract and Paragraph 01010-13.0

**Inspector** - City or Construction Manager staff who inspect and review the work for conformance with the Contract Documents.

**Install** - Placing, erecting, or constructing any item, equipment, or material.

**Laboratory** - The designated materials testing laboratory authorized by the City to test materials and work involved in the Contract.

**Life Cycle Cost** - The sum of all costs over the useful life of a building, system, or product, including the cost of design, construction, acquisition, operation, maintenance, and salvage value. The useful life will be determined by the City.

**Liquidated Damages** - The amount prescribed in Paragraph 00700-6.5, Liquidated Damages, and Paragraph 01010-4.0, DAMAGES FOR DELAYS, to be paid to the City or to be deducted from any payments due or to become due the Contractor for each day’s delay in completing the whole or any specified portion of the Work beyond the time allowed in the specifications.

**Net Cost Savings** - The reduction in construction contract cost to the City resulting from implementation of a value engineering change proposal submitted by the Contractor. Net cost savings shall be determined by deducting from the estimated gross savings, the estimated amount of increased costs to the City resulting from the proposed change. Estimated gross savings shall include all labor, material, equipment, overhead, profit, and bond. Estimated City costs shall include, but not be limited to, design, construction, acquisition, operation, and maintenance costs.

**Notice of Award** - A written notice by the City to the Contractor informing it that the Contract has been awarded to the Contractor.

**Notice to Proceed** - The written notice by the City to the Contractor authorizing the Contractor to proceed with the Work and establishing the date of commencement of the Work.

**Official Bidding Document** - A separately bound manual which contains copies of all documents to be submitted as the bid.

**Owner** - City of Stockton.

**Paragraph** - For references or citation purposes, refers to the paragraph(s), called out by paragraph number and alphanumeric designator.

**Person** - Includes firms, companies, corporations, partnerships, and joint ventures.

**Project** - The undertaking to be performed under the provisions of the Contract.

**Project Manual** - Those Contract Documents which are bound into one or more volumes prior to bidding.
**Provide** - Furnish and install, complete in place.

**Punch List** - List of incomplete items of work and of items of work which are not in conformance with the Contract.

**Resident Engineer** - Construction Manager or his designee.

**Shall** - Refers to actions by either the Contractor or the City and means the Contractor or City has entered into a covenant with the other party to do or perform the action.

**Shown** - Refers to information presented on the Drawings, with or without reference to the Drawings.

**Site** - The property as described in the General Conditions or as shown on the Drawings.

**Soils Engineer** - Shall mean the Engineer, or at his discretion, may mean the Geotechnical Engineer.


**Specify** - Refers to information described, shown, noted or presented in any manner in any part of the Contract.

**Standard Specifications** - The City of Stockton Standard Specifications and Plans in effect at the time of advertising the Work.


**Subcontractor** - A subcontractor is a person or entity who has a direct contract with the Contractor to perform any of the Work at the Site. The term subcontractor means a subcontractor or subcontractor's authorized representative. The term subcontractor, does not include any separate contractor or any separate contractor's subcontractors.

**Submittals** - The information which is specified for submission to the Construction Manager in accordance with the Project Manual.

**Substantial Completion** - Substantial Completion is the date upon which written acceptance by the City has occurred stating that the construction of facilities is sufficiently completed in accordance with the Contract Documents, such that specific facilities can be utilized for the purpose for which they are intended, and the City thereupon takes beneficial occupancy of each facility.

**Sub-subcontractor** - A sub-subcontractor is a person or entity who has a direct or indirect contract with a subcontractor to perform any of the Work at the Site. The term sub-subcontractor means a sub-subcontractor or an authorized representative thereof.

**Supplier** - Any person, firm, corporation, or organization who supplies materials or equipment for the Work, including that fabricated to a special design, and may also be a Subcontractor or a Sub-subcontractor.
Surety - The person, firm, corporation, or organization that joins with the Contractor in assuming the liability for the faithful performance of the Work and for the payment of all obligations pertaining to the Work in accordance with the Contract Documents by issuing the Bonds required by the Contract Documents or by law.

Value Engineering - Modifications to the project which are proposed by the Contractor and which provide the product or services equivalent to that called for in the project specifications, but at lower cost than the cost of those products or services designated in the specifications.

Will - Actions entered into by the Contractor or the City as a covenant with the other party to do or to perform the action.

Work - The labor, materials, equipment, supplies, and other items necessary for the execution, completion, and fulfillment of the Contract.

Working Day - Any day, other than a holiday, Saturday or Sunday, on which the Contractor may proceed with regular work on the current controlling operation as determined by the Construction Manager toward the completion of the Contract. A working day is equivalent to 1.45 calendar days.

2.0 ABBREVIATIONS

Whenever the following terms are used, the intent and meaning shall be as follows:

Abbreviations Stands For
AASHTO American Association of State and Highway and Transportation Officials
AAMA Architectural Aluminum Manufacturers Association
ABMA American Boiler Manufacturers Association
ACI American Concrete Institute
ADC Air Diffusion Council
AGA American Gas Association
AGMA American Gear Manufacturers Association
AISC American Institute of Steel Construction
AISI American Iron and Steel Institute
AMCA Air Moving and Conditioning Association
ANSI American National Standard Institute (formerly United States of America Standards Institute)
APA American Plywood Association
API American Petroleum Institute
AREA American Railway Engineers Association
ASCE American Society of Civil Engineers
ASHRAE American Society of Heating, Refrigerating and Air Conditioning Construction Managers
ASME American Society of Mechanical Engineers
ASTM American Society of Testing and Materials
AWPA American Wood-Preserver's Association
**Abbreviations Stands For (cont.)**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AWS</td>
<td>American Welding Society</td>
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<tr>
<td>AWWA</td>
<td>American Water Works Association</td>
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<tr>
<td>CAGI</td>
<td>Compressed Air and Gas Institute CAL/OSHA State of California Department of Industrial Relations, Division of Industrial Safety</td>
</tr>
<tr>
<td>CBC</td>
<td>California Building Code</td>
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<tr>
<td>CBM</td>
<td>Certified Ballast Manufacturers</td>
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<tr>
<td>CBR</td>
<td>California Bearing Ratio</td>
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<tr>
<td>CI</td>
<td>Chlorine Institute</td>
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<tr>
<td>CISPI</td>
<td>Cast Iron Soil Pipe Institute</td>
</tr>
<tr>
<td>CMAA</td>
<td>Crane Manufacturers Association of America</td>
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<tr>
<td>CPSC</td>
<td>Consumer Products Safety Commission</td>
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<tr>
<td>CRA</td>
<td>California Redwood Association</td>
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<tr>
<td>CRSI</td>
<td>Concrete Reinforcing Steel Institute</td>
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<tr>
<td>CTI</td>
<td>Cooling Tower Institute</td>
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<tr>
<td>DFPA</td>
<td>Douglas Fir Plywood Association</td>
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<tr>
<td>EIA</td>
<td>Electronic Industries Association</td>
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<tr>
<td>EPA</td>
<td>U.S. Environmental Protection Agency</td>
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<tr>
<td>ETL</td>
<td>Electronic Testing Laboratory</td>
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<tr>
<td>FM</td>
<td>Factory Mutual Insurance Company</td>
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<tr>
<td>FPS</td>
<td>Fluid Power Society</td>
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<tr>
<td>FS</td>
<td>Federal Specifications</td>
</tr>
<tr>
<td>GO 95</td>
<td>General Order No. 95, California Public Utilities Commission Rules for Overhead Electric Line Construction</td>
</tr>
<tr>
<td>HI</td>
<td>Hydraulic Institute</td>
</tr>
<tr>
<td>HMI</td>
<td>Hoist Manufacturers Institute</td>
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<tr>
<td>IAPMO</td>
<td>International Association of Plumbing and Mechanical Officials</td>
</tr>
<tr>
<td>IBR</td>
<td>Institute of Boiler and Radiator Manufacturers</td>
</tr>
<tr>
<td>ICBO</td>
<td>International Conference of Building Officials</td>
</tr>
<tr>
<td>IEEE</td>
<td>Institute of Electrical and Electronic Engineers</td>
</tr>
<tr>
<td>IES</td>
<td>Illuminating Engineering Society</td>
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<tr>
<td>IPCE</td>
<td>International Power Cable Engineers Association</td>
</tr>
<tr>
<td>ISA</td>
<td>Instrument Society of America</td>
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<tr>
<td>NAAMM</td>
<td>National Association of Architectural Metal Manufacturers</td>
</tr>
<tr>
<td>NBS</td>
<td>National Bureau of Standards</td>
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<tr>
<td>NEC</td>
<td>National Electric Code</td>
</tr>
<tr>
<td>NEMA</td>
<td>National Electrical Manufacturers Association</td>
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<tr>
<td>NFPA</td>
<td>National Fire Protection Association</td>
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<tr>
<td>NPDES</td>
<td>National Pollutant Discharge Elimination System</td>
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<tr>
<td>NSF</td>
<td>National Sanitation Foundation</td>
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<tr>
<td>NWMA</td>
<td>National Woodwork Manufacturers Association</td>
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<tr>
<td>OSHA</td>
<td>Occupational Safety and Health Act</td>
</tr>
<tr>
<td>PCMAC</td>
<td>Prestressed Concrete Manufacturers Association of California</td>
</tr>
<tr>
<td>SMACNA</td>
<td>Sheet Metal and Air Conditioning Contractors National Association</td>
</tr>
<tr>
<td>SSPC</td>
<td>Structural Steel Painting Council TCA Tile Council of America</td>
</tr>
<tr>
<td>UPC</td>
<td>Uniform Plumbing Code</td>
</tr>
<tr>
<td>UL</td>
<td>Underwriters Laboratories</td>
</tr>
<tr>
<td>WCLIB</td>
<td>West Coast Lumber Inspection Bureau</td>
</tr>
<tr>
<td>WIC</td>
<td>Woodwork Institute of California</td>
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</tbody>
</table>

*** END OF SECTION ***
1.0 **PRE-CONSTRUCTION CONFERENCE**

The Construction Manager will schedule a pre-construction conference and organizational meeting at the project site or other convenient location upon award and/or execution of the Contract and prior to commencement of construction activities.

1.1 **Attendees**

The City, Design Consultant, Contractor and its superintendent, invited subcontractors, and other concerned parties shall each be represented at the conference by persons familiar with and authorized to conclude matters relating to the work.

1.2 **Agenda**

The Construction Manager will prepare an agenda for discussion of significant items relative to contract requirements, procedures, coordination and construction. The agenda may include, but may not be limited to:

2. Distribution and discussion of list of major subcontractors and suppliers.
3. Proposed progress schedules and critical construction sequencing.
4. Major equipment deliveries and priorities.
5. Project coordination.
6. Designation of responsible personnel.
7. Procedures and processing of:
   a. Field decisions.
   b. Proposal requests.
   c. Submittals.
   d. Change Orders.
   e. Applications for Payment.
   f. Record Documents.
8. Use of premises:
   a. Office, construction, and storage areas.
   b. OWNER's requirements.
10. Shoring requirements and submittal of CONTRACTOR's geotechnical report.
11. Temporary utilities.
1.3 **Minutes**

Meeting minutes will be taken by the Construction Manager and distributed accordingly within fourteen (14) days. If the Contractor does not submit written objection to the contents of such minutes within seven (7) days after presentation to him, it shall be understood and agreed that the Contractor accepts the minutes as a true and complete record of the meeting.

2.0 **PROGRESS MEETINGS**

The Construction Manager will conduct progress meetings at the project site at regularly scheduled intervals which may be as frequent as weekly. Frequency of meetings are to be determined at the pre-construction conference.

2.1 **Schedule**

The dates, times and locations for the various meetings shall be agreed upon and recorded at the preconstruction conference. Subsequent changes to the schedule shall be by agreement between the Construction Manager and Contractor, with appropriate written notice to all parties involved.

2.2 **Attendees**

The City, Design Consultant, Construction Manager, Contractor, and its Superintendent shall each be represented at these meetings. Attendance by subcontractors, suppliers and other entities is subject to issues and/or items of the agenda which may, or may not, require attendance.

2.3 **Agenda**

Purpose of progress meetings: To expedite work of subcontractors or other organizations that are not meeting scheduled progress, resolve conflicts, and coordinate and expedite execution of the Work.

1. Review progress of the Work, Progress Schedule, narrative report, Application for Payment, record documents, and additional items of current interest that are pertinent to execution of the Work. Verify: Actual start and finish dates of completed activities since last progress meeting.

2. Durations and progress of activities not completed.

3. Reason, time, and cost data for Change Order Work that will be incorporated into Progress Schedule and application for payment.

4. Percentage completion of items on Application for Payment.

5. Reasons for required revisions to Progress Schedule and their effect on Contract Time and Contract Price.

Discuss potential problems which may impede scheduled progress and corrective measures.
2.4 Minutes

Meeting minutes will be taken by the Construction Manager and distributed accordingly within fourteen (14) days. If the Contractor does not submit written objection to the contents of such minutes within seven (7) days after presentation to him, it shall be understood and agreed that the Contractor accepts the minutes as a true and complete record of the meeting.

3.0 CONFERENCES

At any time during progress of the Work, the City and the Construction Manager shall have the authority to require the Contractor and any subcontractor, suppliers, or service providers to attend job-site conferences. Any notice of such conference shall be duly observed and complied with by the Contractor and subcontractors, suppliers, or service providers without extra cost to the City.

4.0 POST CONSTRUCTION MEETING

The Contractor shall plan, and include in its bid, all costs for a post construction meeting, including the following:

The Contractor shall:

A. Meet with and inspect the Work 11 months after date of Substantial Completion with City and Construction Manager.

B. Arrange the meeting at least 7 days before meeting.

C. Meet in the City’s office or other mutually agreed upon place.

D. Inspect the Work and draft list of items to be completed or corrected.

E. Review service and maintenance contracts, and take appropriate corrective action when necessary.

F. Complete or correct defective work and extend correction period accordingly.

G. Require attendance of Superintendent, appropriate manufacturers and installers of major units of constructions, and affected subcontractors.

*** END OF SECTION***
SECTION 01300 - SUBMITTALS

1.0 DESCRIPTION

This Section covers requirements for submittals and forms a part of all other Specification Sections in which submittals are specified or required. Refer to the specific Sections and Divisions of the Specifications for additional submittal requirements.

A. Submittal Requirements Included In This Section

1. Number of submittal copies required.
2. Progress schedule.
3. Schedule of values.
4. Shop drawings.
5. Samples.
6. Materials lists and equipment data.
7. Instruction (operation and maintenance) manuals.
8. Installation instructions.
9. Record Drawings and Specifications.
10. Certificates.

B. Submittal Requirements Covered In the Conditions of the Contract and Other Sections

1. Applications for payments.
2. Schedule of testing laboratory services.
3. Written guarantees and warranties.
4. Manufacturers' certified reports.
5. Web Based Construction Document Management.

2.0 SUBMITTAL-GENERAL REQUIREMENTS

Submit to the Owner for its review and approval technical data and drawings for all shop drawings, samples, materials lists, equipment data, software, assemblies and installations, test procedures, instruction manuals, record documents, manufacturers' equipment manuals, and other submittals required by the Technical Specifications. All such items required to be submitted for review shall be furnished by and at the expense of the Contractor and any work affected by them shall not proceed without such review. Properly prepare, identify, and transmit submittals and their contents as provided herein or as the Owner may otherwise direct. Except for record documents, test procedures, and instructional manuals for operation and maintenance, obtain submittal approval before the material or equipment covered by the submittal is delivered to the site. Contractor will not be paid for equipment or material delivered to the project site until the appurtenant submittals have been approved. Coordinate the progress schedule required under Section 01310 and the Special Provisions to this requirement.

A. Submittal Review Time  Allow no less than thirty (30) days for the review of submittals, not including the time necessary for delivery or mailing, and this time shall cause no delay in the Work. Extension of the Contract Time shall not be granted because of the Contractor's failure to make timely and correctly prepared and presented submittals with allowance for the checking and review periods. All submittals shall be completed within ninety (90) days after Notice to Proceed by the City, unless the Construction Manager accepts an alternate
schedule for submission of submittals proposed by the Contractor. This time provision does not obligate the Construction Manager to approve submittals that may otherwise be deemed not acceptable.

B. Deviations. At the time of the submission, give notice in writing in the submittal of any deviation from the requirements of the Technical Specifications and Project Plans. Clearly indicate or describe the deviations and reasons therefore, including all other changes required to correlate the Work. State in writing all variation in costs occasioned by the deviations and any assumption of the cost of all related changes if the deviation is approved. Requirements stated in Paragraph E below shall also apply.

C. Number of Submittals. Except for manufacturer's instruction manuals and samples, the Owner shall require and retain four (4) copies of all submittals, specified or required in this and all other Sections of these Specifications, for his and his representatives' use, unless otherwise specifically noted in a specific Specification Section. Submit such additional number of copies, not to exceed four (4), to be reviewed and returned for your use. For submitted drawings 11 x 17 and larger, submittal of a reproducible copy set with two (2) sets of black-line printed copies is preferred and encouraged. Additional sets for the Contractor's use are not necessary in this case as the reproducible set will be returned to the Contractor marked to show the required corrections or approval.

The number of submittals required for manufacturer's instruction manuals and samples are described later in this Section.

D. Method of Submittal. Deliver submittals by means of separate, dated, signed, and sequence numbered transmittals, identifying as to initial or re-submittal status, and fully describing the submittal contents. Submittal documents common to more than one piece of equipment shall be identified with all the appropriate equipment numbers. Submittals for various items shall be made with a single form when the items taken together constitute a manufacturer's package or are so functionally related that expediency indicates checking or review of the group or package as a whole. Except as noted, do not combine in a single submittal equipment which is specified in one Section of the Specifications with equipment specified in other Sections of the Specifications. Submittals are not acceptable directly from Subcontractors, suppliers, or manufacturers. In each transmittal state the Owner's Project Number and Name, Name and Address of Contractor, Name and Address of Subcontractor, Manufacturer, Supplier or Distributor as applicable, Plan Reference and Specification Section, Articles, and paragraphs to which the submittal pertains; identify accompanying data sheets, catalogs, and brochures in the same manner. Where several types or models are contained in the literature, delete non-applicable portions or specifically indicate which portions are intended and applicable. Fully index all items submitted in the transmittal letter.

E. Submittals in electronic media format

1. General: Provide all information In PC compatible format using operating system as utilized by the Construction Manager and City.

2. Text: Provide text documents and manufacturer’s literature using current version of [MS Word] [Adobe Acrobat (i.e. PDF extension)] as utilized by the [City] [and] [Construction Manager].

3. Graphics: Provide all graphic submittals (drawings, diagrams) utilizing current version of AutoCAD, Microstation, Adobe Acrobat (i.e. PDF extension) as utilized by the Construction Manager and City.
4. Contractor using other software shall be required to provide to the Construction Manager conclusive evidence of 100 percent data transfer compatibility.

5. Delivery: Deliver submittals to Construction Manager.

6. Incomplete Submittals, including those not correctly transmitted, not correctly titled and identified, or not bearing the Contractor's review and approval stamp, shall be returned to the Contractor without review.

7. Interrelated Submittals Except where the preparation of a submittal is dependent upon the approval of a prior submittal, simultaneously submit all submittals pertaining to the same class or portion of the Work.

During the preparation of submittals, informal communication and clarifications may be required between the Contractor and the City for exchange of technical information to assist and expedite preparation of complete submittals. As a result of this informal information exchange, certain minor refinements and revisions in the systems specified may be authorized informally by the City, but these shall not alter the scope of work or case increase or decrease in the Contract price. During this informal exchange, no oral statement by the City shall be construed to give formal approval of any component or method, nor shall any statement be construed to grant formal exception to, or variation from these Specifications.

F. Contractor's Review and Approval All submittals shall be submitted as the instruments of the Contractor, who shall be responsible for their accuracy and completeness and coordination. Such responsibility shall not be delegated in whole or part to subcontractors or suppliers. These submittals may be prepared by the Contractor, subcontractors, or suppliers, but the Contractor shall ascertain that submittals meet all of the requirements of the Contract Documents. The Contractor shall ensure that there is no conflict with other submittals and notify the Construction Manager in each case where its submittal may affect the work of another contractor or the City. The Contractor shall ensure coordination of submittals among the related crafts and subcontractors.

On every submittal of shop drawings, samples, materials lists, equipment data, instruction manuals, and other submittals upon which the proper execution of the Work is dependent, mark with the Contractor's review and approval stamp certifying that (1) the submittal has been reviewed, checked, and approved and the contents have been coordinated with the requirements of the Work and the Technical Specifications and Project Plans including related Work, (2) all quantities, field measurements, field construction criteria, materials, equipment, catalog numbers, and similar data have been determined and verified, or that it shall be done, and (3) the Work covered by the submittal is recommended by the Contractor and the Contractor's guarantee shall fully apply thereto. The Contractor's stamp shall be dated and signed by the Contractor in every case.

G. Review and Approval Submittals will be reviewed only for conformance with the design concept of the Project and with the information given in the Technical Specifications and Project Plans. The approval of a separate item as such shall not indicate approval of the assembly in which the item functions nor shall approval be construed as revising, in any way, the requirements for a fully integrated and operable system as specified. The approval of submittals shall not relieve the Contractor of responsibility for any deviation from the requirements of the Technical Specifications and Project Plans or for any revision in re-submittals unless the Contractor has given notice in writing of the deviation or revision at the

Submittals
01300-3
time of submission or resubmission and written approval has been given to the specific
deviation or revision. The approval of submittals shall not relieve the Contractor of
responsibility for errors or omissions in the submittals or for the accuracy of dimensions and
quantities, the adequacy of connections, and the proper and acceptable fitting, execution,
and completion of the Work.

H. Form of Approval Review of submittals has as its primary objective the completion for the
City of a project in full conformance with the Contract Plans and Specifications, unmarred by
field corrections, and within the time provided. In addition to this primary objective, submittal
review as a secondary objective will assist the Contractor in its procurement of equipment
that will meet all requirements of the project Plans and Specifications, will fit the structures
detailed on the Plans, will be completed with respect to piping, electrical, and control
connections, will have the proper functional characteristics, and will become an integral part
of a complete operating facility.

After review by the Design Consultant of each of the Contractor’s submissions, the material
will be returned to the Contractor with actions defined as follows:

1. NO EXCEPTIONS NOTED (RESUBMITTAL NOT REQUIRED) - Accepted subject to
its compatibility with future submissions and additional partial submissions for portions
of the work not covered in this submission. Does not constitute approval or deletion of
specified or required items not shown in the partial submission.

2. MAKE CORRECTIONS NOTED (RESUBMITTAL NOT REQUIRED) - Same as 1,
except that minor corrections as noted shall be made by the Contractor.

3. AMEND AND RESUBMIT- Rejected because of major inconsistencies or errors which
shall be resolved or corrected by the Contractor prior to subsequent review by the
Design Consultant.

4. NOT ACCEPTABLE (RESUBMIT) - Submitted material does not conform to Plans and
Specifications in major respect (i.e., wrong size, model, capacity, or material).

Items 1 and 2 above (no re-submittal required) are considered “favorable review.” Items 3
and 4 above (correction and re-submittal required) are considered “unfavorable review.”
It shall be the Contractor’s responsibility to copy and/or conform reviewed submittals in
sufficient numbers for its files, subcontractors, and vendors.

I. Corrections and Re-submittals Make all required corrections and resubmit the required
number of corrected submittals until approved by the Owner. Direct specific attention in
writing to revisions other than the corrections called for by the Owner on previous submittals,
and state in writing all variations in costs and your assumption of the cost of related changes
the same as is required for deviations in 2.08. Identify each re-submittal with number of the
original submittal followed by consecutive letters starting with "A" for first re-submittal, "B" for
second re-submittal, etc. The Owner reserves the right to deduct moneys from the amounts
due the Contractor to cover the cost of its review time for any and all submittals beyond the
second submission.

J. Check of Returned Submittals Check returned submittals for correction and ascertain if the
corrections result in extra cost above that included under the Technical Specifications and
Project Plans, and give written notice to the Owner within five days if, in your opinion, such
extra cost results from corrections. By failing to so notify the Owner or by starting any Work covered by a submittal, all claims for extra costs resulting from required corrections are waived.

K. **Conformance** Do not purchase, fabricate, deliver, construct, or commence any Work represented by required submittals until the applicable submittal has been approved. Conform Work to the approved submittals and all other requirements of the Technical Specifications and Project Plans unless subsequently revised by contract change order, in which case prepare and submit revised submittals as may be required. Do not proceed with any related Work which may be affected by the Work covered under submittals until the applicable submittals have been approved, particularly where piping, machinery, equipment, concrete work and the required arrangements, embedments and clearances are involved.

L. **Piecemeal Submittals** Except for reinforcing steel submittals, piecemeal submittals shall be returned un-reviewed. However, for mechanical equipment and the like, separate submittals for embedded items, embedded metal work and anchors shall be reviewed.

### 3.0 SCHEDULE OF VALUES

Submit to the Owner for acceptance, in the form directed by or acceptable to the Owner, a complete schedule of the values of the various portions of the Work to coincide with the construction schedule, including quantities and unit prices aggregating the Contract Price (except in cases and to the extent that accepted unit prices form the basis for payment). In the schedule, subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction and to coordinate with the progress schedule required for this Work. Provide support data to substantiate its correctness as required by the Owner. Include with each item in the schedule of values, its proper share of overhead and profit. An unbalanced breakdown providing for overpayment to the Contractor on items of Work which would be performed first will not be approved. The schedule of values, when accepted by the Owner, shall be used only as a basis for the Contractor's applications for payment and not for additions to or deductions from the Contract Price. Provide the initial submittal for the schedule of values at the preconstruction conference as per Section 01200.

### 4.0 PROGRESS SCHEDULE

Refer Section 01310, Construction Schedule.

### 5.0 SHOP DRAWINGS

Each submittal shall be complete with respect to dimensions, design criteria, materials, connections, bases, foundations, anchors, and the like, and shall be accompanied by technical and performance data as necessary to fully illustrate conformance with the Technical Specifications and Project Plans. Provide the number of submittal sets as indicated in paragraph 2.0C of this Section.

A. **Title Block and Identification** On each shop drawing, provide a space for the Engineer's approval or correction stamp and a title block showing the following:

1. Name and address of Contractor.
2. Name and address of Subcontractor, manufacturer, supplier, or distributor, as applicable.

3. Name and address of Owner.

4. Date, scale of drawings, and identification number.

5. Revision date, number, and brief description.

6. Contractor's review and approval stamp.

7. Owner's Number.


9. Project Name.

B. Preparation and Size Details and information shall be clearly drawn, dimensioned, noted, and cross referenced. Unless otherwise approved, prepare shop drawings of the same size as the Contract Drawings or on 8-1/2 by 11 inch or 11 x 17 inch sheets as applicable. Maximum sheet size shall be 22 inches by 34 inches. Refer to Paragraph 2.0C above regarding use of a reproducible copy set for the larger drawings.

Submittal and record drawings shall be drafted and submitted in AutoCAD with two copies of half sheet drawings and a magnetic media copy on a CD.

C. Data Unless the following data is included in the instruction manuals or equipment data submitted prior to or with the shop drawings, submit with the shop drawings complete catalog and technical data for all manufactured products, materials, machinery, and equipment covered by the shop drawing submittal. Include data showing for each item, as applicable, the following information:

1. Manufacturer's specifications and details.

2. Applicable technical data and performance curves.

3. Preparation, assembly, and installation instruction with allowable tolerances.

4. Connection requirements.

5. Pre-start-up servicing and operating methods.

6. Other data and information necessary to demonstrate that the proposed items conform to the Technical Specifications and Project Plans.

D. Information Required Shop drawings shall contain details and information fully developing the pertaining Technical Specifications and Project Plans requirements and such other information as may be specified or required for approval, including but not limited to:
1. Related work with cross references to applicable portions of the Technical Specifications and Project Plans.

2. Dimensions including variations between indicated dimensions and actual conditions.

3. Physical configurations with critical dimensions for clearance, access, and servicing.

4. List of materials including fasteners and connectors.

5. Structural construction and assemblies, welds shown by AWS symbols, and each fastener and connector shown by type and class.

6. Grouting work, including grouting space and material.

7. Concrete foundations and bases for machinery and equipment including joints, joint filler and sealer, and reinforcing.

8. Anchor bolt details showing type and class, sizes, embedments, projections, and locations measured with respect to permanent structural features. An anchor bolt template shall be shown on the Shop Drawings and shall be furnished unless waived in writing by the Owner.

9. Protective coatings and factory finishes fully described as to materials, number of coats, plated and metallic coating finishes, treatments, and similar information, all based on specified requirements. The term "as specified" is not acceptable for this purpose.

10. Machinery and equipment details. Standard catalog items need not be illustrated in detail, but indicate and detail sizes, supports, and connections.

11. Location of auxiliary items that are parts of machinery and equipment including sight glasses, petcocks, gauges, lubrication fittings and access, and maintenance monitoring devices.

12. Piping systems and piping including layout, fittings, valves, appurtenances, hangers and supports, and sleeves.

13. Electrical equipment showing plans, elevations, sections, arrangements, materials, anchor bolts, supports, weights, wiring and circuit diagrams, internal connections, busses, grounding, conduit spaces, layout of instruments, gages, meters, and other components. Diagrams shall carry a uniform and coordinated set of wire numbers and terminal block numbers to permit cross-referencing between the contract document drawings, the drawings prepared by the Contractor’s installer, and equipment Technical Manual Drawings. Drawing number cross-referenced shall be provided.

14. Written descriptions fully describing the operation of all control circuits, start-up sequencing, shut down sequencing and alarms.

15. Underground duct banks showing typical details of conduits, joints, spacers, and means of securing conduits in place during concrete placement.
16. Dielectric connections, and materials and methods to be used to isolate aluminum from dissimilar materials.

17. Full-size lettering layouts for data plate and nameplate inscriptions.

E. **Details and Connections** Satisfactorily detail all connections required to complete the Work, including details necessary to make indicated or specified additions to existing work or to provide connections for future work. Design connections and parts of strength to withstand, without adverse deflection or stress, all loads or pressures to which they may be subjected and to develop the strength of the members or parts connected. In no case shall the connections, parts, or details be inferior to those required by the Technical Specifications or Project Plans.

F. **Related Work** The term "by others" is not acceptable for the description of related work shown in the shop drawings. Clearly note by name or description the Contractor, Subcontractor, or trade to provide such related Work; where such name or description is missing, it shall be understood and agreed that the Contractor is to furnish and install such related Work.

G. **Clearances** Do not proceed with any related Work that may be affected by piping, machinery, equipment, or other work therein until shop drawings and data showing all components with acceptable clearances have been approved.

H. **Composite Shop Drawings With Installation Layouts** Prepare and submit drawings, wherever specified or required, to resolve tight or conflicting field conditions. Show dimensional plans and elevations of the materials or equipment of all trades in the involved area or space, and include complete information as to arrangements, locations, clearances, avoidance of interferences, access, sizes, supports, connections, services, assembly, disassembly, and installation. Composite shop drawings and layouts shall be coordinated in the field by the Contractor and his Subcontractors for proper relationship to the Work of all trades, based on field conditions, and shall be checked and approved by them before submittal. Contractor shall have competent technical personnel readily available for such coordinating and checking.

6.0 **SAMPLES**

Where samples are required in any of the following Specification Sections, unless otherwise specified, each sample submittal shall include two sets of samples. One set of approved samples and all disapproved samples shall be returned to the Contractor. Samples of value retained by the Owner shall be returned to the Contractor after completion of the Work if the Contractor's first transmittal of the sample requests its return. Approved samples of manufactured items returned to the Contractor may be installed in the Work if the location is recorded and the samples bear temporary identification as such.

A. **Identification** Label or tag each sample or set of samples identifying the manufacturer's name and address, brand name, catalog number, intended use and other data as required by these Specifications.

B. **Colors, Patterns, and Textures** For items required to be of selected and approved colors, patterns, textures, or other finish, submit sufficient samples to show the range of shades,
tones, values, patterns, textures, or other features corresponding to the instructions and requirements specified.

C. **Field-Applied Paint and Coatings**  Submit samples of finishes at least 60 days prior to start of such finishing operations in conformance with requirements specified in Section 09900, Painting and Protective Coatings.

D. **Factory Finish Colors**  of material specified to be furnished with a factory finish are subject to approval. Submit duplicate samples of factory finishes showing the full range of available colors for selection and approval when requested by the Owner.

### 7.0 MATERIALS LISTS AND EQUIPMENT DATA

Within thirty (30) days after the Notice to Proceed, the Contractor shall submit a List of Materials to the Construction Manager for review. The List shall include all items of equipment and materials for mechanical, piping, architecture, electrical, heating and ventilating, equipment piping, and plumbing work; and the names of manufacturers with whom purchase orders have been or will be placed. Items on the List shall be arranged in the same order as in these Specifications, and shall contain sufficient data to identify precisely the items of material and equipment the Contractor proposes to furnish. The List shall include the Specifications or Drawing references. After the submission is favorably reviewed and returned to the Contractor by the Construction Manager, it shall become the basis for the submission of detailed manufacturer's drawings, catalog cuts, curves, diagrams, schematics, data, and information on each separate item for review as set forth elsewhere in the Contract Documents. The favorable review of shop drawings shall be obtained prior to the fabrication, delivery and construction of items requiring shop drawing submittal.

In determining acceptability, consideration shall be given to the availability of maintenance and replacement parts and materials, the availability of manufacturer's technical representatives, other factors that relate to the maintenance and repair of installed items without excessive inconvenience to the Owner, guarantees and warranties, as well as determination of conformance with the Technical Specifications and Project Plans.

A. **Materials Furnished Under Standard Specifications**  For materials specified by reference to standard or reference specifications, prepare and submit for approval a list of such materials by manufacturer's names and identifications to the extent requested by the Owner.

B. **Material Lists**  Neatly bind submittal copies with sturdy labeled covers. Copies shall contain an index listing the contents. Loose submittals shall be returned un-reviewed. For each item listed, include the manufacturer's name and address, trade or brand name, local supplier's name and address, catalog numbers and cuts, brochures, terms and conditions of manufacturer's guarantee and warranty, other information to fully describe the item, and supplementary information as may be required for approval. Mark cuts, brochures, and data to indicate the items proposed and the intended use. Provide the number of submittal sets as specified in Paragraph 2.0C above.

C. **Equipment Data**  Submit complete technical and catalog data for every item of mechanical and electrical equipment and machinery to be incorporated in the Work, including components. Submittal copies shall be bound, indexed, and contain information as required in paragraph 7.0B for submittal of materials lists and shall further include specific information on performance and operating curves and data, ratings, capacities, characteristics, efficiencies, and other data to fully illustrate and describe the items as may be specified or...
required for approval, in particular, equipment incorporating logic circuits shall have a draft of a detailed theory of operation. Data shall be submitted in sets covering complete systems or functioning units. The number of submittal sets required shall be as specified in Paragraph 2.0C above.

D. Foreign Materials which are manufactured, produced or fabricated outside of the United States shall be delivered to a distribution point in Stockton, unless otherwise required in these specifications or the special provisions, where they shall be retained for a sufficient period of time to permit inspection, sampling, and testing.

Attention is directed to the provisions in Section 00700-6.5 Liquidated Damages. The Contractor shall not be entitled to an extension of time for acts or events occurring outside of the United States and it shall be the Contractor’s responsibility to deliver materials obtained from outside of the United States to the point of entry into Continental United States in sufficient time to permit timely delivery to the job site.

The Contractor, at no cost to the City, shall supply the facilities and arrange for any testing required in Stockton which the City is not equipped to perform. All testing by the Contractor shall be subject to witnessing by the City.

The manufacturer, producer or fabricator of foreign material shall furnish to the City a Certificate of Compliance. In addition, certified mill test reports clearly identifiable to the lot of material shall be furnished where required in these specifications or otherwise requested by the City.

8.0 INSTRUCTION MANUALS

Obtain data from the various manufacturers and submit instruction (operation and maintenance) manuals covering all mechanical and instrumentation equipment and machinery installed in the Work.

A. Contents Each manual shall have an index listing the contents. Information in the manuals shall include not less than:

1. General, introduction and overall equipment description, purpose, functions, and simplified theory of operation.

2. Specifications.

3. Installation instructions, procedures, sequences, and precautions, including tolerances for level, horizontal, and vertical alignment.

4. Grouting requirements including grout spaces and materials.

5. List showing lubricants for each item of mechanical equipment, approximate quantities needed per year, and recommended lubrication intervals; where possible, types of lubricants shall be consolidated with equipment manufacturers’ approval to minimize the number of different lubricants required for plant maintenance.

6. Start-up and beginning operation procedures.
7. Operational procedures.

8. Shutdown procedures.

9. Short and long term inactivation procedures.

10. Maintenance, calibration, repairs and rebuilds instruction.

11. Parts lists and spare parts recommendations.

12. Lists of all special tools, instruments, accessories, and special lifting and handling devices required for periodic maintenance, repair, adjustment, and calibration.

13. Wiring diagrams and detailed circuit operation description.

14. Performance curves and data.

15. Other information as may be specified or required for approval.

In addition to the above information, the Contractor, with the assistance of the respective equipment manufacturer, shall complete and include as part of the instruction manual for all equipment and machinery, the City of Stockton’s “Preventative Maintenance Modification/Addition Request Form.” A copy of the subject form is included at the end of this Section for information. Both pages of the entire form must be completed by the Contractor. Clean copies of this form will be provided to the Contractor for his use. A copy of the City of Stockton’s “PM Procedure Number and Description Report” will be provided to the Contractor and is to be used in completing the aforementioned form.

B. Format and Organization

1. Use drawings and pictorials to illustrate the printed text as necessary to fully present the information.

2. Where information covers a family of similar items of equipment, identify the applicable portions by heavy weighted arrows, boxes or circles, or strike-out the inapplicable information. Non-conforming data are not acceptable and shall be returned for rework and re-submittal. The submittal cover should state the method used to identify the applicable portions.

3. Incorporate into books all Manufacturers’ Equipment Manuals including those specified in pertinent Sections of the Specifications. These books shall be organized by Equipment Class in same manner and sequence as the Specifications, i.e. Mechanical, Electrical, Instrumentation, etc. Book size and quantity shall be sufficient for inclusion of all data, and be of type and quality hereinafter specified in Paragraph 8.0C below.

4. Within each book of manuals, provide a Table of Contents for that book. If more than one book is necessary for a Class of Equipment, place a complete Table of Contents for that Class of Equipment within each book of that Class.
5. In addition, an overall Index of Contents shall be prepared in the same number of sets as required below for the final manuals and submitted separately to the Owner for his insertion in the Operation and Maintenance Manuals.

6. When a manufacturer’s manual exceeds one inch in thickness and is bound as specified in Paragraph 8.0C it need not be rebound within another book, but the Overall Index shall refer to it by title and indicate that it is bound separately.

7. Electronic assembly drawings: Detailed circuit schematics, circuit board drawings, and chassis layouts shall be provided for all electrical and electronic equipment as part of the submittal. The circuit schematics, circuit board drawings, and chassis layouts shall clearly show, locate, and identify all components and component wiring. Circuit boards and circuit board components shall be identified by the original manufacturer’s name and part number. Component values and tolerance shall be shown.

8. Drawings: Preprinted drawings provided by manufacturers of off-the-shelf equipment may be used if the drawings are an integral part of an offset printed O&M Manual, are not larger than 11-inches by 17-inches, are clearly legible when reproduced using conventional office copying machines, and, in the opinion of the Construction Manager, satisfy the requirement of these specifications. One reproducible of the O&M Manual drawing original must be supplied for each O&M Manual drawing larger than 11-inches by 17-inches, and must satisfy all drawing requirements specified herein. Those preprinted O&M Manual drawings, which are not acceptable, or which must be modified or corrected to show the actual as-built design, shall be redrawn as new specially-prepared shop drawings. Acceptable equipment manufacturer’s drawings incorporated into equipment operating and maintenance manuals need not be duplicated or removed from the manuals.

C. Manual Binding

1. Bind all materials in sturdy three-ring loose leaf binders designed to provide full view opening and ease of making content additions or replacements. Maximum binder size shall be three (3) inches, with this binder size containing not more than 21/2 inches of material. Binders of smaller thickness shall contain correspondingly less material. All bound material shall be three-hole punched; loose material shall not be permitted. Prints larger than 11 x 17 inches shall be inserted into a clear plastic cover envelope equipped with a three-hole tab on one edge suitable for inserting in the above described binders.

2. Permanently label face of cover and bound edge of each book "MANUFACTURERS' INSTRUCTION MANUAL," and indicate Class of Equipment, i.e., Mechanical, Electrical, Instrumentation, etc. or name specific equipment if a single unit is contained. Where more than one book is needed for a Class of Equipment or a single specific equipment unit, number books consecutively BOOK I, BOOK II, etc.

3. If more than one Class of Equipment is contained in a book, separate each class with a tabbed stiff divider insert page.

4. Prior to purchase or delivery, submit samples of each intended type of binder and obtain approval from the Owner.
D. **Manual Submittals** Submittals shall include three (3) complete copies of each manual, one of which shall be returned to the Contractor marked to show the required corrections or approval. When approved, the Contractor shall deliver four (4) sets of unmarked (without review comments) manuals to the Owner. The Contractor shall submit preliminary instruction manuals at least ten (10) days prior to the start of Factory Acceptance test.

In addition to the above information, the Contractor, with the assistance of the respective equipment manufacturer, shall complete and include as part of the instruction manual for all equipment and machinery the City of Stockton's "Equipment Data and Preventive Maintenance Tasks Sheet." A copy of the subject form is included at the end of this Section for information.

9.0 **INSTALLATION INSTRUCTIONS**

In addition to the instructions submitted under the above Section 8.0, submit copies of manufacturers' installation instructions for material and equipment incorporated in the Work to the extent specified in other Sections and Divisions of the Specifications or requested by the Owner for its review. Installation instructions shall be reviewed for general adequacy only. After review, the Contractor shall distribute copies to all those involved with the instructions.

10.0 **CITY PERSONNEL TRAINING PLAN**

The Contractor shall submit a training plan at least fourteen (14) days prior to the start of any required City personnel training. Training plans shall describe the training course objectives, the scope of subjects to be covered, course outline including approximate time devoted to each subject, course materials to be provided by the Contractor, training aids to be used and training methods to be used (lecture, demonstration, student practice, etc.). The submittal shall include resumes for instructors of each class demonstrating the instructor’s qualifications.

11.0 **OTHER SUBMITTALS**

Provide copies of other submittals such as calculations, manufacturer's certified reports, operational demonstration and system validation reports specified in other Sections and Divisions of the Specifications.

12.0 **STORAGE INSTRUCTIONS**

For each equipment and material item furnished, provide for the Owner's records two (2) copies of the manufacturer's recommended instructions for storage of the respective equipment or material. The instructions shall address conditions both before installation and (for mechanical, electrical and instrumentation equipment) after installation but before placing into continuous operation. Submit manufacturer's storage instructions either prior to delivery of the material/equipment or with the request for payment of materials delivered. Payment for materials delivered shall not be approved without submittal of the manufacturer's storage instructions.
13.0 **TOOLS, ACCESSORIES, SPARE PARTS, AND MAINTENANCE MATERIALS**

Furnish and deliver all special tools, instruments, accessories, spare parts, and maintenance materials required by the Technical Specifications and Project Plans, and furnish and deliver the special tools, instruments, accessories, and special lifting and handling devices shown in the approved instruction manuals. Unless otherwise specified or directed, deliver the items to the Owner, with the Contractor’s written transmittal accompanying each shipment, in the manufacturers' original containers labeled to describe the contents and the equipment for which it is furnished. Where specifically required in the Section covering the material, furnish a metal cabinet to house this equipment.

14.0 **RECORD DRAWINGS AND SPECIFICATIONS**

Maintain one record copy of all Drawings, Specifications, Addenda, Modifications, approved submittals, correspondence, and transmittals at the site in good order and readily available to the Owner. Clearly and correctly mark the Record Drawings and the Record Specifications annotated to show all changes made during the construction process at the time the changed Work is installed. No such changes shall be made in the Work unless previously authorized by a Modification or by specific approval of deviations or revisions in submittals.

A. **Buried and Concealed Work**  Record the precise location of all piping, conduits, ducts, cables, and like Work that is buried, embedded in concrete or masonry, or concealed in wood or metal framed walls and structures at the time such Work is installed and prior to concealment. Each feature of the concealed Work, such as the beginning and end of straight runs, radius center point of curved runs, angles, connections, plugged tees or other fittings for future connections, and like items shall be accurately located by not less than two dimensions to permanent structures. The depth below finish grade, slab, or paving shall be noted for buried pipe, conduit, or ducts at the beginning and end of straight grade runs and at all grade change points, excepting sewer or drain lines run between manholes. Should the Contractor fail to record such buried or concealed Work, he shall uncover the unrecorded Work to the extent required by the Owner and shall satisfactorily restore and reconstruct the removed Work with no change in the Contract Price or the Contract Time.

B. **Delivery**  Upon completion and prior to final inspection of the Work, and as a condition of final payment, submit the Record Drawings and Specifications to the Owner for review, and make such revisions or corrections as may be necessary for them to be a true, complete, and accurate record of the Work in the opinion of the Owner. When approved, the Contractor shall deliver the Record Drawings and Specifications to the Owner.

15.0 **REVISION OF SUBMITTALS**

Whenever a contract change order causes a change to the information contained in previously approved submittals, submit information and data corresponding to the changed requirements for approval. Submit revisions following the procedure required for previously approved submittals.
16.0 **CERTIFICATES**

Each certificate required under the Contract or in any of the following Sections shall be signed by the individual, office, or agent lawfully authorized to execute the certificate, and such authority shall be cited in the certificate by title, description, or other acceptable evidence. All certificates shall be sworn as to the correctness and validity of the contents. Where specifically required in the respective section, certificates shall be notarized and duplicate copies of required certificates shall be notarized to be true copies.

A Certificate of Compliance shall be furnished prior to the use of any materials for which these specifications or the special provisions require that such a certificate be furnished. In addition, when so authorized in these specifications or in the special provisions, the Engineer may permit the use of certain materials or assemblies prior to sampling and testing if accompanied by a Certificate of Compliance. The certificate shall be signed by the manufacturer of the material or the manufacturer of assembled materials and shall state that the materials involved comply in all respects with the requirements of the specifications. A Certificate of Compliance shall be furnished with each lot of material delivered to the work and the lot so certified shall be clearly identified in the certificate.

All materials used on the basis of a Certificate of Compliance may be sampled and tested at any time. The fact that material is used on the basis of a Certificate of Compliance shall not relieve the Contractor of responsibility for incorporating material in the work which conforms to the requirements of the plans and specifications and any such material not conforming to such requirements will be subject to rejection whether in place or not.

The City reserves the right to refuse to permit the use of material on the basis of a Certificate of Compliance.

The form of the Certificate of Compliance and its disposition shall be as directed by the Construction Manager.

17.0 **EARTHQUAKE DESIGN AND RESTRAINT**

Design, construct and attach all manufactured equipment supplied under this Contract, and as noted in the respective technical Sections, to resist stresses produced by seismic forces specified in this Section. Rigidly attach equipment that does not vibrate during normal operation. For equipment that vibrates during normal operation, attach by means of isolators with mechanical stops that limit movement in all directions unless it can be demonstrated by calculations that such stops are not required. Restrain equipment or portions of equipment that move during normal operation with mechanical devices that prevent displacement unless it can be demonstrated by calculations that such restraints are not required.

A. **Work Included** The work included in this Paragraph includes, but is not limited to, the following: All electrical equipment, cabinets and casework plus contents, electrical panels and lighting fixtures.

B. **Minimum Earthquake Forces** Except as provided herein, base calculations on the minimum earthquake forces prescribed for Essential Facilities by the 2010 California Building Code as published by California Building Standards Commission, 2525 Natomas Park Drive, Suite 130, Sacramento, CA 95833-2936.
C. Include calculations with submittals of shop drawings, details and data specified in respective technical Sections of these Specifications.

18.0 CONSTRUCTION PHOTOGRAPHS

The Contractor shall perform pre-construction and post-construction survey of all existing structures, pavements and other above ground facilities within the project limits prior to beginning any work, noting their condition by means of dated photographs supplemented by written documentation, where applicable.

Color photographs shall be taken with a digital camera at locations that are appropriate to show pre-existing conditions and after constructed conditions. Each photograph shall show the date and time the photograph was taken and clearly be labeled showing the location, viewing direction, and any special features noted. Two (2) 4”x6” copies of each photograph shall be submitted to the City. The photographs shall be indexed, inserted in a plastic viewing folder.

Full compensation for pre-construction survey shall be included in the contract price for the various items of work involved, and no additional compensation will be allowed therefore.

18.1 SUMMARY

A. Section includes requirements for:
   1. Pre-construction photographs.
   2. Pre-construction videos.
   3. Post-construction photographs.
   4. Post-construction videos.

B. The purpose of the photographs and videos is to document the condition of the facilities prior to the Contractor beginning work at the Project site and after Substantial Completion of the Work.

C. Areas to be photographed and videoed shall include the site of the Work and all existing facilities either on or adjoining the Project site, including the interior of existing structures, that could be damaged as a result of the Contractor’s Work.

D. The scope of the photographic and video graphic documentation shall be the sole responsibility of the Contractor, but shall be acceptable to the Construction Manager.

E. Related Sections:
   1. The Contract Documents are complementary; what is called for by one is as binding as if called for by all.
   2. It is the Contractor's responsibility for scheduling and coordinating the Work of subcontractors, suppliers, and other individuals or entities performing or furnishing any of Contractor’s Work.
   3. The following Sections are related to the Work described in this Section. This list of Related Sections is provided for convenience only and is not intended to excuse or otherwise diminish the duty of the Contractor to see that the completed Work complies accurately with the Contract Documents.
      a. Section 01200 - Project Meetings.
      b. Section 01700 - Closeout Procedures.
1.2 SUBMITTALS

A. Key plan: Submit key plan of Project site with notation of vantage points marked for location and direction of each photograph. Include the same label information as the corresponding set of photographs.

B. Photographs:
   1. Paper media:
      a. Submit 4 prints of each photographic view within 7 days of taking photographs.
      b. Format:
         1) 4- by 6-inch photos.
         2) Photographs shall be enclosed in clear plastic sleeves that are punched for standard 3-ring binders.
      c. Identification: On back or below each print, provide the following information:
         1) Name of project.
         2) Date photograph was taken.
         3) Description of vantage point, indicating location and direction by compass point.
   2. Digital media:
      a. Provide photos as individual, indexed JPG files with the following characteristics:
         1) Compression shall be set to preserve quality over file size.
         2) Highest resolution JPG images shall be submitted. Resizing to a smaller size when high resolution JPGs are available shall not be permitted.
         3) JPG image resolution shall be 800 by 600 or higher.
         4) Images shall have rectangular clean images. Artistic borders, beveling, drop shadows, etc., are not permitted.

C. Videos:
   1. Submit 4 copies of each video within 7 days of recording.
   2. Videos shall be submitted in a digital color video format on a DVD suitable for playback on a standard DVD player.
   3. Identification: On each copy provide a label with the following information:
      a. Name of project.
      b. Date video was recorded.

D. Pre-construction photographs and videos: Submit prior to beginning work at the Project site or prior to the Preconstruction Conference specified in Section 01200, whichever occurs earlier.

E. Post-construction photographs and videos: Submit with project closeout documents as specified in Section 1300.

1.3 MEDIA

A. Paper media:
   1. Commercial grade, glossy surface, acid-free photographic paper.

B. Digital media:
   1. 120 millimeters, 700-MB, 80-minute CD compatible with Microsoft Windows XP.
C. Videos:
   1. 120 millimeters, DVD compatible with standard DVD players.

1.4 GENERAL

A. Photographs (paper and digital media):
   1. Date stamp: Unless otherwise indicated, date and time stamp each photograph as it is
      being taken so stamp is integral to photograph.

B. Videos:
   1. Display continuous running time. At start of each video recording, record weather
      conditions from local newspaper or television and the actual temperature reading at
      Project site. No additional compensation shall be provided for construction photographs
      and all costs therefore shall be included in the overall bid for construction of the project.

*** END OF SECTION ***
## Equipment Data & PM Tasks

(One Entity per Sheet - please circle one: new or additional)

<table>
<thead>
<tr>
<th>Equipment Tag #:</th>
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### Misc. Equipment

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### Motors

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### Fan Specs

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### PM Tasks

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**Notes:**
- **NO. of Days/Hours:** How often does this task need to be completed?
- **Task NO.:** If this is a new task, leave the task number blank and write out the description of the new task.
- **Est. Time:** What is the estimated time to complete the task?
- **Start Date:** When should this task start?
SECTION 01310 - PROGRESS SCHEDULE

1.0 CONSTRUCTION SCHEDULE

A. Section includes: Preparation, submittal, and maintenance of computerized progress schedule and reports, Contract time adjustments, and payment requests, including the following:
   1. Preliminary Schedule.
   2. Baseline Schedule.
   3. Weekly Schedule.
   4. Schedule Updates.
   5. Schedule Revisions.

B. Related Sections:
   1. The Contract Documents are complementary; what is called for by one is as binding as if called for by all.
   2. It is the CONTRACTOR’s responsibility for scheduling and coordinating the Work of subcontractors, suppliers, and other individuals or entities performing or furnishing any of CONTRACTOR’s Work.
   3. The following Sections are related to the Work described in this Section. This list of Related Sections is provided for convenience only and is not intended to excuse or otherwise diminish the duty of the CONTRACTOR to see that the completed Work complies accurately with the Contract Documents.
      a. Document 00700 – General Conditions

The schedule shall be submitted within ten (10) days of Notice to Proceed and favorably reviewed by the Construction Manager before the first partial payment can be made.

The Contractor shall provide with its schedule a procedural outline of the system shutdowns and proposed tie-in procedures, which shall be subject to the favorable review of the Construction Manager and the City.

1.1 Base Schedule

The Contractor shall submit the schedule based on either the bar chart method or the Critical Path Method (CPM). The schedule shall indicate preceding activity relationships and/or restraints where applicable and a controlling path shall be indicated. The schedule shall be time scaled and shall be drafted to show a continuous flow from left to right. The construction schedule shall clearly show the sequence of construction operations and specifically list:

a. The start and completion dates of all work items.

b. The dates of submittals, procurement, delivery, installation and completion of each major equipment and material requirement.

c. Progress milestone events or other significant stages of completion.

d. The lead time required for testing, inspection and other procedures required prior to acceptance of the work.
Activities shall be no longer than fifteen (15) workdays, except for submittals and delivery items. If an activity takes longer, it shall be broken into appropriate segments of work for measurement of progress. This limitation may be waived, upon approval of the Construction Manager, for repetitious activities of longer durations for which progress can be easily monitored.

1.2 **Responsible Person**

A. Contractor shall designate, in writing and within 5 calendar days after Notice of Award, person responsible for preparation, maintenance, updating, and revision of all schedules.

B. Qualifications of responsible person:
   1. Authority to act on behalf of Contractor.
   2. 5 years verifiable experience in preparation of complex construction schedules for projects of similar value, size, and complexity.

   Knowledge of critical path method (CPM) scheduling utilizing Primavera Project Planner or SureTrak or Microsoft Project software.

1.3 **Reports**

The following reports shall be submitted with the Base Schedule:

a. **Bar Chart:** A bar chart which lists each activity description, early start and finish dates, and all preceding and succeeding activities. The chart shall indicate all critical activities. A chart with the above information shall be provided with each monthly update in lieu of the report specified in Paragraph 01310-4.1.1.a.

b. **CPM Schedule:** A CPM network report sorted by I-J or activity number which lists each activity description, early start and finish dates, preceding and succeeding activities and restraints, including lead/lag durations. The report shall show the critical path.

   1. CPM network report sorted by total float.
   2. CPM network report sorted by early start.

2.0 **WEATHER CONDITIONS**

Seasonal weather conditions shall be considered in the planning and scheduling of work influenced by high or low ambient temperatures or precipitation to ensure the completion of the Work within the Contract Time. No time extensions will be granted for the Contractor's failure to take into account such weather conditions for the location of the Work and for the period of time in which the Work is to be accomplished.

The expected loss of working days specified in the Supplementary Conditions, Paragraph 01010-5.0, *Weather Days*, shall be included in a separate identifiable critical activity labeled "Weather Days Allowance" to be included at the end of the project schedule. When weather days occur, and are approved as such by the Construction Manager, the Contractor shall either:

a. Increase the duration of the current critical activity (ies) by the number of weather days experienced, or

b. Add a critical activity to the schedule to reflect the occurrence of the weather day(s).
The duration of the weather day allowance activity shall be reduced as weather days are experienced and included in the schedule. Any remaining weather days in the weather day allowance activity at the completion of the project shall be considered as float and shall not be for the exclusive use or benefit of either the City or Contractor.

3.0 UPDATES

3.1 Submittal Period

The Contractor shall submit at monthly intervals a report of the actual construction progress. Each monthly report shall cover a period of approximately thirty (30) days ending around the 30th of each month, or on another mutually agreed upon date each month. The monthly reports shall be submitted within ten (10) days of the end of the reporting period.

A. Submit, on a monthly basis, updated schedules as specified. Submit final schedule update as specified.

B. Submit revised schedules and time impact analyses as specified.

C. Submit schedules in the media and number of copies as follows:

1. 3 sets of the CPM network and/or bar chart (as specified by the OWNER) on D-size sheets. Color-coding to be specified by the OWNER.

2. 3 sets of Tabular reports listing all activities sorted numerically identifying duration, early start, late start, early finish, late finish, total float, and all predecessor/successor information.

3. 2 sets of CPM Schedule data electronic files stored on CD/DVD.

3.1.1 All Monthly Updates - All monthly updates shall include as a minimum:

a. Tabulation reports for the following sorts:

1. I-J [or Activity] Numbers
2. Total Float
3. Early Start
4. Logic report of proceeding and succeeding activities with all restraints indicated (precedence schedules only)

b. Narrative Report - The report shall show the activities or portions of activities completed during the reporting period. The report shall state the percentage of the work actually completed and scheduled, the remaining duration, and the progress along the critical path in terms of days ahead or behind the allowable dates as of the report date. Any changes made by the Contractor to the schedule, including I-J (or Activity) numbers and activity descriptions, shall be listed.

3.1.2 On-Schedule Updates - If the project is proceeding on schedule, the monthly update report may consist of a marked-up copy of the graphical network diagram. This submittal shall clearly indicate the status of any minor shifts in sequence or schedule and the estimated completion date or percent complete of all activities currently in progress. The Contract completion date
shall also be indicated. The Contractor shall submit a narrative report relating to status of construction, the schedule, and factors which may affect the remainder of the schedule.

3.1.3  **Delayed Schedule Updates** - If, in the opinion of the Construction Manager, the project is behind schedule, the monthly report shall include a revised network diagram and/or mathematical analysis showing the Contractor's proposed revised schedule. The schedule shall be revised under the conditions defined in Paragraph 01310-3.3, Schedule Revisions. An analysis of the effect that the delay has on progress along other paths shall also be included in the report. The Contractor shall also submit a narrative report with each updated analysis which shall include but not be limited to a description of current and anticipated problem areas, delaying factors and their impact, and an explanation of corrective actions taken or proposed.

3.2  **Schedule Review**

Once each month, on a date mutually agreed upon, but no later than seven (7) working days after the submittal of the monthly update specified herein, a jobsite meeting will be held to review the Construction Schedule, job progress and the monthly update, or the Construction Manager will provide written comments on the monthly update.

3.3  **Schedule Revisions**

The conditions under which the Construction Manager will require revisions of the Construction Schedule include the following:

a. When delay in completion of any work item or sequence of work items results in an estimated extension of project completion by either twenty (20) working days or by five percent (5%) of the remaining duration of time to complete the Contract, whichever is less.

b. When delays in submittals or deliveries make re-planning or rescheduling of the work necessary.

c. When the schedule does not represent actual prosecution and progress of the work.

d. When any change to the sequence of activities, the completion date for major portions of the work, or changes occur which affect the critical path.

e. When Contract modification necessitates schedule revision.

The Contractor shall not make any changes to the critical path without the Construction Manager's written consent.

4.0  **TIME IMPACT ANALYSES**

4.1  **Requirement**

When change orders impacting project duration are initiated, delays are experienced, or the Contractor desires to revise the schedule logic, the Contractor shall submit to the Construction
Manager a written Time Impact Analysis illustrating the influence of each change, delay, or Contractor request on the current contract schedule completion date.

4.1.1 Construction Schedule Analysis -

a. Each Time Impact Analysis shall include an analysis demonstrating how the Contractor proposes to incorporate the change order, delay, or Contractor request into the Schedule.

b. The analysis shall demonstrate the time impact based on the date of occurrence of the change, delay or revision; the status of construction at that point in time; and the impact of all affected activities.

4.2 Delays

Activity time delays will not automatically mean that an extension of Contract Time is warranted or due the Contractor.

a. It is possible that a strike or contract modification will not affect existing critical activities or cause non-critical activities to become critical, i.e., a strike or modification may result in only absorbing a part of the available total float that may exist within an activity chain of the network, thereby not causing any effect on the Contract completion date or time.

b. The Contractor acknowledges and agrees that mitigation for delays due to changes, differing site conditions, and other causes will require revision of preferential sequences of the Work before proposing an updated schedule which supports a delay to the Project as a whole. When a delay to the Project as a whole can be avoided by revising preferential sequencing, and the Contractor chooses not to implement the revisions, the Contractor will be entitled to a time extension but is not entitled to compensation for indirect overhead.

c. Float or slack shall not be for the exclusive use or benefit of the City or the Contractor. Extensions of time for performance will be granted only to the extent that the equitable time adjustments for the activity or activities affected exceeds the total float along the activity chain involved at the time the change was ordered or the delay occurred.

d. The definitions of "non-critical activities" and "total float" shall be as provided in the Associated General Contractors of America book "CPM in Construction, A Manual for General Contractors."

4.3 Submittal

Time Impact Analyses shall be submitted in quadruplicate and within fifteen (15) days after a delay occurs or with the Contractor's cost proposal in response to a notice of change from the Construction Manager. In cases where the Contractor does not submit a Time Impact Analysis for a specific change order, delay, or Contractor request within the specified period of time, then it is mutually agreed that the particular change order, delay, or Contractor request has no time impact on the Contract completion date and no time extension is required.

a. Approval or rejection of Time Impact Analyses by the Construction Manager and the City will be made within fifteen (15) days after receipt of the Time Impact Analysis unless subsequent meetings and negotiations are necessary.
b. Upon mutual agreement by both parties, schedule revisions illustrating the influence of change orders, delays, and/or Contractor requests will be incorporated into the next schedule update.

5.0 WEEKLY ACTIVITIES PLAN

On the last working day of every week the Contractor shall submit to the Construction Manager the Contractor's Plan of Activities for the following three weeks. The Plan of Activities shall describe the activity and location of the activity and include the activity's I-J or Activity number as provided in the Construction Schedule.

6.0 CASH FLOW PROJECTION

A cash flow projection shall be submitted with the Construction Schedule. This cash flow projection shall be revised and resubmitted when revisions of the Construction Schedule will result in changes to the projected cash flow.

7.0 WORKHOUR PROJECTION

A work hour projection shall be submitted with the Construction Schedule. The projection shall list projected work hours for each intended trade. This applies to the Contractor and the Subcontractors as listed in the bid. The projection shall include work hours for project management, superintendence and administration. The work hour projection shall be revised and resubmitted when revisions to the Construction Schedule will result in changes to the projected manpower.

*** END OF SECTION ***
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SECTION 01400 - QUALITY CONTROL

1.0 QUALITY CONTROL

All materials and equipment shall be new and of the specified quality and equal to the samples found to be acceptable by the Design Consultant if samples have been submitted. It shall be the duty of the Contractor to call the Construction Manager's attention to apparent errors or omissions and request instructions before proceeding with the Work. The Construction Manager may, by appropriate instructions, correct errors and supply omissions not involving extra cost, which instructions shall be as binding upon the Contractor as though contained in the original Contract Documents.

At the option of the Construction Manager, materials and equipment to be supplied under this Contract will be tested and inspected either at their place of origin or at the site of the Work. The Contractor shall give the Construction Manager written notification at least 30 days prior to the shipment of materials and equipment to be tested and inspected at point of origin. Satisfactory tests and inspections at the point of origin shall not be construed as a final acceptance of the materials and equipment nor shall such tests and inspections preclude retesting or reinspection at the site of the Work.

Inspection of the Work by the City, Construction Manager and/or Design Consultant shall not relieve the Contractor of its obligations to conduct comprehensive inspections of the Work and to furnish materials and perform acceptable Work, and to provide adequate safety precautions, in conformance with the intent of the Contract.

2.0 INSPECTION

All work and materials are subject to the inspection of the Construction Manager. The Contractor shall notify the Construction Manager before noon of the working day before inspection is required. If the Specifications, the Construction Manager's instructions, laws, ordinances, or any public authority require any work to be specially tested or approved, the Contractor shall give timely notice, in writing, of its readiness for inspection. Unless otherwise determined by the Construction Manager, all inspections shall be done only in the presence of the Construction Manager or its authorized representatives. The City, Construction Manager, Design Consultant and authorized government agents and their representatives shall at all times be provided safe access to the Work wherever it is in preparation or progress and to all warehouses and storage yards wherein materials and equipment are stored, and the Contractor shall provide facilities for such access and for inspection, including maintenance of temporary and permanent access. Inspection of the Work shall not relieve the Contractor of the obligation to fulfill all conditions of the Contract, and improper work will be subject to rejection. Work and materials not meeting such requirements shall be made good, and unsuitable work or materials may be rejected; notwithstanding that such work or materials have been previously inspected by the Construction Manager or that payment therefore has been included in a progress estimate.

No portion of any work or installed materials shall be covered or concealed in any manner whatsoever without first being inspected by the Construction Manager. If any work should be covered up without the approval or consent of the Construction Manager, the Construction Manager shall have the authority to require that such work be uncovered for examination; defective work, if any, corrected; and recovered at the Contractor's expense.
3.0 SAMPLES AND TESTS

At the option of the Construction Manager, the source of supply of materials for the Work shall be subject to tests and inspection before the delivery is started and before such materials are used in the Work. Representative preliminary samples of the character and quality prescribed shall be submitted by the Contractor or producer of materials to be used in the Work in sufficient quantities or amounts for testing or examination.

All tests of materials furnished by the Contractor shall be made in accordance with the commonly recognized standards of national technical organizations, and such special methods and tests as are prescribed in the Contract Documents.

Certificates of compliance shall be provided by the Contractor as required in the Technical Specifications.

3.1 Sampling

The Contractor shall furnish such samples of materials as are requested by the Construction Manager, without charge. No material shall be used until the Construction Manager has had the opportunity to test or examine such materials. Samples will be secured and tested whenever necessary to determine the quality of the material. Samples and test specimens prepared at the jobsite, such as concrete test cylinders, shall be taken or prepared by the Construction Manager or Testing Firm in the presence and with the assistance of the Contractor.

3.2 Testing

Unless otherwise provided, all initial testing for concrete and soils shall be at no expense to the Contractor and shall be performed in the City's laboratory or in a laboratory designated by the City. Any retesting required due to failed test or defective material or sample shall be at the Contractor’s expense. When required by the Contract or the Construction Manager, the Contractor shall furnish, at no extra charge, certificates of tests of materials and equipment made at the point of manufacture by a recognized testing laboratory.

The Contractor is responsible for all system and equipment testing as provided for in these Contract Documents.

3.3 Test Standards

All sampling, specimen preparation, and testing of materials shall be in accordance with the standards of nationally recognized technical organizations.

The physical characteristics of all materials not particularly specified shall conform to the latest standards published by the American Society for Testing Materials, where applicable.

*** END OF SECTION ***
SECTION 01500 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

1.0 GENERAL

The Contractor shall provide all temporary facilities and utilities required for prosecution of the work, protection of employees and the public, protection of the work from damage by fire, weather or vandalism, and such other facilities as may be specified or required by any legally applicable law, ordinance, rule, or regulation.

The Contractor shall respond to public complaints when requested by the City.

2.0 TEMPORARY UTILITIES

2.1 Electrical Service

The Contractor shall arrange, at its own cost, with the local utility to provide adequate temporary electrical service at a mutually agreeable location. The Contractor shall then provide adequate jobsite distribution facilities conforming to applicable codes and safety regulations. The Contractor shall provide, at its own cost, all electric power required for construction, testing, general and security lighting, and all other purposes whether supplied through temporary or permanent facilities. Electric power may be available for the Contractor’s use, on a site specific basis, and at the City’s sole discretion.

2.2 Water

The Contractor shall pay for and shall construct all facilities necessary to furnish water for its use during construction. Water used for human consumption shall be kept free from contamination and shall conform to the requirements of the State and local authorities for potable water. The Contractor shall pay for all water used for the Contractor's operations prior to final acceptance. The Contractor shall be responsible for the disposal of all water used in the course of construction in accordance with all local, state and national laws.

2.3 Temporary Lighting

The Contractor shall provide temporary lighting in all work areas sufficient to maintain a lighting level during working hours not less than the lighting level required by California OSHA standards. As permanent lighting facilities are completed they may be used in lieu of temporary facilities, provided however, that bulbs, lamps, or tubes of such facilities used by the Contractor shall be replaced prior to final acceptance of the Work.

2.4 Heating and Ventilation

The Contractor shall provide means for heating and ventilating all work areas as may be required to protect the Work from damage by freezing, high temperatures, weather, or to provide a safe environment for workers. Unvented direct fired heaters shall not be used in areas where freshly
placed concrete will be exposed to the combustion gases until at least two hours after the concrete has attained its initial set.

2.5 **Sanitary Conveniences**

The Contractor shall provide suitable and adequate sanitary conveniences for the use of all persons at the site of the Work. Such conveniences shall include chemical toilets or water closets and shall be located at appropriate locations at the site of the Work. All sanitary conveniences shall conform to the regulations of the public authority having jurisdiction over such matters. At the completion of the Work, all such sanitary conveniences shall be removed and the site left in a sanitary condition.

3.0 **CONSTRUCTION FACILITIES**

Construction hoists, elevators, scaffolds, stages, shoring, and similar temporary facilities shall be of ample size and capacity to adequately support and move the loads to which they will be subjected. Railings, enclosures, safety devices, and controls required by law or for adequate protection of life and property shall be provided.

3.1 **Staging and False work**

Temporary supports shall be designed by a professional registered engineer with an adequate safety factor to assure adequate load bearing capability. If requested by the Construction Manager, the Contractor shall submit design calculations for staging and shoring prior to application of loads.

Excavation support shall be in accordance with Section 00700-4.12, *Safety*.

3.2 **Temporary Enclosures**

When sandblasting, spray painting, spraying of insulation, or other activities inconveniencing or dangerous to property or the health of employees or the public are in progress, the area of activity shall be enclosed adequately to contain the dust, over-spray, or other hazard. In the event there are no permanent enclosures of the area, or such enclosures are incomplete or inadequate, the Contractor shall provide suitable temporary enclosures. The Contractor shall comply with the San Joaquin Valley Unified Air Pollution Control District regulations for such work.

3.3 **Warning Devices and Barricades**

The Contractor shall adequately identify and guard all hazardous areas and conditions by visual warning devices and, where necessary, physical barriers. Such devices shall, as a minimum, conform to the requirements of Cal/OSHA.

A. Hazards in public right-of-way:
   Contractor shall:
   1. Mark at reasonable intervals, trenches and other continuous excavations in public right-of-way, running parallel to general flow of traffic, with traffic cones, barricades, or other suitable visual markers during daylight hours:
a. During hours of darkness, provide markers with torches, flashers, or other adequate lights.

2. At intersections or for pits and similar excavations, where traffic may reasonably be expected to approach head on, protect excavations by continuous barricades:
   a. During hours of darkness, provide warning lights at close intervals.

3.4 Above Grade Protection

On multi-level structures the Contractor shall provide safety protection that, as a minimum, shall meet the requirements of Title 8, California Code of Regulations.

3.5 Use of Explosives

All persons engaged in the activities of receiving, storing, using, handling or transporting any explosives must obtain a permit from the Fire Prevention Bureau; and all work shall be governed by the Health & Safety Code and any amendments or existing Articles of the National Board of Fire Underwriters Fire Prevention Code. The Contractor must notify the Construction Manager at least 14 days prior to the use of explosives.

4.0 PROTECTION AND RESTORATION OF PROPERTY

The Contractor shall be responsible for the protection of public and private property at and adjacent to the Work and shall exercise due caution to avoid damage to such property. The Contractor is responsible for the following, at no additional cost to the City:

a. The Contractor shall conduct operations in a manner which will cause the least amount of damage, inconvenience and interference with the normal use of any public or private property. The Contractor shall repair or replace all existing improvements which are not designated for removal (e.g., curbs, sidewalks, survey points, fences, walls, signs, utility installations, pavements, structures, etc.) and are damaged or removed as a result of its operations. Repairs and replacements shall be at least equal to existing improvements and shall match them in finish and dimension.

b. Trees, lawns, and shrubbery that are not to be removed shall be protected from damage or injury. Remove all transplantable trees, shrubs and bushes that may be damaged or destroyed by construction and reset them after construction. If damaged or removed because of the Contractor's operations, they shall be restored or replaced as required to return the property to its prior condition and location, or better, as is reasonably possible. Lawns shall be re-sod, or re-seeded and covered with suitable mulch if appropriate sod is not available.

c. The Contractor shall give reasonable notice to occupants or owners of adjacent property to permit them to salvage or relocate plants, trees, fences, sprinklers, and other improvements within the right-of-way which are designated for removal or would be destroyed because of the Work.

d. To store his apparatus, materials, supplies, and equipment in such orderly fashion at the site of the Work as will not unduly interfere with the progress of his Work or the work of any other contractor.
e. To provide suitable storage facilities for all materials which are liable to injury by exposure to weather, theft, breakage, or otherwise. If the Owner determines that suitable storage for certain materials is not being provided, he may direct the Contractor to remove it from the job site, or to store it properly at the job site.

f. To place upon the Work or any part thereof only such loads as are consistent with the safety of that portion of the Work.

g. In coordination with the appropriate authorities probe, pot-hole, or otherwise ascertain the exact location of all existing underground improvements in advance of excavation such that no damage to these improvements will occur. In the event interferences in construction are encountered with the various existing improvements, the City reserves the right to appropriately change the alignment and grade of the facilities.

h. Provide for the flow of all sewers and drains interrupted during the progress of the Work, in a manner acceptable to the City and immediately cart away and remove all offensive matter at no additional cost to the City.

Where interruption of existing utilities occurs as the result of the Contractor's activity for this Work, whether intentional or accidental, repairs to the interrupted utility shall be performed by the Contractor in a manner acceptable to the Owner unless instructed otherwise in these Contract Documents. The repairs, including materials used, shall be performed in accordance with the requirements of the respective utility as well as the requirements of the Contract Documents for this Project. Where a conflict exists between the requirements of the respective utility and those of the Contract Documents for this Project, the more stringent of the two shall apply unless instructed otherwise by the Owner.

5.0 PROJECT SECURITY

The Contractor shall make adequate provision for the protection of the Work area against fire, theft, and vandalism, and for the protection of the public against exposure to injury and shall comply with the City's security measures.

5.1 Fire Extinguisher

Sufficient number of fire extinguishers of the type and capacity required to protect the Work and ancillary facilities, shall be provided and maintained in readily accessible locations. The local fire marshal shall have jurisdiction in determining the appropriate level of protection required.

5.2 First aid

Post first aid facilities and information posters conforming to requirements of OSHA and other applicable Laws and Regulations in readily accessible locations.

5.3 Temporary Fences

Except as otherwise provided, the Contractor shall enclose the site of the Work with a fence adequate to protect the Work and temporary facilities against acts of theft, violence, or vandalism.
In the event all or a part of the site is to be permanently fenced, this permanent fence or a portion thereof may be built to serve for protection of the Work site, provided however, that any portions damaged or defaced shall be replaced prior to final acceptance.

Temporary openings in existing fences shall be protected to prevent intrusion by unauthorized persons. During night hours, weekends, holidays, and other times when no work is performed at the site, the Contractor shall provide temporary closures or guard service to protect such openings. Temporary openings shall be fenced when no longer necessary.

6.0 ACCESS ROADS

Access roads shall be maintained to all storage areas and other areas to which frequent access is required. Similar roads shall be maintained to all existing facilities on the site of the Work to provide access for delivery of material and for maintenance and operation. Where such temporary roads cross buried utilities that might be injured by the loads likely to be imposed, such utilities shall be adequately protected by steel plates or wood planking, or bridges shall be provided so that no loads shall discharge on such buried utilities.

7.0 SPECIAL CONTROLS

The Contractor shall take all reasonable means to minimize inconvenience and injury to the public by dust, noise, diversion of storm water, or other operations under its control.

7.1 Dust Control

The Contractor at its expense shall take whatever steps, procedures, or means as are required to prevent abnormal dust conditions being caused by its operations in connection with the execution of the Work; and on any unpaved road which the Contractor or any of its subcontractors are using, excavation or fill areas, demolition operations, or other activities. Control shall be by sprinkling, use of dust palliatives, modification of operations, or any other means acceptable to agencies having jurisdiction. Haul routes shall be kept visibly wet during excavation and hauling operations.

Unless the construction dictates otherwise, and unless otherwise approved by the Construction Manager, the Contractor shall furnish and operate a self-loading motor sweeper with spray nozzle at least once each working day to keep paved areas acceptably clean whenever construction, including restoration, is incomplete.

7.2 Mud Control

The Contractor shall: Prevent mud nuisance caused by construction operations, unpaved roads, excavation, backfilling, demolition, or other activities.

7.3 Noise Abatement

Operations at the Worksite shall be performed so as to minimize unnecessary noise. Special measures shall be taken to suppress noise during night hours. Noise levels due to construction activity shall not exceed the levels specified by local ordinance.
Internal combustion engines used on the Work shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated without said muffler.

7.4 Working Hours

Construction shall be allowed only between the hours of seven (7:00) a.m. and six (6:00) p.m. on weekdays and nine (9:00) a.m. to six (6:00) p.m. on weekends and holidays, unless otherwise approved by the City.

Normal working hours are defined as between the hours of seven (7:00) a.m. and six (6:00) p.m. on weekdays.

The Contractor shall be responsible for any inspection and additional administration costs incurred by the City, or its agents and representatives, for work by the Contractor outside the hours defined above on weekdays, or any work on weekends or holidays recognized by the City. Such costs shall be withheld from the succeeding monthly progress payment. Any work in Section 01010, Summary of Work, specifically required to be performed outside the normal working hours is excluded from the provisions of this paragraph.

The Contractor shall notify the Construction Manager at least 48 hours prior to any work outside the normal working hours defined above, on weekends or holidays. No work outside normal working hours will be allowed to take place without proper notification and approval by the construction manager.

7.5 Drainage Control

In all construction operations, care shall be taken not to disturb the existing drainage pattern whenever possible. Particular care shall be taken not to direct drainage water onto private property. Drainage water shall not be diverted to streets or drainage ways inadequate for the increased flow. Drainage means shall be provided to protect the Work and adjacent facilities from damage due to water from the site or due to altered drainage patterns from construction operations.

Temporary provisions shall be made by the Contractor to ensure the proper functioning of gutters, storm drain inlets, drainage ditches, culverts, irrigation ditches, and natural water courses.

7.6 Construction Cleaning

The Contractor shall, at all times, keep property on which work is in progress and the adjacent property free from accumulations of waste material or rubbish caused by employees or by the Work. The Contractor shall clean up not less than at the end of each work day, all refuse, rubbish, scrap materials, and debris caused by his operations, to the end that at all times the site of the Work shall present a neat, orderly and workmanlike appearance. More frequent clean-up shall be performed as required to maintain access to all other City facilities still in operation.

All surplus material shall be removed from the site immediately after completion of the work causing the surplus materials. Upon completion of the construction, the Contractor shall remove all temporary structures, rubbish, and waste materials resulting from its operations.

Before final inspection of the work, the Contractor shall clean the project site, material sites, and all ground occupied by him in connection with the work of all rubbish, excess materials, false-work,
temporary structures, and equipment. All parts of the work shall be left in a neat and presentable condition.

Nothing herein, however, shall require the Contractor to remove warning, regulatory, and guide signs prior to formal acceptance by the City.

Full compensation for all site maintenance and cleanup will be considered as included in the prices paid for the various contract items of work and no separate payment will be made therefore.

7.7 Disposal of Material

The Contractor shall make arrangements for disposing of materials outside the Site and the Contractor shall pay all costs involved. The Contractor shall first obtain permission from the property owner on whose property the disposal is to be made and absolve the City from any and all responsibility in connection with the disposal of material on said property. When material is disposed of as above provided, the Contractor shall conform to all required Federal, State, and local regulations pertaining to such disposal.

7.8 Parking and Storage Areas

All stockpiled materials and parked equipment at the job site shall be located to avoid interference with private property and to prevent hazards to the public. Locations of stockpiles, parking areas, and equipment storage must be approved by the Construction Manager.

8.0 TRAFFIC REGULATION

8.1 General

The Contractor shall take all necessary steps to minimize inconvenience to the general public throughout all work under this Contract. No driveways or private roads shall be blocked without notifying the property owner and access must be restored during all non-working hours. Safe access must be maintained for pedestrian traffic throughout the work area at all times.

At least one lane of traffic in each direction must be kept open at all times unless prior approval is provided by the City and any affected agency. No roads shall be blocked or made inaccessible, due to the Contractor's work, without prior written approval of the City and the affected agencies.

The Contractor shall not block or obstruct fire lanes at any time.

8.2 Haul Routes

Prior to the pre-construction conference, the Contractor shall submit for approval the proposed route(s) for all construction traffic on the project. This shall include any designated routes, if any, shown on the Contract Drawings. Upon approval, the Contractor shall strictly adhere to that route(s) only, unless written permission is obtained to change the route(s).
8.3 Traffic Control

Traffic control shall be in accordance with the California Department of Transportation Traffic Manual. The Contractor shall submit for approval, by the City and any other applicable agency, its traffic control plans prior to work on public streets.

Traffic control shall include signs, warning lights, reflectors, barriers, and other necessary safety devices and measures, including sufficient flaggers to direct vehicular traffic through the construction areas.

No material or equipment shall be stored/parked where it will interfere with the free and safe passage of public traffic, and at the end of each day's work, and at other times when construction operations are suspended for any reason, the Contractor shall remove all equipment and other obstructions from the public right-of-way.

Should the Contractor appear to be negligent in furnishing warning and protective measures, as above provided, the Construction Manager may direct attention to the existence of a hazard, and the necessary warning and protective measures shall be furnished and installed by the Contractor at its expense.

9.0 PROJECT OFFICE

The Contractor shall maintain on the project site a suitable office or other protected area in which shall be kept project copies of the Contract Documents, project progress records, project schedule, shop drawings, and other relevant documents which shall be accessible to the City and Construction Manager during normal working hours.

10.0 CONTRACTOR’S SAFETY RULES

The Contractor shall execute and abide by all terms and conditions of the City's "Contractor's Safety Rules," a copy of which is included at the end of this Section. The Contractor shall post "Contractor's Safety Rules" on the job site for the entire construction period for this Project.

*** END OF SECTION ***
THESE SAFETY RULES ARE TO INFORM YOU OF CERTAIN SAFETY AND HEALTH REQUIREMENTS THAT MUST BE FOLLOWED WHILE WORKING AT THE REGIONAL WASTEWATER CONTROL FACILITY MAIN PLANT, TERTIARY PLANT, PUMP STATIONS OR OTHER MUNICIPAL UTILITIES DEPARTMENT SITES.

1. DRINK ONLY BOTTLED WATER. DO NOT DRINK FROM ANY FAUCET, PIPE LINE OR HOSE WHILE WORKING AT THE MAIN PLANT, TERTIARY PLANT, OR SMITH CANAL PUMP STATION.

2. STRICT ADHERENCE TO CONFINED SPACE ENTRY PROCEDURES OUTLINED BY CAL-Osha TITLE 8 ARTICLE 108 MUST BE FOLLOWED.

3. WASH HANDS THOROUGHLY BEFORE EATING OR DRINKING.

4. WORK ONLY IN CONTRACTED AREAS. DO NOT WANDER THROUGH THE SITE.

5. OBSERVE THE 15 M.P.H. SPEED LIMIT ON THE MAIN PLANT AND TERTIARY SITES. OBSERVE ALL STOP SIGNS.

6. CHECK WITH THE CONTRACT MANAGER BEFORE BEGINNING ANY CONTRACTED WORK TO REVIEW ANY SPECIAL HAZARDS OR SAFE PRACTICE PROCEDURES FOR THE AREA YOU ARE WORKING IN.

7. IT IS YOUR RESPONSIBILITY TO ADVISE YOUR WORK CREWS AND SUBCONTRACTORS REGARDING HAZARDS AND SAFE PRACTICE MEASURES REQUIRED WHILE DOING ANY WORK AT MUNICIPAL UTILITIES DEPARTMENT FACILITIES. POTENTIALLY HAZARDOUS CHEMICALS ARE STORED AND USED AT MANY M.U.D. SITES.

8. THE ABOVE RULES DO NOT EXEMPT ANY CONTRACTOR OR SUB-CONTRACTOR FROM ANY APPLICABLE FEDERAL, STATE OR LOCAL REGULATIONS.

THE ACKNOWLEDGMENT BELOW MUST BE SIGNED AND RETURNED TO THE CONTRACT MANAGER. THANK YOU FOR YOUR COOPERATION.

I UNDERSTAND AND AGREE TO COMPLY WITH THE ABOVE RULES WHILE ON ANY MUNICIPAL UTILITIES DEPARTMENT SITE.

____________________________________  _________________________
CONTRACTOR'S SIGNATURE      DATE

____________________________________
COMPANY NAME
SECTION 01600 - MATERIAL AND EQUIPMENT

1.0 STORAGE OF MATERIALS

Materials shall be stored in such a manner as to ensure the preservation of their quality and fitness for the Work. When considered necessary by the Construction Manager, materials shall be placed on platforms or other hard, clean surfaces, and covered when directed.

Materials shall be stored so as to facilitate inspection. Storage areas shall be suitably fenced, if necessary to protect the public or the material.

Unless otherwise designated in the General Requirements, locations and arrangements for storage sites for materials and equipment outside the limits of work shall be selected and maintained by the Contractor at its expense. Full compensation for furnishing such storage sites as may be necessary or required by the Contractor shall be considered as included in the price bid and no additional compensation will be allowed therefore. The City shall be specifically exempted in any agreement from any liability incurred from the use of private property for construction purposes. Use of portions of the City's area at the site for materials and equipment storage shall be permitted only upon the approval of the Construction Manager.

2.0 HAZARDOUS MATERIALS

The storage and handling of potential pollution causing and hazardous materials, including but not necessarily limited to, gasoline, oil and paint shall be in accordance with all local, state and federal requirements. All hazardous materials shall be stored and handled in strict accordance with the Material Safety Data Sheets for the products. Material Safety Data Sheets shall be submitted to the Construction Manager prior to the delivery of materials to the project. Hazardous materials shall be removed and legally disposed as soon as no longer needed for project work. All spills of potential pollution causing and hazardous materials shall be contained, cleaned-up, removed and legally disposed, and remediated completely at no additional cost to the City.

3.0 MATERIAL AND EQUIPMENT SUBSTITUTIONS

3.1 General

In preparing these Specifications, the Design Consultant has named those products which to its knowledge meet the Specifications and are equivalent in construction, functional efficiency, and durability.

Wherever catalog numbers and specific brands or trade names preceded by "similar and equal" or followed by the designation "or equal" are used in conjunction with a designated material, product, thing, installation, or service mentioned in these Specifications, they are used to establish the standards of quality and utility required.

The first-named manufacturer is the basis for the project design and the use of alternative-named or unnamed manufacturer's products proposed by the Contractor may require modifications in the
project design and construction. Where only one product has been named by brand, it is the only brand, trade name, or manufactured product known to the Design Consultant that meets these Specifications.

Wherever catalog numbers and specific brands or trade names not preceded by designation "similar and equal" nor followed by the designation "or equal", are used in conjunction with a designated material, product, thing, installation, or service mentioned in these Specifications, to ensure compatibility with existing facilities, no substitutions will be allowed. Reference Paragraph 00100-19.0, Substitutions During Bidding.

3.2 Substitutions

Substitutions which are equal in quality and utility to those specified will be permitted, subject to the following provisions. For this purpose, the Contractor shall submit to the Construction Manager in accordance with Public Contract Code Section 3400, no later than thirty five (35) days after the Notice to Proceed, a typewritten list containing a description of each proposed substitute item or material. Sufficient data, drawings, samples, literature, calculations, or other detailed information as will demonstrate to the Design Consultant that the proposed substitute is equal in quality and utility to the material specified shall be appended to this list. The Design Consultant will favorably review in writing such proposed substitutions as are, in its opinion, equal in quality to the items or materials specified. In the event that a substitute is favorably reviewed, fifty percent (50%) of all savings shall be credited to the City.

Failure of the Contractor to submit proposed substitutions for review in the manner described above and within the time prescribed shall be sufficient cause for rejection by the Construction Manager of any substitutions otherwise proposed.

3.3 Modifications and Costs

If named alternatives or substitutions are proposed by the Contractor and favorably reviewed by the Design Consultant, the Contractor is responsible for providing, at no additional cost to the City, any electrical, mechanical, structural, or other related changes or testing that may be required to accommodate or provide the particular material or equipment the Contractor desires to use. Any deviation from the Specifications or the Drawings resulting from the type of material or equipment to be used shall not be the basis for any "extra charges" above and in excess of the original bid price of the work.

In addition the Contractor is responsible for all additional costs to the City, and its agents and representatives, for evaluation of data submitted by the Contractor for alternative named or substitutions and any redesign necessary. The City shall deduct said costs from the Contract monies due the Contractor.

*** END OF SECTION ***
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SECTIO6 01660 - SYSTEM TESTING

The Contractor shall test the facilities as specified in the City of Stockton Standard Plans and Specifications and Technical Specification Section 26-08-13, Acceptance Testing. The Contractor shall provide all necessary facilities for conducting the tests, including but not limited to, personnel, power, water equipment, and chemicals. The Contractor shall provide the required minimum notice to the Construction Manager of its readiness and intent prior to each test.

*** END OF SECTION ***
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SECTION 01670 - TRAINING

1.0 GENERAL

Conduct an instruction program for City’s operation and maintenance personnel. Provide training for the purpose of familiarizing the City's personnel with the proper operation and maintenance of all equipment. Training shall include both classroom instruction and "hands-on" instruction held at the equipment.

Additional specific requirements for each type of equipment and/or system are identified in the Specification Sections covering the various project equipment and/or systems.

2.0 INSTRUCTORS

Training for an individual component within a system shall be performed by the manufacturer’s factory-certified personnel. Training provided by the system fabricator, packager, integrator, or supplier shall be in addition to the component training.

Training instructors shall be trained and familiar with giving both classroom and hands-on field training.

3.0 SCHEDULING

Conduct training after the equipment has been installed, tested, and adjusted, and prior to City acceptance for beneficial occupancy or substantial completion of the respective equipment item, unless required earlier in the progress of the work the Specification Section covering that equipment or system. Training shall be a prerequisite for acceptance.

Schedule instruction periods acceptable to the City, and provide formal written notice of the proposed instruction period at least fourteen (14) days prior to commencement of the instruction period. The City will review and comment on the proposed training schedule to accommodate scheduling of its shift personnel and ongoing or forecasted workload. The duration of the training sessions may vary from one hour up through multiple days, and should be based upon the complexity of the equipment involved and the training required.

For operation and routine maintenance instruction, three separate but identical training sessions for each respective equipment item or system shall be required (on different days or sets of days for multiple day sessions) to accommodate the scheduling of City’s shift personnel and City’s workload. For detailed maintenance and overhaul training, and for detailed troubleshooting, repair, and programming instruction for electrical and instrumentation equipment, two separate but identical training sessions (on different days or sets of days for multiple day sessions) shall be required for each respective equipment item or system.

4.0 INSTRUCTION PROGRAM

Instruction programs shall include basic system operation theory, troubleshooting, routine maintenance and repair, "hands-on" operation of equipment, and rebuild/overhaul procedures. Provide copies of all training material (graphs, diagrams, cut-a ways, charts, descriptions,
instructions, etc.) used in the training sessions for the use of City's personnel in attendance and for insertion into the O&M manuals. All training material shall become the property of the City.

Instructors shall prepare a typed agenda for each training session and submit to City with the proposed training schedule twenty-one (21) days prior to the proposed commencement of the training period. City will review and comment on the adequacy of the proposed training and training schedule. Instructors shall obtain City approval of each training session agenda prior to the start of its respective session.

Training sessions, and their respective agendas, shall be organized into topic groupings to allow City to coordinate personnel attendance with the topics being taught. For example, operators do not need to attend overhaul training. Agenda shall also include a statement of the intended audience, list of major training topics, goals and objectives for each major training topic, and motivational statements (i.e. why is this important).

Training sessions shall cover the information required in the Operation and Maintenance manuals submitted in accordance with Section 01300 and the following topics, as applicable:

- a. Operation, including theory of operation, start-up procedures, shutdown procedures, instrumentation and controls
- b. Lubrication, including changing of major fluids
- c. Operation safety
- d. Emergency situation response
- e. Troubleshooting
- f. Preventive maintenance procedures
- g. Optimizing life of equipment components
- h. Maintenance, including adjustment and/or removal and replacement of wear components
- i. Overhaul and repair, including takedown procedures, disassembly and assembly
- j. Programming
- k. Record keeping

Training for overhaul and repair on mechanical equipment, and for troubleshooting, repair, and programming on electrical, instrumentation, and control equipment shall provide sufficient detail, duration, and quality to result in factory certification for City staff receiving such training, where factory certification is available. This training shall include an examination to determine the competency of the participating students. All tests shall be scored by the instructor and results submitted to the City. Certificates shall be issued by the manufacturer to those students demonstrating a level of competency acceptable to the manufacturer. The manufacturer/instructor shall anticipate training City staff to this level of detail as follows:

- Mechanical Equipment: Two separate sessions with four City maintenance staff in each session (separate days)
- Electrical, Instrumentation and control: Two separate sessions with four City maintenance staff in each session (separate days)

5.0 LOCATION

All training shall be conducted at City facilities, except that training for factory certification in troubleshooting, repair, and programming of electrical, instrumentation, and control equipment may occur at the manufacturer's facility, at the manufacturer's option. Should the manufacturer choose to conduct this factory certification training at its facilities, the Contractor shall arrange for and pay
all costs for travel, lodging, meals, and other associated expenses for City staff to travel to and from, and receive training at, the manufacturer's facility, at no additional cost to the City.

6.0 RECORDING OF TRAINING SESSIONS

Contractor shall record in color using DVD format, every session of the instruction program for each respective equipment item or system. Recording shall be performed by a person experienced in the operation of video recording equipment. Care shall be taken to properly place the camera, and provide adequate lighting and sound systems to ensure good video and audio quality. The final submitted DVD shall be subject to City approval and acceptance.

For video recording of "hands-on" training at the equipment, ambient noise shall be considered too loud to obtain satisfactory sound quality. For "hands-on" training sessions at the equipment, the recording shall be done without sound and the instructor shall dub a detailed narrative onto the recording by a means that will provide sound quality satisfactory to the City. Contractor shall propose a dubbing methodology to the City for approval prior to the first "hands-on" training session. Contractor is not required to video record factory certification training that occurs at the manufacturer's facilities, but shall record any such training that occurs at City facilities.

Label each DVD identifying the session and respective equipment item or system. Multiple sessions of the same instruction program may be contained on the same DVD, but only one equipment item or system shall be recorded on the same DVD. The original and one copy of each DVD shall be submitted to the City within seven days following completion of each respective instruction program and any post-session dubbing. Responsibility for coordinating and providing all equipment, including video recorder and microphones, necessary to satisfactorily record each session, including all associated costs, shall be borne by the Contractor at no additional cost to the City.

*** END OF SECTION ***
SECTION 01700 - CONTRACT CLOSEOUT

1.0 INSTRUCTION MANUALS

All Instruction Manuals shall be submitted to, and approval by the Construction Manager obtained, prior to seventy-five (75) percent of the work being completed, or prior to the City taking beneficial occupancy of any equipment or facility, whichever occurs first. Incomplete or unacceptable Instruction Manuals as determined by the Construction Manager shall constitute justification for withholding all or any portion of progress payments.

2.0 EQUIPMENT START-UP

After all acceptance tests have been completed by the Contractor and City, but prior to final acceptance, the Contractor shall recheck all equipment for proper alignment, adjustment, and calibration, check oil levels, re-lubricate all bearing and wearing points, and in general assure that all equipment is in proper condition for regular continuous operation.

3.0 FINAL CLEANING

3.1 Final Clean Up

Before final inspection of the Work, the Contractor shall clean the construction area, material sites, adjacent property and streets, and all ground occupied by the Contractor in connection with the Work of all rubbish, excess materials, form lumber, etc. All parts of the Work shall be left in a neat and presentable condition.

3.2 Final Building Clean-Up

On all building projects and wherever else applicable, besides general broom cleaning, the following special cleaning shall be performed at completion of the Work:

a. Putty stains and paint shall be removed from glass; glass shall be washed and polished, inside and outside. Care shall be exercised so as not to scratch glass.

b. Marks, stains, fingerprints, and other soil and dirt shall be removed from painted, decorated, or stained work.

c. Waxed woodwork shall be cleaned and polished.

d. Hardware shall be cleaned and polished of all traces; this shall include removal of stains, dust, dirt, paints, and blemishes.

e. Spots, soil, paint, plaster, and concrete shall be removed from tile; tile work shall be washed afterwards.

f. Fixtures and equipment shall be cleaned, and stains, paint, dirt, and dust shall be removed.
g. Temporary floor protections shall be removed; floors shall be cleaned, waxed, and buffed.

h. Dust, cobwebs, and traces of insects and dirt shall be removed.

4.0 PROJECT COMPLETION

4.1 Substantial Completion

Substantial Completion is the date upon which written acceptance by the Owner has occurred stating that the construction of facilities is sufficiently completed in accordance with the Contract Documents, such that specific facilities can be utilized for the purpose for which they are intended, and the Owner thereupon takes beneficial occupancy of each facility.

4.2 Final Completion

Final Completion is the date upon which written acceptance by the Owner has occurred stating that the Construction of all remaining Work as required by the Contract Documents, has been completed in accordance with the Contract Documents. The following items as they pertain to all remaining Work of the Project are included in the requirements which shall be completed prior to Final Completion being certified:

a. Removal and disposal of all non-salvageable materials, and clean-up of the project area.
b. Correction of all work deficiencies and/or non-compliance items. The punch list for the entire Contract shall be resolved to the Owner's satisfaction prior to Final Completion.
c. Written certification by the Contractor stating that all the above items have been accomplished and a request that the Owner accept the project as having attained "Final Completion."

A. Submit following Closeout Submittals upon Substantial Completion or upon completion of the Work and at least 7 days prior to submitting Application for Final Payment:

1. Evidence of Compliance with Requirements of Governing Authorities.
2. Project Record Documents
3. Operation and Maintenance Manuals.
4. Warranties and Bonds.
6. Evidence of Payment and Release of Liens and/or Stop Payment Notices as outlined in Conditions of the Contract.
7. Release of claims as outlined in Conditions of the Contract.
8. Survey Record Documents as specified in Section 01722.
4.3 PROJECT RECORD DOCUMENTS

A. Maintain at Project site, available to the City and Construction Manager, 1 copy of the Contract Documents, shop drawings, and other submittals in good order:
   1. Mark and record field changes and detailed information contained in submittals and change orders.
   2. Record actual depths, horizontal and vertical location of underground pipes, duct banks, and other buried utilities. Reference dimensions to permanent surface features.
   3. Identify specific details of pipe connections, location of existing buried features located during excavation, and the final locations of piping, equipment, electrical conduits, manholes, and pull boxes.
   4. Identify location of spare conduits including beginning, ending, and routing through pull boxes and manholes. Record spare conductors, including number and size, within spare conduits and filled conduits.
   5. Provide schedules, lists, layout drawings, and wiring diagrams.
   6. Make annotations with erasable colored pencil conforming to the following color code:

   | Additions: | Red |
   | Deletions: | Green |
   | Comments:  | Blue |
   | Dimensions: | Graphite |

B. Maintain documents separate from those used for construction:
   1. Label documents "RECORD DOCUMENTS."

C. Keep documents current:
   1. Record required information at the time the material and equipment is installed and before permanently concealing.

D. Deliver record documents with transmittal letter containing date, Project title, Contractor's name and address, list of documents, and signature of Contractor.

E. During progress meetings, record documents will be reviewed to ascertain that changes have been recorded.

5.0 GUARANTEE

The Contractor shall guarantee that the equipment, materials and workmanship furnished under this Contract, including all work and materials provided by subcontractors or manufacturers of packaged equipment components, will be as specified and will be free from defects for a one-year guarantee period, starting from the date of Substantial Completion of the Work, unless a longer period of time is prescribed by law or required by special provisions elsewhere in the Contract Documents and except as otherwise noted herein. In addition, the equipment furnished by the Contractor shall be guaranteed to be free from defects in design. The Contractor also agrees to indemnify, defend, and hold the City harmless from liability of any kind arising from damage due to said defects. The Contractor shall execute and submit a completed Warranty Form prior to the Substantial Completion date or the final acceptance of the project or within five (5) days of the occupancy or use of a portion of the Work, whichever is applicable.
If a specific item (or items) of equipment or material cannot be utilized by the City at Substantial Completion because the Work is incomplete or defective, the guarantee for that item (or items) shall begin when the City is provided beneficial use. Beneficial use for any such items shall be provided prior to Final Completion. In the event warranty work involves repair or replacement of parts, machine work, or any other work which affects the equipment or materials installed under this Contract, the Contractor's guarantee on such items and work shall be extended for a period of one year from the date of installation of said replacement items, or the performance of said repair or replacement work.

Within the guarantee period and upon notification of the Contractor by the City, the Contractor shall promptly make all needed adjustments, repairs or replacements arising out of defects, failure or abnormalities which, in the judgment of the City, become necessary during such period. The cost of all materials, parts, labor, transportation, supervision, special tools and supplies required for correction of defects, failure or abnormalities shall be paid by the Contractor and its Surety. If, within ten (10) days, unless specified otherwise by the City, after the City gives the Contractor notice of a defect, failure, or abnormality of the Work, the Contractor neglects to make the necessary repair or adjustments, the City may make the repair or adjustments or order the Work to be done by a third party, with the cost of the Work to be paid by the Contractor and its Surety. In the event of an emergency where, in the judgment of the City, delay would cause serious loss or damage, repairs or adjustments may be made by the City, without giving notice to the Contractor, and the cost of the work shall be paid by the Contractor and its Surety.

The City and the Contractor agree that guarantee period on the parts of the work possessed and used by the City in accordance with Paragraph 00700-3.5, City's Right to Use or Occupy, shall commence on the date that the City takes possession of such work and so notifies the Contractor in writing. The City and Contractor further agree that such possession and use of the work shall not be deemed as Substantial Completion or acceptance of any other part of the Work.

Prior to the expiration of the guarantee period, the City reserves the right to hold a meeting and require the attendance of the Contractor. The purpose of the meeting is to review warranties, bonds and maintenance requirements and determine required repair or replacement of defective items.

For the purpose of this Section, acceptance of the Work or a portion of the Work by the City, shall not extinguish any covenant or agreement on the part of the Contractor to be performed or fulfilled under this Contract which has not, in fact, been performed or fulfilled at the time of such acceptance. All covenants and agreements shall continue to be binding on the Contractor until they have been fulfilled.

*** END OF SECTION ***
TECHNICAL SPECIFICATIONS
City of Stockton
Municipal Utilities Department

Delta Water Supply
Intake Pump Station Improvements
Project No. M17029

Issued for Bids - Design Submittal
June 2019

Construction Specifications

HDR Project No. 07018 - 10108678
City of Stockton

Municipal Utilities Department

Delta Water Supply
Intake Pump Station Improvements

Construction Specifications

Issued for Bids

June 2019

HDR
2365 Iron Point Road, Suite 300
Folsom, CA 95630
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SECTION 01 11 00
SUMMARY OF WORK

PART 1 - GENERAL

1.1 SUMMARY

A. The Intake pump station will be out of service or partially shut down during permit dictated periods as follows:
   1. March 15 – May 20 shut down period. This is the preferred time period to perform work on the raw water piping, and electrical systems that require a pump station shutdown.
   2. Reduced flow periods (February 15 through March 15 and May 21 through June 15). This is the next preferred time period to perform work on the raw water piping, and electrical systems. Outage requests will be considered only for short duration shutdowns (less than 24 hours).

B. It is very difficult to shut down the pump station after June 15 through the summer. Outage requests will not be approved during this period.

C. Work shall be scheduled, sequenced, and performed in a manner which minimizes disruption to the operation and maintenance of the existing facilities.

D. The Contractor is solely responsible for developing a detailed sequence of work that accomplishes the tasks shown and specified with the minimum possible interruption to the existing facilities and that complies with all limitations and restrictions specified herein.

E. All existing utilities must remain in service during modifications unless specifically noted otherwise on drawing or in specifications.

F. Temporary lighting, controls, instrumentation, alarms, security devices, ventilation, and all required safety devices shall be provided by the Contractor whenever the work, or interruption due to the work, affects the operation of existing facilities.

G. Not all valves and gates that may be used to isolate lines and facilities will completely seal. The Contractor shall allow for leakage in planning its work and may, with the Owner’s concurrence, test certain valves and gates before work involving isolation is begun. The Contractor shall provide adequate temporary pumping and piping facilities to clear the work areas as necessary of water, sewage, sludge, grit or miscellaneous items commonly found in municipal sewage.

H. The Contractor shall drain and clean all work areas, including tanks and basins, as required to perform work. Contractor shall provide all temporary pumps and piping required, and dispose of all waste materials generated. Contractor to coordinate all draining/cleaning work with Owner.

I. Construction activities that interfere with the operation of or access to the existing facilities shall be thoroughly planned in advance. All required equipment, materials, and labor shall be on hand at the time of the undertaking.

J. The Contractor shall provide appropriate staff (including subcontractors, equipment suppliers, etc.) for 2 hours following system resumption after all shutdowns to monitor and ensure the proper operation of affected systems.

K. Facility Access:
   1. Safe access to all areas of the Intake Pump Station shall be provided and maintained by the Contractor at all times for the Owner’s operations and maintenance personnel.
   2. Access for large vehicles, e.g. chemical delivery, diesel, and sludge hauling trucks shall be maintained at all times. An access plan detailing internal plant routes shall be submitted by the Contractor for approval by the Owner for each major construction stage.
   3. Maintain access to diesel storage. Contractor must make every reasonable effort to maintain a minimum level of access for generator fueling as required to maintain backup power.
L. Operation of Existing Equipment:
   1. Operational functions or shutdown of the existing facilities and/or systems required to
      facilitate Contractor’s operations will be performed by Owner’s personnel only. This
      includes operation of all electrical and instrumentation facilities, gates, valves and pumps.
   2. While work is being performed, the Contractor shall provide access to all operating
      equipment for both routine and emergency operation and maintenance by Owner’s
      personnel.

M. If in the opinion of the Construction Manager, any of the Contractor’s proposed work will
   unduly impact the Owner’s operations then the Construction Manager may require the
   Contractor to revise and resubmit its plan.

1.2 WORK COVERED BY CONTRACT

A. The Work of this Contract under the Base Bid generally includes the following:
   1. Site demolition of concrete slabs, and miscellaneous items
   2. Removal of debris
   3. Clearing and grubbing (minor)
   4. Installation of chip seal paving.
   5. New piping transition joints and valve replacements
   6. New SST door landings
   7. New grating and bollards at vaults
   8. New fencing and gate
   9. New guard rails
   10. Light-weight gravel fill and fill retention plates
   11. Electrical
   12. All other items shown or described for a complete and functional project.

1.3 DESCRIPTION

A. General:
   1. Furnish all labor, materials, tools, equipment and services as indicated in accordance with
      provisions of Contract Documents.
   2. It is the intent of the Contract Documents to describe a functionally complete project.
      Furnish and install all supplementary or miscellaneous items, appurtenances, and devices
      incidental to or necessary for a sound, secure, complete, and functional installation.
   3. All items such as piping and valves in contact with the raw water shall be certified as NSF-61 compliant.

1.4 OUTAGE PLANS AND REQUESTS

A. Contractor shall submit a detailed outage plan and time schedule for all construction activities
   which will make it necessary to remove a tank, pipeline, channel, electrical circuit, equipment,
   structure, road or other facilities from service. All outage plans shall be approved by the Owner.

B. The outage plans shall be submitted for the Owner’s review and acceptance a minimum of three
   (3) weeks in advance of the time that such outages are required. A System Outage Request
   form, included at the end of this section, shall accompany each outage plan. The outage plans
   shall be coordinated with the construction schedule and shall meet the restrictions and conditions
   of this Section. The outage plans shall describe the length of time required to complete said
   operation; any necessary temporary power, controls, instrumentation or alarms required to
   maintain control, monitoring and alarms for the treatment plant processes; and the manpower,
   plant, and equipment which the Contractor shall provide in order to ensure proper operation of
   associated equipment.

C. The Owner shall be notified in writing at least one week in advance if the schedule for
   performing any outage has changed, or if revisions to the outage plan are required. The owner
   has the option to reschedule any outages at no additional cost. Prior to the outage, the Contractor
   and Owner shall meet to review outage plan, inventory of parts, Contractor’s emergency back-up
plan, and safety program. Outage request shall be rescheduled at no cost to Owner if Owner

determines that the Contractor is unprepared to safely conduct the outage.

D. The Contractor shall provide written confirmation of the shutdown date and time two working
days prior to the actual shutdown.

E. Refer to Section 01040-4.0 for system shutdown time frame and requirements.

F. The Contractor shall observe the following outage requirements:

1. Systems or individual equipment items shall be isolated, dewatered, decommissioned,
de-energized, or depressurized in accordance with the detailed outage plan and schedule.

2. Whenever the construction work requires dewatering or bypassing portions of the facilities,
the Contractor shall provide the necessary pumping and bypassing facilities to maintain the
water flow.

3. Whenever temporary relocation of existing facilities is required for execution of the work,
the Contractor shall provide the necessary labor and temporary piping and wiring as
required.

4. Any temporary facilities and equipment not required after completion of the final work shall
be promptly removed.

5. The Contractor shall not begin an alteration until specific permission has been granted by
the Construction Manager in each case. The Construction Manager will coordinate the
Contractor's planned procedure with the operation of the system. The making of connections
to existing facilities or other operations that interfere with the operation of the existing
equipment shall be completed as quickly as possible and with as little delay as possible.

6. The Construction Manager will be the sole judge of when the Contractor's operations are
causing interference with existing facilities, and the Construction Manager’s orders and
instructions shall be carried out without delay.

1.5 CONTRACTOR-FURNISHED PRODUCTS

A. Contractor shall furnish all products.

B. Components required to be supplied in quantity within a specification section shall all be the
same and shall be interchangeable.

1.6 PERMITS AND LICENSES

A. Contractor shall obtain, at their expense, all other permits and licenses necessary for the
construction of the Work in accordance with the General Conditions Section in Division 00.

1.7 TRIMMING, CLEARING, AND VEGETATION REMOVAL

A. Contractor shall provide all required labor and equipment for trimming, clearing, and vegetation
removal.

1.8 PHASING

A. The Contractor shall be responsible for determining phasing of the existing system and insuring
that the phasing of the new system is correct.

1.9 FENCES

A. All fences affected by the Work shall be maintained by the Contractor until completion of the
Work. Fences disturbed by the construction shall be restored by the Contractor to their original
or better condition and to their original location.

PART 2 - PRODUCTS - (NOT APPLICABLE TO THIS SPECIFICATION SECTION)

PART 3 - EXECUTION - (NOT APPLICABLE TO THIS SPECIFICATION SECTION)

END OF SECTION
PART 1 - GENERAL

1.1 SUMMARY
A. Section Includes:
   1. Methods of installing and sealing openings and penetrations in construction.

1.2 QUALITY ASSURANCE
A. Referenced Standards:
   1. American Concrete Institute (ACI):
      a. 318, Building Code Requirements for Structural Concrete.
   2. ASTM International (ASTM):
      e. A351, Standard Specification for Castings, Austenitic, for Pressure-Containing Parts.
      g. A653, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
      h. A666, Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
      i. A995, Castings, Austenitic-Ferritic (Duplex) Stainless Steel, for Pressure-Containing Parts.
      a. 70, National Electrical Code (NEC):
         1) Article 501, Class I Locations.
      b. 90A, Standard for Installation of Air Conditioning and Ventilating Systems.
      c. Sheet Metal and Air Conditioning Contractors' National Association (SMACNA).

1.3 DEFINITIONS
A. Corrosive Areas: For the purpose of this specification section, the following areas are defined as corrosive:
   1. Biological Treatment basins, Dewatering Room, Influent Pumping Station, Stormwater Pumping Station.
B. Hazardous Areas: Areas shown in the Contract Documents as having Class I or Class II area classifications.
C. Washdown Areas: Areas having floor drains or hose bibs.

1.4 SUBMITTALS
A. Shop Drawings:
   1. See Specification Section 01 33 00 for requirements for the mechanics and administration of the submittal process.
   2. For each structure provide dimensioned or scaled (minimum 1/8 IN = 1 FT) plan view drawings containing the following information:
      a. Vertical and horizontal location of all required openings and penetrations.
      b. Size of all openings and penetrations.
c. Opening type.

3. Manufacturer's installation instructions for standard manufactured products.

1.5 PROJECT CONDITIONS

A. For purposes of this Project, water table level is at grade.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Pipe Sleeves and Sheet Metal Sleeves:
   1. Areas listed as Corrosive Areas in PART 1:
      a. Stainless steel, Type 316L.
   2. All other Areas:
      a. Stainless steel, type 316L.

B. Backing Rod and Sealant: See Specification Section 07 92 00.

C. Modular Mechanical Seals:
   1. Acceptable manufacturers:
      a. Link-Seal.
   2. 316 stainless steel bolts, nuts and washers.

PART 3 - EXECUTION

3.1 FABRICATION

A. Fabricate pipe sleeves in accordance with Specification Section 05 50 00.

B. Provide waterstop plate/anchor flange for piping, ducts, castings and sleeves cast-in-place in concrete.
   1. For fabricated units, weld plate to sleeve, pipe, or ductwork.
   2. For commercial castings, cast water stop/anchor with wall pipe.
   3. Plate is to be same thickness as sleeve, pipe, casting or ductwork.
   4. For fabricated units, diameter of plate or flange to be 4 IN larger than outside diameter of sleeve, pipe or ductwork.
   5. For commercial castings, waterstop/anchor size to be manufacturer standard.
   6. Provide continuous around entire circumference of sleeve, pipe, or ductwork.

C. Factory or shop-coat painted components in accordance with Specification Section 09 91 00.

3.2 INSTALLATION AND APPLICATION

A. Seal openings and penetrations in non-fire-resistance-rated construction in accordance with Specification Section 07 92 00.

B. Obtain prior approval from Engineer when any opening larger than 100 SQ IN must be made in existing or newly completed construction.

C. Perform HVAC penetrations in accordance with NFPA 90A.

D. Perform electrical penetrations in accordance with NFPA 70, Article 501.

E. Install sleeves and castings in accordance with ACI 318, Chapter #6.

F. When mechanical or electrical work cannot be installed as structure is being erected, provide and arrange for building-in of boxes, sleeves, insets, fixtures or devices necessary to permit installation later.
   1. Lay out chases, holes or other openings which must be provided in masonry, concrete or other work.
G. Where pipes, conduits or ducts pass through floors in washdown areas, install sleeves with top 3 IN above finish floors.
   1. In non-washdown areas, install sleeves with ends flush with finished surfaces.

H. Size sleeves, blockouts and cutouts which will receive sealant seal such that free area to receive sealant is minimized and seal integrity may be obtained.

I. For insulated piping and ducts, size sleeves, blockouts and cutouts large enough to accommodate full thickness of insulation.

J. Where pipes, conduits or ducts pass through grating, provide banding at the entire perimeter of the opening.
   1. Metal grating: See Specification Section 05 50 00.

K. Where pipes, conduits or ducts are removed where passing through grating:
   1. Metal grating:
      a. Provide banding at perimeter and cover opening with 1/4 IN plate of the same material of the grating.
      b. See Specification Section 05 50 00.

L. Do not cut into or core drill any beams, joists, or columns.

M. Do not install sleeves in beams, joists, or columns.

N. Do not install recesses in beams, joists, columns, or slabs.

O. Field Cutting and Coring:
   1. Saw or core drill with non-impact type equipment.
   2. Mark opening and drill small 3/4 IN or less holes through structure following opening outline.
   3. Sawcut opening outline on both surfaces.
      a. Knock out within sawcuts using impact type equipment.
      b. Do not chip or spall face of surface to remain intact.
      c. Do not allow any overcut with saw kerf.

P. Precast-Prestressed Concrete Construction:
   1. Do not cut openings or core drill vertically or horizontally through stems of members.
   2. Do not locate or install sleeves or recess sleeves vertically or horizontally through or in stems of members.
   3. Cast openings and sleeves into flanges of units.
   4. Cast openings larger than 6 IN in diameter or 6 IN maximum dimension in units at time of manufacture.
   5. Cast openings smaller than 6 IN in diameter or 6 IN maximum dimensions in flanges of units at time of manufacture or field cut.

Q. Where alterations are necessary or where new and old work join, restore adjacent surfaces to their condition existing prior to start of work.

R. Where area is blocked out to receive sheet metal sleeve at later date:
   1. If blockout size is sufficient to allow placement, utilize dowels for interface of initially placed concrete and sleeve encasement concrete which is placed later.
      a. Size blockout based on sleeve size required plus 4 to 6 IN each side of sleeve for concrete encasement.
      b. Provide #4 dowels at 12 IN spacing along each side of blockout with minimum of two (2) dowels required per side.
   2. If blockout size is not sufficient to allow placement of dowels, provide keyway along all sides of blockout.
      a. Size blockout based on sleeve size required plus 2 to 4 IN each side of sleeve for concrete encasement.
S. For interior wall applications where backer rod and sealant are specified, provide backer rod and sealant at each side of wall.

T. Use full depth expanding foam sealant for seal applications where single or multiple pipes, conduits, etc., pass through a single sleeve.

U. Do not make duct or conduit penetrations below high water levels when entering or leaving tankage, wet wells, or other water holding structures.

V. Modular Mechanical Seals:
   1. Utilize one (1) seal for concrete thickness less than 8 IN and two (2) seals for concrete, 8 IN thick or greater.
   2. Utilize two (2) seals for piping 16 IN diameter and larger if concrete thickness permits.
   3. Install seals such that bolt heads are located on the most accessible side of the penetration.

W. Backer Rod and Sealant:
   1. Install in accordance with Specification Section 07 92 00.
   2. Provide backer rod and sealant for modular mechanical seal applications.
      a. Apply on top side of slab penetrations and on interior, dry side wall penetrations.

3.3 SCHEDULES

A. General Schedule of Penetrations through Floors, Roofs, Foundation Base Slabs, Foundation Walls, Foundation Footings, Partitions and Walls for Ductwork, Piping, and Conduit:
   1. Provide the following opening and penetration types:
      a. Type A - Block out 2 IN larger than outside dimensions of duct, pipe, or conduits.
      b. Type B - Saw cut or line-drill opening. Place new concrete with integrally cast sheet metal or pipe sleeve.
      c. Type C - Fabricated sheet metal sleeve or pipe sleeve cast-in-place. Provide pipe sleeve with water ring for wet and/or washdown areas.
      d. Type D - Commercial type casting or fabrication.
      e. Type E - Saw cut or line-drill opening. Place new concrete with integrally cast pipe, duct or conduit spools.
      f. Type F - Integrally cast pipe, duct or conduit.
      g. Type G - Saw cut or line-drill and remove area 1 IN larger than outside dimensions of duct, pipe or conduit.
      h. Type H - Core drill.
      i. Type I - Block out area. At later date, place new concrete with integrally cast sheet metal or pipe sleeve.
      j. Type J - Grating Banding for any field cut openings
   2. Provide seals of material and method described as follows.
      a. Category 1 - Modular Mechanical Seal.
      b. Category 2 - Roof curb and flashing according to SMACNA specifications unless otherwise noted on Drawings. Refer to Specification Section 07 62 00 and roofing Specification Sections for additional requirements.
      c. Category 3 - 12 GA sheet metal drip sleeve set in bed of silicon sealant with backing rod and sealant used in sleeve annulus.
      d. Category 4 - Backer rod and sealant.
      e. Category 5 - Full depth compressible sealant with escutcheons on both sides of opening.
      f. Category 6 - Full depth compressible sealant and flanges on both sides of opening. Flanges constructed of same material as duct, fastened to duct and minimum 1/2 IN larger than opening.
      g. Category 7 - Full depth compressible sealant and finish sealant or full depth expanding foam sealant depending on application.
      h. Category 8- Banding for all grating openings and banding and cover plate of similar materials for abandoned openings.
3. Furnish openings and sealing materials through new floors, roofs, grating, partitions and walls in accordance with Schedule A, Openings and Penetrations for New Construction.
4. Furnish openings and sealing materials through existing floors, roofs, partitions and walls in accordance with Schedule B, Openings and Penetrations for Existing Construction.

**SCHEDULE A. OPENINGS AND PENETRATIONS SCHEDULE FOR NEW CONSTRUCTION**

<table>
<thead>
<tr>
<th>APPLICATIONS</th>
<th>DUCTS</th>
<th>PIPING</th>
<th>CONDUIT</th>
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</thead>
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<tr>
<td></td>
<td>OPENING TYPE</td>
<td>SEAL CATEGORY</td>
<td>OPENING TYPE</td>
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<td>Through floors on grade above water table</td>
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<td>4</td>
<td>C</td>
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<td></td>
<td>F</td>
<td>Not Req</td>
<td>F</td>
</tr>
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<td>I (1)</td>
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<td>Through slab on grade below water table</td>
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<td>Not Req</td>
<td>F</td>
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<tr>
<td>Through floors in washdown areas</td>
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<tr>
<td></td>
<td>I</td>
<td>4</td>
<td>H (2)</td>
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<tr>
<td>Through walls where one side is a hazardous area</td>
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<td>7</td>
<td>D</td>
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<td>F</td>
<td>Not Req</td>
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<td>I</td>
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<td>I (1)</td>
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<td>Through exterior wall below grade above water table</td>
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<td>Not Req</td>
<td>D</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>7</td>
<td>F</td>
</tr>
<tr>
<td>Through exterior wall above grade</td>
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<td>A</td>
</tr>
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<td>6</td>
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</tr>
<tr>
<td></td>
<td>C</td>
<td>6</td>
<td>D</td>
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<td>Roof penetrations</td>
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<td>Through interior walls and slabs not covered by the above applications</td>
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<td>4</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>4</td>
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<td>Grating openings and penetrations</td>
<td>J</td>
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### SCHEDULE B. OPENINGS AND PENETRATIONS SCHEDULE FOR EXISTING CONSTRUCTION

<table>
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<th>PIPE</th>
<th>CONDUIT</th>
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<td></td>
<td>OPENING TYPE</td>
<td>SEAL CATEGORY</td>
<td>OPENING TYPE</td>
</tr>
<tr>
<td>Through exterior wall below grade above water table</td>
<td>B</td>
<td>7</td>
<td>B</td>
</tr>
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<td></td>
<td></td>
<td>B</td>
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<td>B</td>
</tr>
</tbody>
</table>

(1) Multiple piping 3 IN and smaller or multiple conduits.
(2) Single pipe 3 IN and smaller or single conduit.
(3) Single pipe or conduit larger than 3 IN.

**END OF SECTION**
PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Demolition, cutting and patching of existing construction where shown on Drawings, or as required to accommodate new work shown or specified.

1.2 SUBMITTALS

A. Shop Drawings:
   1. See Submittals Section for requirements for the mechanics and administration of the submittal process.
   2. Indicating manufacturer and type of:
      a. Proposed nonshrink grout.
      b. Epoxy bonding adhesive.
      c. Proposed materials and methods to be used for matching and repairing existing construction.

1.3 DELIVERY, STORAGE, AND HANDLING

A. General:
   1. Salvage items, designated for Owner's salvage, as a functional unit.
   2. Clean, list and tag for storage.
   3. Protect from damage and deliver to location designated.
   4. Salvage each item with auxiliary or associated equipment required for operation.

1.4 PROJECT CONDITIONS

A. Perform preliminary investigations as required to ascertain extent of work.

1.5 SEQUENCING AND SCHEDULING

A. Coordinate and reschedule work as required to preclude interference with other operations.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Subject to compliance with the Contract Documents, the following products and manufacturers are acceptable:
   1. Nonshrink grout:
      a. Supreme Grout by Gifford Hill.
      b. Masterflow 713 Plus by BASF Building Systems.
      c. Sika Grout 212 by Sika.
   2. Epoxy bonding adhesive:
      a. Euco No.452 MV by Euclid Chemical Co.
      b. Sikadur 32, Hi-Mod by Sika Corporation.

2.2 MATERIALS

A. Temporary Partitions:
   1. Plywood: 1/2 IN minimum for interior or exterior use.
2. Paneling: 1/4 IN minimum for interior use.

B. Nonshrink Grout:
   1. Nonmetallic, noncorrosive and nonstaining.
   2. Premixed with only water to be added in accordance with manufacturer's instructions at jobsite.
   3. Grout to produce a positive but controlled expansion. Mass expansion not to be created by gas liberation or by other means.
   4. Minimum compressive strength at 28 days to be 6500 psi.
   5. Coat exposed edges of grout with a cure/seal compound recommended by grout manufacturer.

C. Epoxy Bonding Adhesive:
   1. Two component, moisture insensitive adhesive manufactured for the purpose of bonding fresh concrete to hardened concrete.

PART 3 - EXECUTION

3.1 PREPARATION

A. Provide temporary partitions as required in public areas.
   1. Construct partitions of braced plywood in exterior areas.
   2. Adequately braced paneling may be used in interior areas.

B. Provide covered passageways where necessary to ensure safe passage of persons in or near areas of work.

C. Provide substantial barricades and safety lights as required.

D. Provide temporary dustproof partitions where indicated or necessary.
   1. Prevent infiltration of dust into occupied areas.

E. Provide temporary weather protection as necessary.

3.2 INSTALLATION

A. Cutting and Removal:
   1. Remove existing work indicated to be removed, or as necessary for installation of new work.
   2. Neatly cut and remove materials, and prepare all openings to receive new work.
   3. Remove masonry or concrete in small sections.

B. Modification of Existing Concrete:
   1. Where indicated, remove existing concrete and finish remaining surfaces as specified in Section 03 31 30.
      a. Protect remaining concrete from damage.
      b. Make openings by sawing through the existing concrete.
      c. Concrete may be broken out after initial saw cuts in the event concrete thickness prevents cutting through.
      d. Where sawing is not possible, make openings by drilling holes around perimeter of opening and then chipping out the concrete.
      1) Holes shall be sufficient in number to prevent damage to remaining concrete.
   2. Oversize required openings in existing concrete 1 IN on all sides and build back to required opening size by means of nonshrink grout epoxy bonded to the existing concrete.
   3. Where oversized openings cannot be made, remove the concrete to the required opening size and cut back exposed reinforcing 1 IN from face of concrete and fill resulting holes with nonshrink grout.
C. Removal of Existing Anchor Bolts or Other Protruding Elements:
   1. Removal within a distance of 8 FT above finished floor or operating level elevation.
   2. Removed to a depth of 1/2 IN from finished surface.
   3. Fill void with non-shrink grout.

D. Matching and Patching:
   1. Walls, ceilings, floors or partitions:
      a. Repair abutting walls, ceilings, floors or partitions disturbed by removal.
      b. Match and patch existing construction disturbed during installation of new work.
   2. Methods and materials:
      a. Similar in appearance, and equal in quality to adjacent areas for areas or surfaces being repaired.
      b. Subject to review of Engineer.

E. Salvaged Items:
   1. Thoroughly dry and clean all metal surfaces.
   2. Prime all bare metal in accordance with Section 09 91 00.
   3. Clean and lubricate motors and other moving parts.
   4. Brace motors attached to flexible mountings until reinstallation.
   5. Dispose of items or materials not designated for Owner's salvage or reuse. Promptly remove from site.
   6. Do not store or sell Contractor salvaged items or materials on site.

F. Clean Up:
   1. Transport debris and legally dispose of off-site.

END OF SECTION
SECTION 03 15 19
ANCHORAGE TO CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Requirements for all cast-in-place anchor bolts, anchor rods, reinforcing adhesive anchorage, and post-installed concrete anchors required for the Project but not specified elsewhere in the Contract Documents.
   2. Design of all concrete anchors not indicated on the Drawings including, but not limited to, installation of anchors into concrete for the following structural and nonstructural components:
      a. Structural members and accessories.
      b. Metal, wood, and plastic fabrications.
      c. Mechanical and electrical equipment and components.
      d. All other components requiring attachment to concrete.

1.2 QUALITY ASSURANCE

A. Referenced Standards:
   1. American Concrete Institute (ACI):
      a. 318, Building Code Requirements for Structural Concrete and Commentary.
      b. 350, Code Requirements for Environmental Engineering Concrete Structures and Commentary.
   2. American Concrete Institute/Concrete Reinforcing Steel Institute (ACI-CRSI):
   3. American Institute of Steel Construction (AISC):
   4. ASTM International (ASTM):
      e. A307, Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.
      f. A496, Standard Specification for Steel Wire, Deformed, for Concrete Reinforcement.
      l. F1554, Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength.
   5. ICC Evaluation Service (ICC-ES):
      a. AC193, Acceptance Criteria for Mechanical Anchors in Concrete Elements.
      b. AC308, Acceptance Criteria for Post-Installed Adhesive Anchors in Concrete Elements.
   6. Building code:
      a. International Code Council (ICC):

B. Qualifications:
1. Anchor designer for Contractor-designed post-installed anchors and cast in place anchorage shall be a professional structural/civil engineer licensed in the State of California.
2. Installer for post-installed anchors shall be trained by the manufacturer or certified by a training program approved by the Engineer.

C. Post-installed anchors and related materials shall be listed by the following agencies:
1. ICC-ES.

1.3 DEFINITIONS
A. Adhesive Anchors:
1. Post-installed anchors developing their strength primarily from chemical bond between the concrete and the anchor.
2. Includes anchors using acrylics, epoxy and other similar adhesives.
B. Anchor Bolt: Any cast-in-place anchorage that is made of a headed (i.e. bolt) material.
C. Anchor Rod: Any cast-in-place or post-installed anchorage made from unheaded, threaded, rod or deformed bar material.
D. Concrete Anchor: Generic term for either an anchor bolt or an anchor rod.
E. Hardware: As defined in ASTM A153.
F. Installer or Applicator:
1. Installer or applicator is the person actually installing or applying the product in the field at the Project site.
2. Installer and applicator are synonymous.
G. MPII: Manufacturer’s printed installation instructions.
H. Mechanical Anchors:
1. Post-installed anchors developing their strength from attachment other than thru adhesives or chemical bond to concrete.
2. Includes expansion anchors, expansion sleeve, screw anchors, undercut anchors, specialty inserts and other similar types of anchorages.
3. Drop-in anchors and other similar anchors are not allowed.
I. Post-Installed Anchor: Any adhesive or mechanical anchor installed into previously placed and adequately cured concrete.

1.4 SUBMITTALS
A. Shop Drawings:
1. See Specification Section 01 33 00 for requirements for the mechanics and administration of the submittal process.
2. Product technical data including:
   a. Acknowledgement that submitted products meet requirements of referenced standards.
   b. Manufacturer material data sheet for each anchor.
      1) Clearly indicate which products on the data sheet are proposed for use on the Project.
   c. Manufacturer's printed installation instructions.
   d. Current ICC-ES report for each post-installed anchor system indicating the following:
      1) Certification that anchors meet all requirements indicated in this Specification.
      2) Performance data showing that anchor is approved for use in cracked concrete.
      3) Seismic design categories for which anchor system has been approved.
      4) Required installation procedures.
5) Special inspection requirements for installation.
  e. Anchorage layout drawings and details:
     1) Indicate anchor diameter, embedment, length, anchor type, material and finish.
     2) Drawings showing location, configuration, spacing and edge distance.
  f. Contractor Designed Post-Installed Anchors:
     1) Show diameter and embedment depth of each anchor.
     2) Indicate compliance with ACI 350 Appendix D.
     3) Design tension and shear loads used for anchor design.
     4) Engineering design calculations:
        a) Indicate design load to each anchor.
        b) When the design load is not indicated on Drawings, include calculations to develop anchor forces based on Design Criteria listed herein.
        c) Sealed and signed by contractor’s professional structural/civil engineer.
        d) Calculations will be submitted for information purposes only.
     5) Type of post-installed anchor system used.
        a) Provide manufacturer's ICC-ES report for the following:
           (1) Mechanical anchorage per ICC-ES AC193.
           (2) Adhesive anchorage per ICC-ES AC308.

B. Samples:
   1. Representative samples of concrete anchors may be requested by Engineer. Review will be for type and finish only. Compliance with all other requirements is exclusively the responsibility of the Contractor.

C. Informational Submittals:
   1. See Specification Section 01 33 00 for requirements for the mechanics and administration of the submittal process.
   2. Certification of qualifications for each installer of post-installed anchors.
      a) Indicate successful completion or certification for each type of approved post-installed anchor as required by the Contract Documents.
      b) Provide one of the following for each type of anchor, as required by this specification section:
         1) Letter from manufacturer documenting successful training completion.
         2) Certification of completion for Engineer approved program.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to job site in manufacturer’s or distributor’s packaging undamaged and complete with installation instructions.

B. Store above ground on skids or other supports to keep items free of dirt and other foreign debris and to protect against corrosion.

C. Protect and handle materials in accordance with manufacturer’s recommendations to prevent damage or deterioration.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cast-in-place Concrete Anchors:
   1. All cast-in-place concrete anchors:
      a) Stainless steel with matching nut and washer.
      b) Submerged application: ASTM F593, Type 316.
      c) Non-submerged application: ASTM F593, Type 304 or Type 316.

B. Post-Installed Mechanical and Adhesive Concrete Anchors:
   1. Stainless steel with matching nut and washer.
   2. Submerged application: ASTM F593, Type 316.
3. Non-submerged application: ASTM F593, Type 304 or Type 316.

C. Reinforcement: See Section 03 09 00.

D. Headed Studs: ASTM A108 with a minimum yield strength of 50,000 psi and a minimum tensile strength of 60,000 psi.

E. Deformed Bar Anchors: ASTM A496 with minimum yield strength of 70,000 psi and a minimum tensile strength of 80,000 psi.

F. Washers:
   1. If stainless steel anchorage is being used for cast-in-place anchorage, furnish washers of the same material and alloy as in the accompanying anchorage.
   2. Plate washers: Minimum 1/2 IN thick fabricated ASTM A36 square plates as required.
   3. Follow manufacturer’s requirements for all post-installed anchorage.

G. Nuts:
   1. If stainless steel anchorage is being used for cast-in-place anchorage, nuts shall meet ASTM F594 and be the matching material and alloy as in the accompanying anchorage.
   2. Follow manufacturer’s requirements if using post-installed anchorage.

H. Dissimilar Materials Protection: See Specification Section 09 91 00.

2.2 CONTRACTOR DESIGNED ANCHORAGE

A. Acceptable Manufacturers:
   1. Post-installed anchor systems for the listed manufacturers will be considered only if a current ICC-ES evaluation report is submitted in accordance with the SUBMITTALS Article in PART 1 of this Specification Section and if the anchor system is approved by the Engineer.
      a. Hilti.
      b. Powers Fasteners.
      c. Simpson Strong-Tie.
   2. Submit request for substitution in accordance with Specification Section 01 25 13.

B. Contractor shall design the anchorage when any of the following occur:
   1. Design load for concrete anchorage is shown on the Drawings.
   2. When specifically required by the Contract Documents.
   3. When an anchorage is required but not specified in the Drawings.
   4. When anchorage is shown on Drawings other than Structural Drawings.

C. Anchorage Design Loads:
   1. Determine all of the design loads, including wind and seismic loads, per the Building Code.
      a. Anchorage of equipment and non-structural components: Use the actual dead and operating loads provided by the manufacturer.

D. When Contract Drawings, other than the Structural Drawings, indicate an anchor diameter or length, the Contractor design shall incorporate these as “minimums.”

E. Cast-in-Place Concrete Anchors:
   1. Provide the material, nominal diameter, embedment length, spacing, edge distance and design capacity to resist the calculated load based on the requirements given in the Building Code ACI 350, Appendix D.
   2. Design assuming cracked concrete.

F. Post-installed Concrete Anchors:
   1. Provide the manufacturer’s system name/type, nominal diameter, embedment depth, spacing, minimum edge distance, cover, and design capacity to resist the specified or calculated load based on requirements given in the Building Code, ACI 350, Appendix D and current ICC-ES report, for the anchor to be used.
2.3 ENGINEER DESIGNED ANCHORAGE

A. When the size, length and details of anchorages are shown on Contract Structural Drawings, Contractor design of anchorage is not required unless otherwise indicated.

B. Acceptable Manufacturers:
   1. Additional newer post-installed anchor systems for the listed manufacturers will be considered only if a current evaluation agency report is submitted in accordance with the SUBMITTALS Article in PART 1 of this Specification Section, the anchor system is certified by ICC-ES for cracked concrete conditions, and if approved by the Engineer.
   2. Mechanical Anchors:
      a. Hilti:
         1) Kwik Bolt 3 (ICC-ES ESR-2302).
   3. Adhesive Concrete Anchors:
      a. Hilti:
         1) HIT RE 500-SD (ICC-ES ESR-2322).
         2) HIT RE 500 V3 (ICC ESR-3814).
   4. Screw Concrete Anchors:
   5. Submit request for substitution in accordance with Specification Section 01 25 13.
      a. Substitution request to indicate the proposed anchor has the at least the same tension and shear strength as the specified anchor installed as indicated in the Contract Drawings.
      b. Calculations to be stamped by a Professional Engineer registered in the state that the Project is located in.

PART 3 - EXECUTION

3.1 GENERAL

A. Cast-in-Place Anchorage:
   1. Use where anchor rods or bolts are indicated on the Drawings, unless another anchor type is approved by the Engineer.
   2. Provide concrete anchorage as shown on the Drawings or as required to secure components to concrete.

B. Adhesive Anchorage:
   1. Use only where specifically indicated on the Drawings or when approved for use by the Engineer.
   2. May be used where subjected to vibration or where buried or submerged.
   3. Do not use in overhead applications or sustained tension loading conditions such as utility hangers.
   4. Contact Engineer for clarification when anchors will not be installed in compliance with manufacturer's printed installation requirements.

C. Mechanical Anchorage:
   1. Use only where specifically indicated on the Drawings or when approved for use by the Engineer.
   2. Do not use where subjected to vibration.
   3. May be used in overhead applications.
   4. Contact Engineer for clarification when anchors will not be installed in compliance with manufacturer's printed installation requirements.

D. Do not use powder actuated fasteners and other types of bolts and fasteners not specified herein for structural applications unless approved by the Engineer or specified in Contract Documents.
3.2 PREPARATION

A. Provide adequate time to allow for proper installation and inspection prior to placing concrete for cast-in-place concrete anchorage.

B. Prior to installation, inspect and verify areas and conditions under which concrete anchorage is to be installed.
   1. Notify Engineer of conditions detrimental to proper and timely completion of work.
   2. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to the Engineer.

C. Special Inspection is required in accordance with the Building Code for all concrete anchorage.
   1. Notify the Special Inspector that an inspection is required prior to concrete placement (or during post-installed anchorage installation).
   2. See the FIELD QUALITY CONTROL Article in PART 3 of this Specification Section for additional requirements.

D. Post-installed anchor manufacturer’s representative shall demonstrate and observe the proper installation procedures for the post-installed anchors at no additional expense to the Owner.
   1. Follow such procedures to assure acceptable installation.

3.3 INSTALLATION

A. Tie cast-in-place anchorage in position to embedded reinforcing steel using wire.
   1. Tack welding of anchorage is prohibited.
   2. Coat the projected portion of carbon steel anchors and nut threads with a heavy coat of clean grease after concrete has cured.
   3. Anchorage location tolerance shall be in accordance with AISC 303.
   4. Provide steel or durable wood templates for all column and equipment anchorage.
      a. Templates to be placed above top of concrete and not impede proper concrete placement and consolidation.

B. Unless noted or specified otherwise:
   1. Connect aluminum and steel members to concrete and masonry using stainless steel cast-in-place anchorage unless shown otherwise.
      a. Provide dissimilar materials protection per Specification Section 09 91 00.
   2. Provide washers for all anchorage.
   3. Where exposed, extend threaded anchorage a maximum of 3/4 IN and a minimum of 1/2 IN above the top of the fully engaged nut.
      a. If anchorage is cut off to the required maximum height, threads must be dressed to allow nuts to be removed without damage to the nuts.

C. Do the following after nuts are snug-tightened down:
   1. If using post-installed anchorage, follow MPII.
   2. Upset threads of anchorage to prevent nuts from backing off.
      a. Provide double nut or lock nut in lieu of upset threads for items that may require removal in the future.
   3. For all other cast-in-place anchorage material, tighten nuts down an additional 1/8 turn to prevent nuts from backing off.
   4. If two (2) nuts are used per concrete anchor above the base plate, tighten the top nut an additional 1/8 turn to "lock" the two (2) nuts together.
   5. If using post-installed anchorage, follow manufacturer’s installation procedures.

D. Assure that embedded items are protected from damage and are not filled in with concrete.

E. Secure architectural components such that it will not be aesthetically distorted nor fasteners overstressed from expansion, contraction or installation.

F. Coat aluminum surfaces in contact with dissimilar materials in accordance with Specification Section 09 91 00.
G. Repair damaged galvanized surfaces in accordance with ASTM A780.
   1. Prepare damaged surfaces by abrasive blasting or power sanding.
   2. Apply galvanizing repair paint to minimum 6 mils DFT in accordance with manufacturer's instructions and ASTM A780.

H. For post-installed anchors, comply with the MPII on the hole diameter and depth required to fully develop the tensile strength of the anchor or reinforcing bar.
   1. Use hammer drills to create holes.
   2. Properly clean out the hole per the ICC-ES reports utilizing a non-metallic fiber bristle brush and compressed air or as otherwise required to remove all loose material from the hole prior to installing the anchor in the presence of the Special Inspector.

3.4 CLEANING

   A. After concrete has been placed, remove protection and clean all anchorage of all concrete, dirt, and other foreign matter.

   B. Provide surface acceptable to receive field applied paint coatings when specified in Specification Section 09 91 00.

END OF SECTION
PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Concrete materials, strengths and proportioning for concrete work.
   2. Grouting:
      a. Base plates for columns and equipment.
      b. Dowels and anchors into concrete.
      c. Patching cavities in concrete.
      d. As specified and indicated in the Contract Document.

1.2 QUALITY ASSURANCE

A. Referenced Standards:
   1. American Concrete Institute (ACI):
      a. 116R, Cement and Concrete Terminology.
      b. 211.1, Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass
         Concrete.
      c. 212.3R, Chemical Admixtures for Concrete.
      d. 318, Building Code Requirements for Structural Concrete.
      e. 350, Code Requirements for Environmental Engineering Concrete Structures.
   2. ASTM International (ASTM):
      b. C39, Standard Test Method for Compressive Strength of Cylindrical Concrete
         Specimens.
      e. C157, Standard Test Method for Length Change of Hardened Hydraulic-Cement,
         Mortar, and Concrete.
      f. C192, Standard Practice for Making and Curing Concrete Test Specimens in the
         Laboratory.
      i. C495 Standard Test Method for Compressive Strength of Lightweight Insulating
         Concrete.
      j. C618, Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan
         for Use in Concrete.
      k. C796 Standard Test Method for Foaming Agents for Use in Producing Cellular
         Concrete Using Preformed Foam.
      l. C869 Standard Specification for Foaming Agents Used in Making Preformed Foam for
         Cellular Concrete.
   3. Corps of Engineers (COE):
      a. CRD-C621, Standard Specification for Packaged, Dry, Hydraulic-Cement Grout
         (NonShrink).

1.3 DEFINITIONS

A. Words and terms used in these Specifications are defined in ACI 116R.

1.4 SUBMITTALS

A. Shop Drawings:
1. See Specification Section 01 33 00 for requirements for the mechanics and administration of the submittal process.

2. Product technical data including:
   a. Acknowledgement that products submitted meet requirements of standards referenced.
   b. Manufacturer's instructions.
   c. Concrete mix designs as required by Specification Section 03 05 05.
   d. Manufacturer and type of proposed admixtures.
   e. Manufacturer and type of proposed non-shrink grout and grout cure/seal compound.

3. Certifications:
   a. Certification of standard deviation value in psi for ready mix plant supplying the concrete.
   b. Certification that the fly ash meets the quality requirements stated in this Section, and fly ash supplier's certified test reports for each shipment of fly ash delivered to concrete supplier.
   c. Certification that the class of coarse aggregate meets the requirements of ASTM C33 for type and location of concrete construction.
   d. Certification of aggregate gradation.

4. Test reports: Cement mill reports for all cement to be supplied.

1.5 DELIVERY, STORAGE AND HANDLING

A. Storage of Materials:
   1. Store cement and pozzolan in weathertight buildings, bins, or silos which will exclude moisture and contaminants.
   2. Arrange aggregate stockpiles and use in a manner to avoid excessive segregation and to prevent contamination with other materials or with other sizes of like aggregates.
   3. Allow natural sand to drain until it has reached a relatively uniform moisture content before use.
   4. Store admixtures in such a manner as to avoid contamination, evaporation, or damage.
      a. For those used in form of suspensions or non-stable solutions, provide agitating equipment to assure thorough distribution of ingredients.
      b. Protect liquid admixtures from freezing and temperature changes which would adversely affect their characteristics and performance.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Subject to compliance with the Contract Documents, the manufacturers are acceptable:
   1. Non-shrink grout:
      a. BASF Admixtures, Inc.
      b. Euclid Chemical Company.
      c. U.S. Grout.
      d. Upco.
      e. Set Products, Inc.
      f. L & M Construction Chemicals, Inc.
      g. Sika Corporation.
   2. Epoxy grout:
      a. Ceilocote.
      b. Exxon Chemical Company.
      c. Sika Corporation.
      d. U.S. Grout.
      e. Euclid Chemical Company.
   3. Low Density Cellular Concrete Fill (LDCCF).
      a. Cellular Concrete Solutions.
      b. Geofill Cellular Concrete.
      c. Elastizell.
B. Submit request for substitution in accordance with Specification Section 01 25 13.

2.2 MATERIALS

A. Cement:
1. ASTM C150, Type II.
2. Cement type used shall correspond to that upon which selection of concrete proportions was based in the mix design.

B. Fly Ash:
1. ASTM C618, Class F or Class C.
2. Non-staining.
3. Suited to provide hardened concrete of uniform light gray color.
4. Maximum loss on ignition: 4 percent.
5. Compatible with other concrete ingredients and having no deleterious effects on the hardened concrete.
6. Produced by source approved by the State Highway Department in the state where the Project is located for use in concrete for bridges.
7. Cement and fly ash type used shall correspond to that upon which selection of concrete proportions was based in the mix design.

C. Admixtures:
2. Water reducing, retarding, and accelerating: Conform to ASTM C494, Types A through E, and provisions of ACI 212.3R.
3. High range water reducers (superplasticizers): Conform to ASTM C494, Types F or G.
4. Admixtures to be chloride free.
   a. Do not use calcium chloride.
5. Provide admixtures of same type, manufacturer and quantity as used in establishing required concrete proportions in the mix design.

D. Water:
1. Potable.
2. Clean and free from deleterious substances.

E. Aggregates for Normal Weight Concrete:
1. ASTM C33.
2. Fine and coarse aggregates to be regarded as separate ingredients.
3. Fine aggregates to be natural, not manufactured.
4. Coarse aggregate sieve analysis:
   a. For lean concrete, concrete topping, and integral wearing course: ASTM C33, size number 7 (maximum 1/2 IN).
   b. For all other concrete: ASTM C33, size number 57 (maximum 1 IN).
5. Provide aggregates approved for bridge construction by the State Highway Department in the State where the Project is located.
6. Pozzolan or other additives shall not be used to compensate for alkali reactivity of aggregates.

F. Maximum total chloride ion content for concrete mix including all ingredients measured as a weight percent of cement:
1. Prestressed concrete: 0.06.
2. All other concrete: 0.10.

G. Sand Cement Grout:
1. Approximately three (3) parts sand, one (1) part Portland cement, 6 +1 PCT entrained air and water to produce a slump which allows grout to completely fill required areas and surround adjacent reinforcing.
   a. Provide sand in accordance with requirements for fine aggregate for concrete.

H. Non-shrink Grout:
1. Non-shrink, nonmetallic, noncorrosive, and nonstaining.
2. Premixed with only water to be added in accordance with manufacturer's instructions at jobsite.
3. Grout to produce a positive but controlled expansion.
   a. Mass expansion shall not be created by gas liberation or by other means.
5. Acceptable manufacturers:
   a. BASF Admixtures, Inc. "Masterflow, 713 IN.
   b. Euclid Chemical "NS Grout".
   c. Sauereisen, Inc. "F-100 Level Fill Grout".
   d. U.S. Grout “Five Star Grout”.
   e. Set Products, Inc. "Set Non-Shrink Grout".
   f. The Upco Corp "Upcon".
   g. L&M "Crystex".
   h. Sika Corporation "Sika Grout 212 IN.
6. In accordance with COE CRD-C621.

I. Epoxy Grout:
1. Three-component epoxy resin system:
   a. Two (2) liquid epoxy components.
   b. One (1) inert aggregate filler component.
2. Adhesive:
   a. BASF “Masterflow 648 CP”.
   b. Exxon Chemical Company "Escoweld 2505."
   c. Sika "Sikadur Hi-Mod."
   d. U.S. Grout “Five Start Epoxy Grout”.
   e. Euclid Chemical "E3-G."
   f. Or equal.
3. Aggregate:
   a. BASF “Masterflow 648 CP”.
   b. Exxon Chemical Company "Escoweld 2510."
   c. Sika aggregate.
   d. U. S. Grout aggregate.
   e. Euclid Chemical "Euclid aggregate."
   f. Or equal.
4. Aggregate manufacturer shall be the same as the adhesive manufacturer.
5. The aggregate shall be compatible with the adhesive.

J. LDCCF:
1. For use adjacent to Junction Box as indicated in the Contract Drawings.
2. Base product:
   a. Mearl Geofoam, Impervious type.
   b. Or approved equal.
3. Portland cement: Comply with ASTM C150, Type I, II, or III.
4. Expansion material:
   a. Maximum cast Density: 30 PCF.
   b. Minimum compressive strength: 60 PSI.
   c. Minimum coefficient of permeability: 1.0E-6 cm/sec.

2.3 MIXES

A. General:
1. Provide concrete capable of being placed without aggregate segregation and, when cured, of developing all properties specified.
2. Ready-mixed concrete shall conform to ASTM C94/C94M.
3. All concrete to be normal weight concrete, weighing approximately 145 to 150 LBS per cubic foot at 28 days after placement.

B. Minimum 28 Day Compressive Strengths:

<table>
<thead>
<tr>
<th>Normal weight concrete fill</th>
<th>3000 psi</th>
</tr>
</thead>
</table>

C. Slump:
1. 4 IN maximum, 1 IN minimum measured at the point of discharge into the concrete member.
2. Concrete of lower than minimum slump may be used provided it can be properly placed and consolidated.
3. Provide additional water or water reducing admixture at ready mix plant for concrete that is to be pumped to allow for slump loss due to pumping.
   a. Provide only enough additional water so that slump of concrete at discharge end of pump hose does not exceed maximum slump specified and the maximum specified water-cement ration is not exceeded.

D. Proportioning:
1. General:
   a. Proportion ingredients to produce a mixture which will work readily into corners and angles of forms and around reinforcement by methods of placement and consolidation employed without permitting materials to segregate or excessive free water to collect on surface.
   b. Proportion ingredients to produce proper placability, durability, strength and other required properties.
2. Normal weight concrete minimum cement contents and maximum water cement ratios:

<table>
<thead>
<tr>
<th>SPECIFIED STRENGTH (PSI)</th>
<th>MINIMUM CEMENT (LBS/CY)</th>
<th>MAXIMUM WATER CEMENT RATIO BY WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>3000</td>
<td>517*</td>
<td>0.45</td>
</tr>
</tbody>
</table>

* If fly ash is proposed for use, the weight of fly ash plus weight of portland cement shall equal these values.

3. Fly ash:
   a. For cast-in-place concrete only, a maximum of 25 percent by weight of Portland cement content per cubic yard may be replaced with fly ash at a rate of 1 LB fly ash for 1 LB cement.
   b. If fly ash is used, the water to fly ash plus cement ratio not to exceed the maximum water cement ratio specified in this Specification Section.
   c. Concrete containing fly ash shall not be used in the construction of the precast concrete units specified in Specification [Section 03 41 33] [Section 03 42 00].

4. Water reducing, retarding, and accelerating admixtures:
   a. Use in accordance with manufacturer's instructions.
   b. Do not use unless required by these Specifications or approved for use by Engineer.

5. High range water reducers (superplasticizers):
   a. Use in accordance with manufacturer's instructions.
   b. Do not use unless required by these Specifications or approved for use by Engineer.

6. Concrete mix proportioning methods for normal weight concrete:
a. Method 1:
   1) Used when combination of materials proposed is to be evaluated and proportions selected to be on a basis of trial mixes.
   2) Produce mixes having suitable proportions and consistencies based on ACI 211.1, using at least three (3) different water cement ratios or cement contents which will produce a range of compressive strengths encompassing the required average strength.
   3) Design trial mixes to produce a slump within 0.75 IN of maximum specified, and for air entrained concrete, air content within 0.5 PCT specified.
   4) For each water cement ratio or cement content, make at least three (3) trial strength tests for specified test age, and cure in accordance with ASTM C192.
      a) Test for strength at 28 days in accordance with ASTM C39.
   5) From results of these tests, plot a curve showing relationship between water cement ratio or cement content and compressive strength.
   6) From this curve select water cement ratio or cement content to be used to produce required average strength.
   7) Use cement content and mixture proportions such that maximum water cement ratio is not exceeded when slump is maximum specified.
   8) Base field control on maintenance of proper cement content, slump, air content and water cement ratio.
   9) See paragraph hereafter for definition of required average strength.

b. Method 2:
   1) In lieu of trial mixes, field test records for concrete made with similar ingredients may be used.
   2) Use of proposed concrete mix proportions based on field test records subject to approval by Engineer based on information contained in field test records and demonstrated ability to provide the required average strength.
   3) Field test records to represent materials, proportions and conditions similar to those specified.
      a) Changes in the materials, proportions and conditions within the test records shall have not been more restricted than those for the proposed concrete mix.
      b) Field test records shall meet the requirements of ACI 350 Paragraph 5.3.1.
   4) Required concrete proportions may be established by interpolation between the strengths and proportions of two (2) or more test records each of which meets the requirements of this Specification Section.

7. Required average strength to exceed the specified 28 day compressive strength by the amount determined or calculated in accordance with Paragraph 5.3 of ACI 350 using the standard deviation of the proposed concrete production facility as described in Paragraphs 5.3.1 and 2 of ACI 350.

E. Allowable Shrinkage: 0.048 percent per ASTM C157.

2.4 SOURCE QUALITY CONTROL

A. To assure stockpiles are not contaminated or materials are segregated, perform any test for determining conformance to requirements for cleanliness and grading on samples secured from aggregates at point of batching.

B. Do not use frozen or partially frozen aggregates.

PART 3 - EXECUTION

3.1 LDCCF PRE-INSTALLATION

A. Examine area and condition under which work is to be performed.

B. Do not place at temperatures lower than 32 DegF or when freezing conditions are expected within 24 HRS.
C. Verify items to be embedded, if any, are secure.
D. Correct conditions detrimental to completion of Work.
E. Do not proceed until satisfactory conditions are established.

3.2 LDCCF INSTALLATION
A. Follow approved job site proportioning, mixing, and placing equipment as recommended by manufacturer.
B. Blend materials according to mix design and convey promptly to location of placement.
C. Avoid excessive handling.
D. Place in lifts not to exceed 60 IN in depth, or as directed by manufacturer, or underpinning contractor.
E. Do not backfill or load Work until compressive strength of 20 PSI, minimum, is attained.

3.3 LDCCF TESTING
A. Wet Density:
   1. Check density hourly and adjust mix as required to maintain specified cast density at point of placement.
   2. Test compressive strength in accordance with ASTM C495.
   3. Test four (4) 3 IN x 6 IN cylinders for each 100 cubic yards placed.

3.4 FIELD QUALITY CONTROL
A. Perform concrete strength tests - one per slab, structure. See Part 3.3 for LDCCF.
B. Perform strength test on any concrete to which water has been added at the jobsite.

END OF SECTION
SECTION 05 50 00
METAL FABRICATIONS

PART 1 - GENERAL

1.1 SUMMARY
A. Section Includes:
   1. Custom fabricated metal items and certain manufactured units not otherwise indicated to be supplied under work of other Specification Sections.
   2. Design of all temporary bracing not indicated on Drawings.
   3. Design of systems and components, including but not limited to:
      a. Aluminum grating.
      b. SST grating.
      c. SST landing framing system.
      d. SST supports for grating

1.2 QUALITY ASSURANCE
A. Referenced Standards:
   1. Aluminum Association (AA):
      a. ADM 1, Aluminum Design Manual.
      b. DAF 45, Designation System for Aluminum Finishes.
   2. American Society of Civil Engineers (ASCE):
   3. ASTM International (ASTM):
      b. A307, Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.
      o. F835, Standard Specification for Alloy Steel Socket Button and Flat Countersunk Head Cap Screws.
      p. F879, Standard Specification for Stainless Steel Socket Button and Flat Countersunk Head Cap Screws.
      q. F1789, Standard Terminology for F16 Mechanical Fasteners.
      b. D1.1, Structural Welding Code - Steel.
d. D1.6/D1.6M, Structural Welding Code - Stainless Steel.
e. D10.18, Guide for Welding Ferritic/Austenitic Duplex Stainless Steel Piping and Tubing.

5. National Association of Architectural Metal Manufacturers (NAAMM):
   a. AMP 510, Metal Stairs Manual.
   c. MBG 531, Metal Bar Grating Manual.

6. NACE International (NACE).

7. Nickel Development Institute (NiDI):
   a. Publication 11 007, Guidelines for the welded fabrication of nickel-containing stainless steels for corrosion resistant services.

8. Occupational Safety and Health Administration (OSHA):
   a. 29 CFR 1910, Occupational Safety and Health Standards, referred to herein as OSHA Standards.

B. Qualifications:
   1. Qualify welding procedures and welding operators in accordance with AWS.
   2. Fabricator shall have minimum of 10 years experience in fabrication of metal items specified.
   3. Engineer for contractor-designed systems and components: Professional structural engineer licensed in the State of California.

1.3 DEFINITIONS
   A. Fasteners: As defined in ASTM F1789.
   B. Hardware: As defined in ASTM A153/A153M.
   C. Installer or Applicator:
      1. Installer or applicator is the person actually installing or applying the product in the field at the Project site.
      2. Installer and applicator are synonymous.

1.4 SUBMITTALS
   A. Shop Drawings:
      1. See Submittals Specification Section for requirements for the mechanics and administration of the submittal process.
      2. Fabrication and/or layout drawings and details:
         a. Submit drawings for all fabrications and assemblies.
         1) Include erection drawings, plans, sections, details and connection details.
         b. Identify materials of construction, shop coatings and third party accessories.
      3. Product technical data including:
         a. Acknowledgement that products submitted meet requirements of standards referenced.
         b. Manufacturer's installation instructions.
         c. Provide manufacturer's standard allowable load tables for the following:
            1) Grating.
            2) Castings, trench covers and accessories.
            3) Modular framing systems.
            4) Alternating tread stairs.
         d. Provide ICC report on the following:
            1) Mechanical anchor bolts.
            2) Adhesive anchor bolts.
      4. Contractor designed systems and components:
         a. Certification that manufactured units meet all design loads specified.
         b. Shop Drawings and engineering design calculations:
            1) Indicate design live loads.
2) Sealed by a licensed professional engineer, registered in the State of California.
3) Engineer will review for general compliance with Contract Documents.

B. Contract Closeout Information:
1. Operation and Maintenance Data:

C. Informational Submittals:
1. See Submittals Specification Section for requirements for the mechanics and administration of the submittal process.
2. Certification of welders and welding processes.
   a. Indicate compliance with AWS.

1.5 DELIVERY, STORAGE, AND HANDLING
A. Deliver and handle fabrications to avoid damage.
B. Store above ground on skids or other supports to keep items free of dirt and other foreign debris and to protect against corrosion.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS
A. Subject to compliance with the Contract Documents, the following manufacturers are acceptable:
1. Mechanical anchor bolts:
   a. See Section 03 15 19.
2. Epoxy adhesive anchor bolts:
   a. See Section 03 15 19.

2.2 MATERIALS
A. Steel:
1. Structural:
   a. W-shapes and WT-shapes: ASTM A992, Grade 50.
   b. All other plates and rolled sections: ASTM A36.
2. Bolts, nuts and washers, high strength:
   a. Stainless steel.
   b. Provide two (2) washers with all bolts.
3. Bolts and nuts:
   a. Stainless steel.
5. Steel forgings: ASTM A668.

B. Stainless Steel:
1. Stainless steel in welded applications: Low carbon 'L' type.
2. Minimum yield strength of 30,000 psi and minimum tensile strength of 75,000 psi.
   a. Bars, shapes: ASTM A276, Type 304.
   b. Tubing and pipe: ASTM A269, ASTM A312 or ASTM A554, Type 316.
   c. Strip, plate and flat bars: ASTM A666, Type 316.
   d. Bolts and nuts: ASTM F593, Type 316.
3. Minimum yield strength of 25,000 psi and minimum tensile strength of 70,000 psi.
   a. Strip, plate and flat bar for welded connections, ASTM A666, Type 304L or 316L.
4. Welding electrodes: In accordance with AWS for metal alloy being welded.

C. Aluminum:
1. Alloy 6061-T6 marine grade, 32,000 psi tensile yield strength minimum.
   a. ASTM B221 and ASTM B308 for shapes including beams, channels, tubes, angles, tees and zees.
2. ASTM F468, alloy 2024 T4 for bolts.
3. ASTM F467, alloy 2024 T4 for nuts.
4. Electrodes for welding aluminum: AWS D1.2, filler alloy 4043 or 5356.
5. Coat all aluminum materials in contact with dissimilar materials with coatings as specified in Section 09 91 00.

D. Washers: Same material and alloy as found in accompanying bolts and nuts.
   1. For washers at dissimilar metals, provide isolating washers and sleeves as manufactured by PSI, or equal.

E. Embedded Anchor Bolts:
   1. Stainless steel 316L.

F. Mechanical Anchor Bolts and Adhesive Anchor Bolts:
   1. Stainless steel 316L.

G. Headed Studs: ASTM A108 with a minimum yield strength of 50,000 psi and a minimum tensile strength of 60,000 psi.

H. Deformed Bar Anchors: ASTM A1064 with a minimum yield strength of 70,000 psi and a minimum tensile strength of 80,000 psi.

I. Iron and Steel Hardware: stainless steel 316L.

J. Dissimilar Materials Protection: See Specification Section 09 91 00.

2.3 MANUFACTURED UNITS

A. SST Grating:
   1. NAAMM MBG 531.
   2. Bearing bars:
      a. Rectangular 1-1/2 by 3/16 IN unless otherwise noted on Drawings.
      b. Maximum 1-3/16 IN OC spacing.
   3. Cross bars:
      a. Welded, swaged or pressure locked to bearing bars.
      b. Maximum 4 IN OC spacing.
   4. Top edges of bars: Serrated or grooved.
   5. Removable grating sections: Not wider than 3 FT and not more than 100 LBS.
   7. Ends and perimeter edges: Banded.
   8. Openings through grating: Reinforced to provide required load carrying capacity and banded with 4 IN high toe plate.
   9. Provide joints at openings between individual grating sections.

B. Aluminum Grating:
   1. NAAMM MBG 531.
   2. Minimum depth: 1-1/2 IN.
   3. Minimum rectangular bearing bar size:
      a. 3/16 IN thick.
      b. Maximum 1-3/16 IN OC spacing.
   4. Minimum I-bar flange width: 1/4 IN.
   5. Design live load:
      a. 100 psf, uniform load.
      b. 300 LBS concentrated load on 4 IN square area.
      c. All components to be adequate for the uniform load or the concentrated load, whichever requires the stronger component.
      d. Maximum deflection: 1/300 of span under a superimposed live load of 50 psf.
   6. Cross bars:
      a. Welded, swaged or pressure locked to bearing bars.
      b. Maximum 4 IN OC spacing.
   7. Top edges of bars: Grooved or serrated.
C. Bollards:
   1. 6 IN diameter extra strength steel pipe ASTM A53:
      a. Galvanized.
      b. See section 09 91 00 for painting requirements.

2.4 FABRICATION
A. Verify field conditions and dimensions prior to fabrication.
B. Form materials to shapes indicated with straight lines, true angles, and smooth curves.
C. Fabricate grating in accordance with NAAMM MBG 531.
   1. Maximum tolerance for difference in depth between grating depth and seat or support angle depth: 1/8 IN.
   2. Distance between edge of grating and face of embedded seat angle or face of wall or other structural member: 1/4 IN.
      a. Tolerance: NAAMM MBG 531.
   3. Removable sections: Not wider than 3 FT and not heavier than 100 LBS.
   4. Ends and perimeter edges: Banded, with alternate bearing bars welded to band.
      a. Provide full depth banding unless noted otherwise.
      b. Banding at trenches and sumps to be 1/4 IN less than grating depth to allow for drainage.
   5. Openings through grating: Reinforced to provide required load carrying capacity and banded with 4 IN high toe plate.
   6. Provide joints at openings between individual grating sections.
   7. Fabricate grating so that bearing bars and cross bars in adjacent sections are aligned.
D. Fabricate miscellaneous metals in accordance with NAAMM AMP 555.
   1. Workmanship: Class 2 unless noted otherwise.

2.5 SOURCE QUALITY CONTROL
A. Surface Preparation:
   1. Refer to Specification Section 09 91 00 for surface preparation requirements.
   2. All miscellaneous metal fabrication item surfaces shall be inspected and approved by coatings inspector prior to application of shop-applied paint coating.
      a. Inspection shall be performed to determine depth of blast profile and cleanliness of surface.
      b. Fabricator shall reblast and or re-clean surfaces as required until acceptable.
B. Shop Applied Paint Coating Application:
   1. Refer to Specification Section 09 91 00 for painting requirements.
   2. After surface has been accepted in writing by coatings inspector, fabricator may proceed with application of paint coatings.
   3. Application of paint coatings shall be observed and certified by coatings inspector.

PART 3 - EXECUTION

3.1 PREPARATION
A. Provide items to be built into other construction in time to allow their installation.
   1. If such items are not provided in time for installation, cut in and install.
B. Prior to installation, inspect and verify condition of substrate.
C. Correct surface defects or conditions which may interfere with or prevent a satisfactory installation.
   1. Field welding aluminum is not permitted unless approved in writing by Engineer.

3.2 INSTALLATION
A. Set metal work level, true to line, plumb.
1. Shim and grout as necessary.

B. Contractor is solely responsible for safety.
   1. Construction means and methods and sequencing of work is the prerogative of the Contractor.
   2. Take into consideration that full structural capacity of many structural members is not realized until structural assembly is complete; e.g., until slabs, decks, and diagonal bracing or rigid connections are installed.
   3. Partially complete structural members shall not be loaded without an investigation by the Contractor.
   4. Until all elements of the permanent structure and lateral bracing system are complete, temporary bracing for the partially complete structure will be required.

C. Adequate temporary bracing to provide safety, stability and to resist all loads to which the partially complete structure may be subjected, including construction activities and operation of equipment is the responsibility of the Contractor.
   1. Plumb, align, and set structural steel members to specified tolerances.
   2. Use temporary guys, braces, shoring, connections, etc., necessary to maintain the structural framing plumb and in proper alignment until permanent connections are made, the succeeding work is in place, and temporary work is no longer necessary.
   3. Use temporary guys, bracing, shoring, and other work to prevent injury or damage to adjacent work or construction from stresses due to erection procedures and operation of erection equipment, construction loads, and wind.
   4. Contractor shall be responsible for the design of the temporary bracing system and must consider the sequence and schedule of placement of such elements and effects of loads imposed on the structural steel members by partially or completely installed work, including work of all other trades.
      a. If not obvious from experience or from the Drawings, the Contractor shall confer with the Engineer to identify those structural steel elements that must be complete before the temporary bracing system is removed.
   5. Remove and dispose of all temporary work and facilities off-site.

D. Examine work-in-place on which specified work is in any way dependent to ensure that conditions are satisfactory for the installation of the work.
   1. Report defects in work-in-place which may influence satisfactory completion of the work.
   2. Absence of such notification will be construed as acceptance of work-in-place.

E. Field Measurement:
   1. Take field measurements as necessary to verify or supplement dimensions indicated on the Drawings.
   2. Contractor responsible for the accurate fit of the work.

F. Check the elevations of all finished footings or foundations and the location and alignment of all anchor bolts before starting erection.
   1. Use surveyor's level.
   2. Notify Engineer of any errors or deviations found by such checking.

G. Framing member location tolerances after erection shall not exceed the frame tolerances listed in the FIELD QUALITY CONTROL Article in PART 3 of this Specification Section.

H. Erect plumb and level; introduce temporary bracing required to support erection loads.

I. Use light drifting necessary to draw holes together.
   1. Drifting to match unfair holes is not allowed.

J. Welding:
   1. Conform to AWS D1.1 and requirements of the FABRICATION Article in PART 2 of this Specification Section.
   2. When joining two (2) sections of steel of different ASTM designations, welding techniques shall be in accordance with a qualified AWS D1.1 procedure.
K. Shore existing members when unbolting of common connections is required.
   1. Use new bolts for rebolting connections.

L. Clean stored material of all foreign matter accumulated prior to the completion of erection.

M. Bolt Field Connections: Where practicable, conceal fastenings.

N. Field Welding:
   1. Follow AWS procedures.
   2. Grind welds smooth where field welding is required.

O. Field cutting grating or checkered plate to correct fabrication errors is not acceptable.
   1. Replace entire section.

P. Remove all burrs and radius all sharp edges and corners of miscellaneous plates, angles, framing
   system elements, etc.

Q. Unless noted or specified otherwise:
   1. Connect steel members to steel members with 3/4 IN DIA stainless steel bolts.
   2. Connect aluminum to aluminum with 3/4 IN DIA stainless bolts.
      a. Provide dissimilar metals protection.
   4. Connect aluminum and steel members to concrete and masonry using stainless steel
      mechanical anchor bolts or adhesive anchor bolts unless shown otherwise.
      a. Provide dissimilar materials protection.
   5. Provide washers for all bolted connections.
   6. Where exposed, bolts shall extend a maximum of 3/4 IN and a minimum of 1/2 IN above
      the top of installed nut.
      a. If bolts are cut off to required maximum height, threads must be dressed to allow nuts
         to be removed without damage to the bolt or the nuts.

R. Install and tighten ASTM A325 high-strength bolts in accordance with the AISC 325, Allowable
   Stress Design (ASD).
   1. Provide hardened washers for all ASTM A325 bolts.
      a. Provide the hardened washer under the element (nut or bolt head) turned in tightening.

S. After bolts are tightened, upset threads of ASTM A307 bolts or anchor bolts to prevent nuts
   from backing off.

T. Secure metal to wood with lag screws of adequate size with appropriate washers.

U. Do not field splice fabricated items unless said items exceed standard shipping length or change
   of direction requires splicing.
   1. Provide full penetration welded splices where continuity is required.

V. Provide each fabricated item complete with attachment devices as indicated or required to
   install.

W. Anchor such that work will not be distorted nor fasteners overstressed from expansion and
   contraction.

X. Attach grating to end and intermediate supports with grating saddle clips and bolts.
   1. Maximum spacing: 2 FT OC with minimum of two (2) per side.
   2. Attach individual units of aluminum grating together with clips at 2 FT OC maximum with
      a minimum of two (2) clips per side.

Y. Coat aluminum surfaces in contact with dissimilar materials in accordance with Specification
   Section 09 91 00.

### 3.3 FIELD QUALITY CONTROL

A. Tolerances (unless otherwise noted on the Drawings):
   1. Frame placement, after assembly and before welding or tightening.
a. Deviation from plumb, level and alignment: 1 in 500, maximum.
b. Displacement of centerlines of columns: 1/2 IN maximum, each side of centerline location shown on Drawings.
c. Displacement of centerlines of columns: 1/2 IN maximum, each side of centerline location shown on Drawings.

B. Meet structural requirements of Specification Section 01 45 33 for inspection and testing items of structural nature.

C. OWNER Pays for Field Inspection and Testing:
1. Owner will employ and pay for services of an independent testing agency to inspect and test structural steel shop and field work for compliance with this Specification Section.
2. Contractor provides sufficient notification and access so inspection and testing can be accomplished.
3. Contractor pays for retesting of failed tests and for additional testing required when defects are discovered.

3.4 CLEANING

A. After fabrication, erection, installation or application, clean all miscellaneous metal fabrication surfaces of all dirt, weld slag and other foreign matter.

B. All stainless steel products in addition to Paragraph A. above:
1. Remove all heat tint, rusting, discoloration by passivation, ASTM A380, or other acceptable means as listed in NiDI 11 007 as approved by the Engineer.

C. Provide surface acceptable to receive field applied paint coatings specified in Specification Section 09 91 00.

END OF SECTION
SECTION 09 91 00
PAINTING AND PROTECTIVE COATINGS

PART 1 - GENERAL

1.1 SUMMARY
A. Section Includes:
1. High performance industrial coatings (HPIC).
2. Any other coating, thinner, accelerator, inhibitor, etc., specified or required as part of a complete System specified in this Specification Section.
3. Minimum surface preparation requirements.

1.2 QUALITY ASSURANCE
A. Referenced Standards:
1. ASTM International (ASTM):
   a. D4258, Standard Practice for Surface Cleaning Concrete for Coating.
   b. D4259, Standard Practice for Ablading Concrete.
   c. D4261, Standard Practice for Surface Cleaning Concrete Unit Masonry for Coating.
   d. D4262, Standard Test Method for pH of Chemically Cleared or Etched Concrete Surfaces.
   e. D4263, Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method.
2. National Association of Pipe Fabricators (NAPF):
   a. 500-03, Surface Preparation Standard for Ductile Iron Pipe and Fittings in Exposed Locations Receiving Special External Coatings and/or Special Internal Linings:
      1) 500-03-04, Abrasive Blast Cleaning for Ductile Iron Pipe.
      2) 500-03-05, Abrasive Blast Cleaning for Cast Ductile Iron Fittings.
   a. Certified Coating Thickness Calibration Standards.
5. NSF International (NSF).
   a. A250.10, Test Procedure and Acceptance Criteria For Prime Painted Steel Surfaces for Steel Doors and Frames.
7. The Society for Protective Coatings (SSPC):
   a. PA 2, Measurement of Dry Coating Thickness with Magnetic Gages.
   b. SP 1, Solvent Cleaning.
   c. SP 2, Hand Tool Cleaning.
   d. SP 3, Power Tool Cleaning.
   e. SP 16, Brush-off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-Ferrous Metals.
8. The Society for Protective Coatings/NACE International (SSPC/NACE):
   a. SP 5/NACE No. 1, White Metal Blast Cleaning.
   b. SP 6/NACE No. 3, Commercial Blast Cleaning.
   c. SP 7/NACE No. 4, Brush-off Blast Cleaning.
   d. SP 10/NACE No. 2, Near-White Blast Cleaning.
   e. SP 12/NACE No. 5, Surface Preparation and Cleaning of Steel and Other Hard Materials by High and Ultrahigh Pressure Water Jetting Prior to Recoating.
   f. SP 13/NACE No. 6, Surface Preparation of Concrete.
B. Qualifications:
1. Coating manufacturer's authorized representative shall provide written statement attesting that applicator has been instructed on proper preparation, mixing and application procedures for coatings specified.
2. Applicators shall have minimum of 10 years experience in application of similar products on similar project.
   a. Provide references for minimum of three (3) different projects completed in last five (5) years with similar scope of work.
   b. Include name and address of project, size of project in value (painting) and contact person.

C. Miscellaneous:
1. Furnish paint through one (1) manufacturer unless noted otherwise.
2. Coating used in all corridors and stairways shall meet requirements of NFPA 101 and ASTM E84.

D. Deviation from specified mil thickness or product type is not allowed without written authorization of Engineer.

E. Material shall not be thinned unless approved, in writing, by paint manufacturer's authorized representative.

1.3 DEFINITIONS

A. Installer or Applicator:
1. Installer or applicator is the person actually installing or applying the product in the field at the Project site.
2. Installer and applicator are synonymous.

B. Approved Factory Finish: Finish on a product in compliance with the finish specified in the Specification Section where the product is specified or in Specification Section 01 61 03.

C. Corrosive Environment: Immersion in, or not more than 6 IN above, or subject to condensation, spillage or splash of a corrosive material such as water, wastewater, or chemical solution; or exposure to corrosive, caustic or acidic agent, chemicals, chemical fumes, chemical mixture, or solutions with pH range of 5 to 9.
   1. All pump stations.

D. Exposed Exterior Surface:
   1. Surface which is exposed to weather but not necessarily exposed to view as well as surface exposed to view.

E. Immersion Surface:
   1. Any surface immersed in water or some other liquid.
   2. Surface of any pipe, valve, or any other component of the piping system subject to condensation including the pipe support system.

F. Paint includes the following:
   1. High performance industrial coatings (HPIC) include: Epoxies, urethanes, vinyl ester, waterborne vinyl acrylic emulsions, acrylates, silicones, alkyds, acrylic emulsions and any other coating listed as a HPIC.

G. Surface Hidden from View: Surfaces such as those within pipe chases, surfaces between top side of ceilings (including drop-in tile ceilings) and underside of floor or roof structures above, surfaces under overhanging walkways if over five feet above adjacent walking surfaces

H. HPIC: High performance industrial coatings.

I. Water level for purposes of painting: Ground surface.
1.4 SUBMITTALS

A. Shop Drawings:
   1. See Specification Section 01 33 00 for requirements for the mechanics and administration of the submittal process.
   2. Applicator experience qualifications.
      a. No submittal information will be reviewed until Engineer has received and approved applicator qualifications.
   3. Product technical data including:
      a. Acknowledgement that products submitted meet requirements of standards referenced.
      b. Manufacturer's application instructions.
      c. Manufacturer's surface preparation instructions.
      d. If products being used are manufactured by Company other than listed in the MATERIALS Article of this Specification Section, provide complete individual data sheet comparison of proposed products with specified products including application procedure, coverage rates and verification that product is designed for intended use.
      e. Contractor's written plan of action for containing airborne particles created by blasting operation and location of disposal of spent contaminated blasting media.
      f. Coating manufacturer's recommendation on abrasive blasting.
      g. Manufacturer's recommendation for universal barrier coat.
      h. Manufacturer's recommendation for providing temporary or supplemental heat or dehumidification or other environmental control measures.
   4. Manufacturer's statement regarding applicator instruction on product use.
   5. Certification that High Performance Coating Systems proposed for use have been reviewed and approved by Senior Corrosion Specification Specialist employed by the coating manufacturer.

B. Samples:
   1. Manufacturer's full line of colors for Engineer's preliminary color selection.
   2. After preliminary color selection by Engineer provide two (2) 3 x 5 IN samples of each final color selected.

C. Informational Submittals:
   1. See Specification Section 01 33 00 for requirements for the mechanics and administration of the submittal process.
   2. Approval of application equipment.
   3. Applicator's daily records:
      a. Submit daily records at end of each week in which painting work is performed unless requested otherwise by Engineer's on-site representative.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver in original containers, labeled as follows:
   1. Name or type number of material.
   2. Manufacturer's name and item stock number.
   3. Contents, by volume, of major constituents.
   4. Warning labels.
   5. VOC content.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Subject to compliance with the Contract Documents, only the following manufacturers are acceptable:
   1. High performance industrial coatings:
      a. Tnemec.
      b. ICI Devoe.
c. Carboline Protective Coatings.
d. Sherwin Williams.
e. Dampney Company, Inc.
f. PPG Industries/Amercoat.

B. Submit request for substitution in accordance with Specification Section 01 25 13.
1. Product VOC content will be an important factor when determining acceptability of substitution.

2.2 MATERIALS

A. For unspecified materials such as thinner, provide manufacturer's recommended products.

B. Paint Systems - General:
1. \( P \) = prime coat.
2. \( F_1, F_2 \ldots F_n \) = first finish coat, second finish coat \ldots nth finish coat, color as selected by Engineer.
3. If two (2) finish coats of same material are required, Contractor may, at his option and by written approval from paint manufacturer, apply one (1) coat equal to mil thickness of two (2) coats specified.

C. HPIC products listed in the MATERIALS Article, Paint Systems paragraph are manufactured by Tnemec.
1. Products of other listed manufacturers are acceptable for use providing the product is of the same generic resin, requires comparable surface preparation, has comparable application requirements, meets the same VOC levels or better, provides the same finish and color options and will withstand the atmospheric conditions of the location where it is to be applied.

2. HPIC SYSTEM #3 - Polyamidoamine Epoxy Primer with Polyamidoamine Epoxy or Waterborne Acrylic Polyurethane Top Coat(s).
   a. Prime coat:
      1) \( P_1 = 1 \) coat, 5 mils, Series L69 Epoxoline (Polyamidoamine Epoxy).
   b. Finish coat(s):
      1) Interior:
         a) \( F_1 = 1 \) coat, 5 mils, Series L69 Epoxoline (Polyamidoamine Epoxy).
      2) Exterior:
         a) \( F_1 = 1 \) coat, 2.5 mils, Series 1080 Endura-Shield W.B. (Waterborne Acrylic Polyurethane).

3. HPIC SYSTEM #6 - Modified Polyamidoamine Epoxy Primer with Polyamidoamine Epoxy or Waterborne Acrylic Polyurethane Top Coat(s).
   a. Prime coat:
      1) \( P_1 = 1 \) coat, 3 mils, Series 135 Chembuild (Modified Polyamidoamine Epoxy).
   b. Finish coat(s):
      1) Interior:
         a) \( F_1 = 1 \) coat, 4 mils, Series L69 Epoxoline (Polyamidoamine Epoxy).
      2) Exterior:
         a) \( F_1 = 1 \) coat, 3 mils, Series 1080 Endura-Shield W.B. (Waterborne Acrylic Polyurethane).

4. HPIC SYSTEM #7 - Zinc-Rich Urethane Primer with Polyamidoamine Epoxy or Waterborne Acrylic Polyurethane Top Coat(s).
   a. Prime coat:
      1) \( P_1 = 1 \) coat, 2.5 mils, Series 90-97 Tneme-Zinc (Zinc-Rich Urethane).
   b. Finish coat(s):
      1) Interior:
         a) \( F_1 = 1 \) coat, 5 mils, Series L69 Epoxoline (Polyamidoamine Epoxy).
2) Exterior:
   a) F1 = 1 coat, 3.0 mils, Series 1080 Endura-Shield W.B. (Waterborne Acrylic Polyurethane).

5. HPIC SYSTEM #19 - Polyamidoamine Epoxy Coating.
   a. Prime coat:
      1) P1 = 1 coat, 5 mils, Series L69 Epoxoline (Polyamidoamine Epoxy).

6. HPIC SYSTEM #41 - Touch-up of galvanized surfaces not requiring a top coat.
   a. Refer to Specification Section 05 50 00.

7. HPIC SYSTEM #43 - Polyamidoamine Epoxy Primer with Polyamidoamine Epoxy Top Coat.
   a. Prime coat:
      1) P1 = 1 coat, 2.5 mils, Series L69 Epoxoline (Polyamidoamine Epoxy).
   b. Finish coat:
      1) Interior:
         a) F1 = 1 coat, 3 mils, Series L69 Epoxoline (Polyamidoamine Epoxy).

8. HPIC SYSTEM #46 - Modified Aromatic Polyurethane Primer with Hydrophobic Aromatic Moist-Cured Polyurethane Top Coat(s).
   a. Prime coat:
      1) P1 = 1 coat, 4 mils, Series 1 Omnithane (Modified Aromatic Polyurethane Primer).
   b. Finish coat(s):
      1) F1 = 1 coat, 8 mils, Series 446 Perma-Shield-MCU.
      2) F2 = 1 coat, 8 mils, Series 446 Perma-Shield-MCU.

PART 3 - EXECUTION

3.1 ITEMS TO BE PAINTED

A. General:
   1. Paint the following surfaces in a corrosive area or highly corrosive, whether exposed to view or not:
      a. Conduit.
      b. Ducts.
      c. Galvanized metal surfaces.

B. Exposed Exterior Surfaces including:
   1. Equipment supports, pipe supports.
   2. Piping, valves, fittings, and hydrants except when covered by pipe jacketing and supports.
   3. Ductwork and supports.
   4. Conduit, device boxes, junction boxes and covers, pull boxes and covers and supports when attached to a surface required to be painted.
   5. Miscellaneous ferrous metal surfaces.
   6. Hollow metal doors and frames.
   7. Steel pipe bollards.
   8. Steel components of concrete lintels (plain or galvanized).
      a. Steel components shall be completely painted (with both prime and finish coats) prior to installing in the wall.
   10. Steel joists (including bridging).
   11. Copper and brass surfaces.

C. Surfaces in Areas Not Considered Finished:
   1. Paint following surfaces in areas not considered as finished area:
      a. Piping, valves, fittings, and hydrants except when covered by pipe jacketing and supports.
      b. Miscellaneous ferrous metal surfaces.
      c. Ductwork and supports.
      d. Steel components of concrete lintels (plain or galvanized).
1) Steel components shall be completely painted (with both prime and finish coats) prior to installing in the wall.
   e. Hollow metal doors and frames.
2. Conduit, device boxes, junction boxes and covers, pull boxes and covers and supports when attached to a surface required to be painted.

3.2 ITEMS NOT TO BE PAINTED

A. General: Do not paint items listed in this Article unless specifically noted in the Contract Documents to be painted.

B. Items with Approved Factory Finish: These items may require repair of damaged painted areas or painting of welded connections.

C. Electrical Equipment:
   1. Do not field paint electrical equipment except where painting is specifically stated elsewhere in these Contract Documents, or where the equipment is subject to a corrosive environment and is specifically noted to be painted.

D. Other Items:
   1. Stainless steel surfaces except:
      a. Piping where specifically noted to be painted.
      b. Banding as required to identify piping.
   2. Aluminum surfaces except:
      a. Where specifically shown in the Contract Documents.
      b. Where in contact with concrete.
      c. Where in contact with dissimilar metals.
   3. Fiberglass surfaces except:
      a. Fiberglass piping where specifically noted to be painted.
      b. Piping supports where specifically noted to be painted.
   4. Interior of pipe, ductwork, and conduits.
   5. Moving parts of mechanical and electrical units where painting would interfere with the operation of the unit.
   7. Concealed surfaces of precolored masonry.
   8. Standing seam metal roof, fascia, trim, and roof accessories.
   9. Contact surfaces of friction-type connections.
   10. Metal soffit.
   11. Galvanized steel items, unless specifically noted to be painted.
      a. See the ITEMS TO BE PAINTED Article, Interior Finished Areas paragraph of this Specification Section.

3.3 SCHEDULE OF ITEMS TO BE PAINTED AND PAINTING SYSTEMS

A. Steel:
   1. Ferrous metal surfaces immersed in wastewater: SYSTEM #46.
      a. Includes all structural and miscellaneous steel surfaces.
   2. Structural:
      a. Immersion surfaces subject to corrosive environment and not requiring NSF approval: SYSTEM #2.
         1) Does not include immersion in wastewater.
      b. Non-immersion surfaces subject to corrosive environment: SYSTEM #7.
   3. Joists:

B. Ferrous metals subject to corrosive environment: SYSTEM #2.

C. Galvanized Metals:
   1. Field touch-up where top coat is required: SYSTEM #3, prime and first finish coat only.
a. Prime paint only the damaged area.
2. Assembled galvanized steel items: SYSTEM #3.
3. Field touch-up of galvanized surfaces not requiring a finish top coat: SYSTEM #41.
a. Paint only damaged areas.

D. Steel equipment with existing paint coating or factory-applied prime or finish coating not complying with this Specification Section: SYSTEM #5.
1. Includes equipment specifically indicated in the Contract Documents to be painted.
2. Factory-applied coats to remain.

E. Non-ferrous metals (except galvanized): SYSTEM #3.
1. Includes copper, brass, aluminum and aluminum flashing specifically indicated on the Drawings to be painted.

F. Plastic Surfaces:
1. PVC, FRP, and CPVC surfaces: SYSTEM #3.
a. Includes tankage and piping.

G. Electrical Conduit:
1. Galvanized: SYSTEM #3.
2. PVC coated: SYSTEM #3.

H. Pipe, Valves, and Fittings:
1. Steel, cast-iron, and uncoated ductile iron not in immersion service: SYSTEM #2.

I. Aluminum buried in concrete, between dissimilar metals and dissimilar materials: SYSTEM #19.

J. Field painting of fusion bonded epoxy coated piping, valves, couplings, etc.: SYSTEM #43.

3.4 PREPARATION

A. General:
1. Verify that atmosphere in area where painting is to take place is within paint manufacturer's acceptable temperature, humidity and sun exposure limits.
a. Provide temporary heating, shade and/or dehumidification as required to bring area within acceptable limits.
   1) Provide temporary dehumidification equipment properly sized to maintain humidity levels required by paint manufacturer.
   2) Provide clean heat with heat exchanger type equipment sufficient in size to maintain temperature on a 24 HR basis.
      a) Vent exhaust gases to exterior environment.
      b) No exhaust gases shall be allowed to vent into the space being painted or any adjacent space.
2. Prepare surfaces to be painted in accordance with coating manufacturer's instructions and this Specification Section unless noted otherwise in this Specification Section.
a. Where discrepancy between coating manufacturer's instructions and this Specification Section exists, the more stringent preparation shall be provided unless approved otherwise, in writing, by the Engineer.
3. Remove all dust, grease, oil, compounds, dirt and other foreign matter which would prevent bonding of coating to surface.
4. Adhere to manufacturer's recoat time surface preparation requirements.
a. Surfaces that have exceeded coating manufacturer's published recoat time and/or have exhibited surface chalking shall be prepared prior to additional coating in accordance with manufacturer's published recommendations.
   1) Minimum SSPC SP 7/NACE No. 4 unless otherwise approved by Engineer.

B. Protection:
1. Protect surrounding surfaces not to be coated.
2. Remove and protect hardware, accessories, plates, fixtures, finished work, and similar items; or provide ample in-place protection.

C. Prepare and paint before assembly all surfaces which are inaccessible after assembly.

D. Ferrous Metal:
   1. Prepare ductile iron pipe in accordance with pipe manufacturer's recommendations and NAPF.
      a. All piping, pumps, valves, fittings and any other component used in any water piping system that requires preparation for painting shall be prepared in accordance with requirements for immersion service.
         1) Pipe: NAPF 500-03-04.
         2) Fittings: NAPF 500-03-05.
      b. Prepare all areas requiring patch painting in accordance with recommendations of manufacturer and NAPF.
      c. Remove bituminous coating per piping manufacturer, paint manufacturer and NAPF recommendations.
         1) The most stringent recommendations shall apply.
   2. Complete fabrication, welding or burning before beginning surface preparation.
      a. Chip or grind off flux, spatter, slag or other laminations left from welding.
      b. Remove mill scale.
      c. Grind smooth rough welds and other sharp projections.
   3. Solvent clean in accordance with SSPC SP 1 or detergent and low-pressure water clean in accordance with SSPC SP 12/NACE No. 5 all surfaces scheduled to receive additional SSPC surface preparation.
   4. Surfaces subject to corrosive or highly corrosive environment and all surfaces subject to immersion service:
      a. Near-white blast clean in accordance with SSPC SP 10/NACE No. 2.
   5. All interior and exterior structural steel not included in corrosive, highly corrosive or immersion service surfaces:
      a. Minimum commercial blast clean in accordance with SSPC SP 6/NACE No. 3.
   6. Surfaces subject to high temperatures:
      a. Heat in excess of 600 DegF: SSPC SP 10/NACE No. 2.
      b. Heat in excess of 200 DegF but less than 600 DegF: SSPC SP 6/NACE No. 3.
   7. Surfaces of steel joists and steel trusses:
      a. Commercial blast clean the major portion of the truss in accordance with SSPC SP 6/NACE No. 3.
      b. Power tool or hand tool clean tight connection areas and other difficult to access areas in accordance with SSPC SP 2 or SSPC SP 3.
   8. All fusion bonded epoxy coated surfaces identified to be field painted:
      a. Remove all traces of gloss finish by sanding or by abrasive brush blasting.
      b. Clean surface after removing gloss finish to remove sanding or blasting residue.
   9. Restore surface of field welds and adjacent areas to original surface preparation.
   10. Black iron piping: Remove surface varnish by solvent or waterjet and detergent cleaning or brush-off blast cleaning in accordance with SSPC SP 7/NACE No. 4.

E. Galvanized Steel and Non-ferrous Metals:
   1. Solvent clean in accordance with SSPC SP 1 followed by brush-off blast clean in accordance with SSPC SP 16 to remove zinc oxide and other foreign contaminants.
      a. Provide uniform 1 mil profile surface.

F. Abrasive blast clean the following equipment or surfaces regardless of previous finish, if any.

G. Preparation by Abrasive Blasting:
   1. All abrasive-blasted ferrous metal surfaces shall be inspected immediately prior to application of paint coatings.
a. Inspection shall be performed to determine cleanliness and profile depth of blasted surfaces and to certify that surface has been prepared in accordance with these Specifications.

2. Schedule the abrasive blasting operation so blasted surfaces will not be wet after blasting and before painting.

3. Perform additional blasting and cleaning as required to achieve surface preparation required.
   a. Prior to painting, reblast surfaces allowed to set overnight and surfaces that show rust bloom.
   b. Surfaces allowed to set overnight or surfaces which show rust bloom prior to painting shall be reinspected prior to paint application.

4. Profile depth of blasted surface: Not less than 1 mil or greater than 2 mils unless required otherwise by coating manufacturer.

5. Provide compressed air for blasting that is free of water and oil.
   a. Provide accessible separators and traps.

6. Confining blast abrasives to area being blasted.
   a. Provide shields of polyethylene sheeting or other such barriers to confine blast material.
   b. Plug pipes, holes, or openings before blasting and keep plugged until blast operation is complete and residue is removed.

7. Protect nameplates, valve stems, rotating equipment, motors and other items that may be damaged from blasting.

8. Reblast surfaces not meeting requirements of these Specifications.

9. Abrasive blasting media may be recovered, cleaned and reused providing Contractor submits, for Engineer's review, a comprehensive recovery plan outlining all procedures and equipment proposed in reclamation process.

10. Properly dispose of blasting material contaminated with debris from blasting operation not scheduled to be reused.

H. All Plastic Surfaces and Non-Ferrous Surfaces Except Galvanized Steel:

1. Sand using 80 - 100 grit sandpaper to scarify surfaces.

3.5 APPLICATION

A. General:

1. Thin, mix and apply coatings by brush, roller, or spray in accordance with manufacturer's installation instructions.
   a. Application equipment must be inspected and approved in writing by coating manufacturer.
   b. Hollow metal shall be spray applied only.

2. Temperature and weather conditions:
   a. Do not paint surfaces when surface temperature is below 50 DegF unless product has been formulated specifically for low temperature application and application is approved in writing by Engineer and paint manufacturer's authorized representative.
   b. Avoid painting surfaces exposed to hot sun.
   c. Do not paint on damp surfaces.

3. Immediately after surface has been inspected apply structural steel and miscellaneous steel and steel joist and steel truss prime coat in the factory.
   a. Finish coats shall be applied in the field.
   b. Prime coat referred to here is prime coat as indicated in this Specification.
      1) Structural steel and miscellaneous steel and steel joist and steel truss prime coating applied in factory (shop) as part of Fabricator's standard rust inhibiting and protection coating is not acceptable as replacement for specified prime coating.

4. Provide complete coverage to mil thickness specified.
   a. Thickness specified is dry mil thickness.
   b. All paint systems are "to cover."
      1) In situations of discrepancy between manufacturer's square footage coverage rates and mil thickness, mil thickness requirements govern.
c. When color or undercoats show through, apply additional coats until paint film is of uniform finish and color.
5. If so directed by Engineer, do not apply consecutive coats until Engineer has had an opportunity to observe and approve previous coats.
6. Apply materials under adequate illumination.
7. Evenly spread to provide full, smooth coverage.
8. Work each application of material into corners, crevices, joints, and other difficult to work areas.
9. Avoid degradation and contamination of blasted surfaces and avoid intercoat contamination.
   a. Clean contaminated surfaces before applying next coat.
10. Smooth out runs or sags immediately, or remove and recoat entire surface.
11. Allow preceding coats to dry before recoating.
   a. Reccoat within time limits specified by coating manufacturer.
   b. If reccoat time limits have expired re-prepare surface in accordance with coating manufacturer's printed recommendations.
12. Allow coated surfaces to cure prior to allowing traffic or other work to proceed.
13. Coat all aluminum in contact with dissimilar materials.
14. When coating rough surfaces which cannot be backrolled sufficiently, hand brush coating to work into all recesses.

B. Prime Coat Application:
1. Prime all surfaces indicated to be painted.
   a. Apply prime coat in accordance with coating manufacturer's written instructions and as written in this Specification Section.
2. Ensure field-applied coatings are compatible with factory-applied coatings.
   a. Ensure new coatings applied over existing coatings are compatible.
   b. Employ services of coating manufacturer's qualified technical representative.
      1) Certify through material data sheets.
      2) Perform test patch.
   c. If field-applied coating is found to be not compatible, require the coating manufacturer's technical representative to recommend, in writing, product to be used as barrier coat, thickness to be applied, surface preparation and method of application.
   d. At Contractor's option, coatings may be removed, surface re-prepared, and new coating applied using appropriate paint system listed in the MATERIALS Article, Paint Systems paragraph of this Specification Section.
      1) All damage to surface as result of coating removal shall be repaired to original condition or better by Contractor at no additional cost to Owner.
3. Prime ferrous metals embedded in concrete to minimum of 1 IN below exposed surfaces.
4. Back prime all wood scheduled to be painted, prior to installation.
5. After application of primer to gypsum board surfaces, inspect surface and repair in accordance with the PREPARATION Article of this Specification Section.
   a. Re-prime repaired surfaces to uniform finish before application of finish coat(s).
6. Apply zinc-rich primers while under continuous agitation.
7. Ensure abrasive blasting operation does not result in embedment of abrasive particles in paint film.
8. Brush or spray bolts, welds, edges and difficult access areas with primer prior to primer application over entire surface.
9. Touch up damaged primer coats prior to applying finish coats.
   a. Restore primed surface equal to surface before damage.

C. Finish Coat Application:
1. Apply finish coats in accordance with coating manufacturer's written instructions and in accordance with this Specification Section; manufacturer instructions take precedent over these Specifications.
2. Touch up damaged finish coats using same application method and same material specified for finish coat.
a. Prepare damaged area in accordance with the PREPARATION Article of this Specification Section.

3.6 COLOR CODING

A. Color and band piping in accordance with the SCHEDULE Article of this Specification Section.
   1. Band piping using maximum of three (3) different colors at 20 FT maximum centers.
   2. Factory painted piping shall be color banded in the factory per the Schedule in the SCHEDULE Article of this Specification Section.
   3. Place bands:
      a. Along continuous lines.
      b. At changes in direction.
      c. At changes of elevation.
      d. On both sides of an obstruction (e.g., wall, ceiling) that painted item passes through.
   4. Band width for individual colors (pipe diameter measured to outside of insulation, if applicable):
      a. Piping up to 8 IN DIA: 2 IN minimum.
      b. Piping greater than 8 IN up to 24 IN DIA: 4 IN minimum.
      c. Piping greater than 24 IN up to 48 IN DIA: 6 IN minimum.
      d. Piping greater than 48 IN DIA: 8 IN minimum.

3.7 FIELD QUALITY CONTROL

A. Contractor to provide protection for surfaces painted with epoxy coatings to prevent chalking.
   1. Surfaces showing chalking will not be accepted regardless of condition of paint film.

B. Maintain Daily Records:
   1. Record the following information during application of each coat of paint applied:
      a. Date, starting time, end time, and all breaks taken by painters.
      b. For exterior painting:
         1) Sky condition.
         2) Wind speed and direction.
      c. Air temperature.
      d. Relative humidity.
      e. Moisture content and surface temperature of substrate prior to each coat.
      f. Provisions utilized to maintain work area within manufacturer's recommended application parameters including temporary heating, ventilation, cooling, dehumidification and provisions utilized to mitigate wind blown dust and debris from contaminating the wet paint film.
      g. Record environmental conditions, substrate moisture content and surface temperature information not less than once every four (4) hours during application.
         1) Record hourly when temperatures are below 50 DegF or above 100 DegF.
   2. Record the following information daily for the paint manufacturer's recommended curing period:
      a. Date and start time of cure period for each item or area.
      b. For exterior painting:
         1) Sky conditions.
         2) Wind speed and direction.
      c. Record environmental conditions not less than once every 12 HRS.
         1) Record once every 4 HRS when ambient temperature is below 35 DegF.
      d. Provisions utilized to protect each item or area and to maintain areas within manufacturer's recommended curing parameters.
   3. Format for daily record to be computer generated.

C. Measure wet coating with wet film thickness gages.

D. Measure coating dry film thickness in accordance with SSPC PA 2 using Mikrotest gage calibrated against NBS "Certified Coating Thickness Calibration Standards."
1. Engineer may measure coating thickness at any time during project to assure conformance with these Specifications.

E. Measure surface temperature of items to be painted with surface temperature gage specifically designed for such.

F. Measure substrate humidity with humidity gage specifically designed for such.

G. Provide wet paint signs.

3.8 CLEANING

A. Clean paint spattered surfaces.
   1. Use care not to damage finished surfaces.

B. Upon completion of painting, replace hardware, accessories, plates, fixtures, and similar items.

C. Remove surplus materials, scaffolding, and debris.

3.9 SCHEDULE

A. Colors to be selected during construction.

END OF SECTION
SECTION 26 05 00
ELECTRICAL: BASIC REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Basic requirements for electrical systems.

B. Related Sections include but are not necessarily limited to:
   1. Division 00 - Bidding Requirements, Contract Forms, and Conditions of the Contract.
   2. Division 01 - General Requirements.
   3. Section 01 61 03 - Equipment: Basic Requirements.
   4. Section 05 50 00 - Metal Fabrications.
   5. Section 10 14 00 - Identification Devices.
   6. Section 40 90 00 - Instrumentation for Process Control: Basic Requirements.
   7. Section 26 05 19 - Wire and Cable - 600 Volt and Below.
   8. Section 26 05 33 - Raceways and Boxes.

1.2 QUALITY ASSURANCE

A. Referenced Standards:
   1. Aluminum Association (AA).
   3. ASTM International (ASTM):
         Products.
   4. ETL Testing Laboratories (ETL).
   5. Institute of Electrical and Electronics Engineers/American National Standards Institute
      (IEEE/ANSI):
   6. National Electrical Manufacturers Association (NEMA):
      a. 250, Enclosures for Electrical Equipment (1000 Volts Maximum).
      a. 70, National Electrical Code (NEC).
   8. Underwriters Laboratories, Inc. (UL).

B. Where Underwriters Laboratories, Inc. (UL) test procedures have been established for the
   product type, use UL or ETL Testing Laboratories (ETL) approved electrical equipment and
   provide with the UL or ETL label.

1.3 DEFINITIONS

A. For the purposes of providing materials and installing electrical work the following definitions
   shall be used.
   1. Outdoor area: Exterior locations where the equipment is normally exposed to the weather
      and including below grade structures, such as vaults, manholes, handholes and in-ground
      pump stations.
   2. Architecturally finished interior area: Offices, laboratories, conference rooms, restrooms,
      corridors and other similar occupied spaces.
   3. Non-architecturally finished interior area: Pump, chemical, mechanical, electrical rooms
      and other similar process type rooms.
   4. Shop fabricated: Manufactured or assembled equipment for which a UL test procedure has
      not been established.
1.4 SUBMITTALS

A. Shop Drawings:
   1. See Section 01 33 00 for requirements for the mechanics and administration of submittal process.
   2. See Section 01 61 03 and individual specification sections for submittal requirements for products defined as equipment.
   3. General requirements:
      a. Provide manufacturer's technical information on products to be used, including product descriptive bulletin.
      b. Include data sheets that include manufacturer's name and product model number.
         1) Clearly identify all optional accessories.
      c. Acknowledgement that products are UL or ETL listed or are constructed utilizing UL or ETL recognized components.
      d. Manufacturer's delivery, storage, handling and installation instructions.
      e. Product installation details.
      f. See individual specification sections for any additional requirements.

B. Operation and Maintenance Manuals:
   1. See Section 01 33 04 for requirements for:
      a. The mechanics and administration of the submittal process.
      b. The content process of Operation and Maintenance Manuals.

C. When a Specification Section includes products specified in another Specification Section, each Section shall have the required Shop Drawing transmittal form per Section 01 33 00 and all Sections shall be submitted simultaneously.

1.5 DELIVERY, STORAGE, AND HANDLING

A. See Section 01 65 50.

B. Protect nameplates on electrical equipment to prevent defacing.

1.6 AREA DESIGNATIONS

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

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Refer to specific Division 26 sections and specific material paragraphs below.

B. Provide all components of a similar type by one (1) manufacturer.

2.2 MATERIALS

A. Electrical Equipment Support Pedestals and/or Racks:
   1. Approved manufacturers:
      a. Modular strut:
         1) Unistrut Building Systems.
         2) B-Line.
         3) Globe Strut.
2. Material requirements:
   a. Modular strut:
      2) Stainless steel: AISI Type 316.
      3) PVC coated galvanized steel: ASTM A123 or ASTM A153 and 20 mil PVC coating.
   b. Mounting hardware:
      1) Galvanized steel.
      2) Stainless steel.
   c. Anchorage per Section 05 50 00.

B. Field touch-up of galvanized surfaces.
   1. Zinc-rich primer.
      a. One (1) coat, 3.0 mils, ZRC by ZRC Products.

PART 3 - EXECUTION

3.1 INSTALLATION

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

B. Install equipment in accordance with the requirements of:
   1. NFPA 70 (NEC).
   3. The manufacturer's instructions.

C. In general, conduit routing is not shown on the Drawings.
   1. The Contractor is responsible for routing all conduits including those shown on one-line and control block diagrams and home runs shown on floor plans.
   2. Conduit routings and stub-up locations that are shown are approximate; exact routing to be as required for equipment furnished and field conditions.

D. When complete branch circuiting is not shown on the Drawings:
   1. A homerun indicating panelboard name and circuit number will be shown and the circuit number will be shown adjacent to the additional devices (e.g., light fixture and receptacles) on the same circuit.
   2. The Contractor is to furnish and install all conduit and conductors required for proper operation of the circuit.
   3. The indicated home run conduit and conductor size shall be used for the entire branch circuit.
   4. See Section 26 05 19 for combining multiple branch circuits in a common conduit.

E. Do not use equipment that exceed dimensions or reduce clearances indicated on the Drawings or as required by the NFPA 70 (NEC).

F. Install equipment plumb, square and true with construction features and securely fastened.

G. Install electrical equipment, including pull and junction boxes, minimum of 6 IN from process, gas, air and water piping and equipment.

H. Install equipment so it is readily accessible for operation and maintenance, is not blocked or concealed and does not interfere with normal operating and maintenance requirements of other equipment.

I. Device Mounting Schedule:
   1. Unless indicated otherwise on the Drawings, mounting heights are as indicated below:
      a. Light switch (to center): 48 IN.
b. Receptacle in architecturally finished areas (to center): 18 IN.
c. Receptacle on exterior wall of building (to center): 18 IN.
d. Receptacle in non-architecturally finished areas (to center): 48 IN.
e. Telephone outlet in architecturally finished areas (to center): 18 IN.
f. Telephone outlet for wall-mounted phone (to center): 54 IN.
g. Safety switch (to center of operating handle): 54 IN.
h. Separately mounted motor starter (to center of operating handle): 54 IN.
i. Pushbutton or selector switch control station (to center): 48 IN.
j. Panelboard (to top): 72 IN.

J. Avoid interference of electrical equipment operation and maintenance with structural members, building features and equipment of other trades.
1. When it is necessary to adjust the intended location of electrical equipment, unless specifically dimensioned or detailed, the Contractor may make adjustments in equipment locations in accordance with the following without obtaining the Engineer's approval:
   a. 6 IN at grade, floor and roof level in any direction in the horizontal plane.
   b. 6 IN for equipment other than lighting at ceiling level in any direction in the horizontal plane.
   c. 6 IN for lighting fixtures at ceiling level in any direction in the horizontal plane.
   d. 6 IN on walls in a horizontal direction within the vertical plane.
   e. Changes in equipment location exceeding those defined above require the Engineer's approval.

K. Provide electrical equipment support system per the following area designations:
1. Dry areas:
   a. Galvanized system consisting of galvanized steel channels and fittings, nuts and hardware.
   b. Field touch-up cut ends and scratches of galvanized components with the specified primer during the installation, before rust appears.
2. Wet areas:
   a. System consisting of stainless steel channels and fittings, nuts and hardware.
   b. Field touch-up cut ends and scratches of stainless components with the specified primer during the installation, before rust appears.

L. Provide all necessary anchoring devices and supports rated for the equipment load based on dimensions and weights verified from approved submittals, or as recommended by the manufacturer.
1. See Section 05 50 00.
2. Do not cut, or weld to, building structural members.
3. Do not mount safety switches or other equipment to equipment enclosures, unless enclosure mounting surface is properly braced to accept mounting of external equipment.

M. Provide corrosion resistant spacers to maintain 1/4 IN separation between metallic equipment and/or metallic equipment supports and mounting surface in wet areas, on below grade walls and on walls of liquid containment or processing areas.

N. Do not place equipment fabricated from aluminum in direct contact with earth or concrete.

O. Screen or seal all openings into equipment mounted outdoors to prevent the entrance of rodents and insects.

P. Do not use materials that may cause the walls or roof of a building to discolor or rust.

Q. Identify electrical equipment and components in accordance with Section 10 14 00.
3.2 FIELD QUALITY CONTROL

A. Verify exact rough-in location and dimensions for connection to electrified equipment, provided by others.
   1. See Section 01 73 20 for openings and penetrations in structures.

B. Replace equipment and systems found inoperative or defective and re-test.

C. Cleaning:
   1. See Section 01 74 13.

D. The protective coating integrity of support structures and equipment enclosures shall be maintained.
   1. Repair galvanized components utilizing a zinc rich paint.
   2. Repair painted components utilizing touch up paint provided by or approved by the manufacturer.
   3. Repair PVC coated components utilizing a patching compound, of the same material as the coating, provided by the manufacturer of the component.
   4. Repair surfaces which will be inaccessible after installation prior to installation.
   5. See Section 26 05 33 for requirements for conduits and associated accessories.

E. Replace nameplates damaged during installation.

3.3 DEMONSTRATION

A. Demonstrate equipment in accordance with Section 01 75 00.

END OF SECTION
SECTION 26 05 19
WIRE AND CABLE: 600 VOLT AND BELOW

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Material and installation requirements for:
   a. Building wire.
   b. Power cable.
   c. Control cable.
   d. Instrumentation cable.
   e. Wire connectors.
   f. Insulating tape.
   g. Pulling lubricant.

B. Related Sections include but are not necessarily limited to:

1. Division 00 - Bidding Requirements, Contract Forms, and Conditions of the Contract.
2. Division 01 - General Requirements.
3. Section 26 05 00 - Electrical: Basic Requirements.

1.2 QUALITY ASSURANCE

A. Referenced Standards:

1. Canadian Standards Association (CSA):
   a. Test Methods for Electrical Wires and Cables (FT-4 Vertical Cable Tray Test).

2. Institute of Electrical and Electronic Engineers/American National Standards Institute (IEEE/ANSI):
   a. 1202, Standard for Flame Testing of Cables for Use in Cable Tray in Industrial and Commercial Occupancies.

3. National Electrical Manufacturers Association (NEMA):
   a. ICS 4, Industrial Control and Systems: Terminal Blocks.

4. National Electrical Manufacturers Association/Insulated Cable Engineers Association (NEMA/ICEA):
   a. WC 57/S-73-532, Standard for Control Cables.
   b. WC 70/S-95-658, Non-Shielded Power Cables Rated 200 Volts or Less for the Distribution of Electrical Energy.

5. National Fire Protection Association (NFPA):
   a. 70, National Electrical Code (NEC).

6. Underwriters Laboratories, Inc. (UL):
   c. 467, Standard for Safety Grounding and Bonding Equipment.
   d. 486A, Standard for Safety Wire Connectors and Soldering Lugs for use with Copper Conductors.
   e. 486C, Standard for Safety Splicing Wire Connections.
   f. 510, Standard for Safety Polyvinyl Chloride, Polyethylene and Rubber Insulating Tape.
   g. 910, Test for Cable Flame-Propagation and Smoke-Density Values for Electrical and Optical-Fiber Cables Used in Spaces Transporting Environmental Air.
   h. 1277, Standard for Safety Electrical Power and Control Tray Cables with Optional Optical-Fiber Members.
j. 2250, Standard for Safety Instrumentation Tray Cable.

1.3 DEFINITIONS

A. Cable: Multi-conductor, insulated, with outer sheath containing either building wire or instrumentation wire.

B. Instrumentation Cable:
   1. Multiple conductor, insulated, twisted or untwisted, with outer sheath.
   2. The following are specific types of instrumentation cables:
      a. Analog signal cable:
         1) Used for the transmission of low current (e.g., 4-20mA DC) or low voltage (e.g., 0-10 Vdc) signals, using No. 16 AWG and smaller conductors.
         2) Commonly used types are defined in the following:
            a) TSP: Twisted shielded pair.
            b) TST: Twisted shielded triad.
      b. Digital signal cable: Used for the transmission of digital signals between computers, PLC’s, RTU’s, etc.

C. Power Cable: Multi-conductor, insulated, with outer sheath containing building wire, No. 8 AWG and larger.

D. Control Cable: Multi-conductor, insulated, with outer sheath containing building wires, No. 14, No. 12 or No. 10 AWG.

E. Building Wire: Single conductor, insulated, with or without outer jacket depending upon type.

1.4 SUBMITTALS

A. Shop Drawings:
   1. See Section 01 33 00 for requirements for the mechanics and administration of the submittal process.
   2. Product technical data:
      a. Provide submittal data for all products specified in Part 2 of this specification except:
         1) Wire connectors.
         2) Insulating tape.
         3) Cable lubricant.
      b. See Section 26 05 00 for additional requirements.

1.5 DELIVERY, STORAGE, AND HANDLING

A. See Section 26 05 00.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Subject to compliance with the Contract Documents, the following manufacturers are acceptable:
   1. Building wire, power and control cable:
      b. General Cable.
      c. Manhattan/CDT.
      d. Southwire Company.
   2. Instrumentation cable:
      a. Analog cable:
         1) Alpha Wire Corporation.
2) American Insulated Wire Corporation.
3) Belden CDT Inc.
4) General Cable.
5) Manhattan/CDT.

3. Wire connectors:
   a. Burndy Corporation.
   b. Buchanan.
   c. Ideal.
   d. Ilsco.
   e. 3M Co.
   f. Teledyne Penn Union.
   g. Thomas and Betts.
   h. Phoenix Contact.

4. Insulating and color coding tape:
   a. 3M Co.
   b. Plymouth Bishop Tapes.
   c. Red Seal Electric Co.

B. Submit request for substitution in accordance with Specification Section 01 25 13.

2.2 MANUFACTURED UNITS

A. Building Wire:
   1. Conductor shall be copper with 600 V rated insulation.
   2. Conductors shall be stranded, except for conductors used in lighting and receptacle circuits which may be stranded or solid.
   3. Surface mark with manufacturers name or trademark, conductor size, insulation type and UL label.
   4. Conform to NEMA/ICEA WC 70/S-95-658 and UL 83 for type THHN/THWN and THHN/THWN-2 insulation.
   5. Conform to NEMA/ICEA WC 70/S-95-658 and UL 44 for type XHHW-2 insulation.

B. Power Cable:
   1. Conductor shall be copper with 600 V rated insulation.
   2. Surface mark with manufacturers name or trademark, conductor size, insulation type and UL label.
   3. Conform to NEMA/ICEA WC 70/S-95-658 and UL 83 and UL 1277 for type THHN/THWN insulation with an overall PVC jacket.
   4. Number of conductors as required, including a bare ground conductor.
   5. Individual conductor color coding:
      a. ICEA Method 4.
      b. See Part 3 of this specification for additional requirements.
   6. Conform to NFPA 70 Type TC and IEEE/ANSI 1202.

C. Control Cable:
   1. Conductor shall be copper with 600 V rated insulation.
   2. Surface mark with manufacturer's name or trademark, conductor size, insulation type and UL label.
   3. Conform to NEMA/ICEA WC 57/S-73-532 and UL 83 and UL 1277 for type THHN/THWN insulation with an overall PVC jacket.
   4. Number of conductors as required, provided with or without bare ground conductor of the same AWG size.
      a. When a bare ground conductor is not provided, an additional insulated conductor shall be provided and used as the ground conductor (e.g., 6/c No. 14 w/g and 7/c No. 14 are equal).
   5. Individual conductor color coding:
      a. NEMA/ICEA Method 1, Table E-2.
      b. See Part 3 of this Specification for additional requirements.
6. Conform to NFPA 70 Type TC.

D. Electrical Equipment Control Wire:
1. Conductor shall be copper with 600 V rated insulation.
2. Conductors shall be stranded.
3. Surface mark with manufacturers name or trademark, conductor size, insulation type and UL label.
4. Conform to UL 44 for Type SIS insulation.
5. Conform to UL 83 for Type MTW insulation.

E. Instrumentation Cable:
1. Surface mark with manufacturers name or trademark, conductor size, insulation type and UL label.
2. Analog cable:
   a. Tinned copper conductors.
   b. 300 V or 600 V PVC insulation with PVC jacket.
   c. Twisted with 100 percent foil shield coverage with drain wire.
   d. Six (6) twists per foot minimum.
   e. Individual conductor color coding: ICEA Method 1, Table K-2.
   f. Conform to IEEE/ANSI 1202 UL 2250, UL 1581 and NFPA 70 Type ITC.
3. Digital cable:
   a. As recommended by equipment (e.g., PLC, RTU) manufacturer.
   b. Conform to IEEE/ANSI 1202 UL 910 and NFPA 70 Type ITC.

F. Wire Connectors:
1. Twist/screw on type:
   a. Insulated pressure or spring type solderless connector.
   b. 600 V rated.
   c. Ground conductors: Conform to UL 486C and/or UL 467 when required by local codes.
   d. Phase and neutral conductors: Conform to UL 486C.
2. Compression and mechanical screw type:
   a. 600 V rated.
   b. Ground conductors: Conform to UL 467.
   c. Phase and neutral conductors: Conform to UL 486A.
3. Terminal block type:
   a. High density, screw-post barrier-type with white center marker strip.
   b. 600 V and ampere rating as required, for power circuits.
   c. 600 V, 20 ampere rated for control circuits.
   d. 300 V, 15 ampere rated for instrumentation circuits.
   e. Conform to NEMA ICS 4 and UL 486A.

G. Insulating and Color Coding Tape:
1. Pressure sensitive vinyl.
2. Premium grade.
3. Heat, cold, moisture, and sunlight resistant.
4. Thickness, depending on use conditions: 7, 8.5, or 10 mil.
5. For cold weather or outdoor location, tape must also be all-weather.
6. Color:
   a. Insulating tape: Black.
   b. Color coding tape: Fade-resistant color as specified herein.
7. Comply with UL 510.

H. Pulling Lubricant: Cable manufacturer's standard containing no petroleum or other products which will deteriorate insulation.
PART 3 - EXECUTION

3.1 INSTALLATION

A. Permitted Usage of Insulation Types:
   1. Type XHHW-2:
      a. Building wire and power and control cable in architectural and non-architectural
         finished areas.
      b. Building wire and power and control cable in conduit below grade.
   2. Type THHN/THWN and THHN/THWN-2:
      a. Building wire and power and control cable No. 8 AWG and smaller in architectural and
         non-architectural finished areas.
   3. Type SIS and MTW:
      a. For the wiring of control equipment within control panels and field wiring of control
         equipment within switchgear, switchboards, motor control centers.

B. Conductor Size Limitations:
   1. Feeder and branch power conductors shall not be smaller than No. 12 AWG unless
      otherwise indicated on the Drawings.
   2. Control conductors shall not be smaller than No. 14 AWG unless otherwise indicated on the
      Drawings.
   3. Instrumentation conductors shall not be smaller than No. 16 AWG unless otherwise
      indicated on the Drawings.

C. Color Code All Wiring as Follows:
   1. Building wire:

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Neutral</th>
<th>Ground</th>
</tr>
</thead>
<tbody>
<tr>
<td>240 V, 208 V, 240/120 V</td>
<td>Black</td>
<td>Red *</td>
<td>Blue</td>
<td>White</td>
<td>Green</td>
</tr>
<tr>
<td>208/120 V</td>
<td></td>
<td>Orange</td>
<td></td>
<td>White or Gray</td>
<td></td>
</tr>
<tr>
<td>480 V, 480/277 V</td>
<td>Brown</td>
<td></td>
<td>Yellow</td>
<td></td>
<td>Green</td>
</tr>
</tbody>
</table>

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

a. Conductors No. 6 AWG and smaller: Insulated phase, neutral and ground conductors
   shall be identified by a continuous colored outer finish along its entire length.

b. Conductors larger than No. 6 AWG:
   1) Insulated phase and neutral conductors shall be identified by one (1) of the
      following methods:
      a) Continuous colored outer finish along its entire length.
      b) 3 IN of colored tape applied at the termination.
   2) Insulated grounding conductor shall be identified by one (1) of the following
      methods:
      a) Continuous green outer finish along its entire length.
      b) Stripping the insulation from the entire exposed length.
      c) Using green tape to cover the entire exposed length.
   3) The color coding shall be applied at all accessible locations, including but not
      limited to: Junction and pull boxes, wireways, manholes and handholes.

2. Power cables ICEA Method 4 with:
   a. Phase and neutral conductors identified with 3 IN of colored tape, per the Table herein,
      applied at the terminations.
   b. Ground conductor: Bare.

3. Control cables NEMA/ICEA Method 1, Table E-2:
a. When a bare ground is not provided, one (1) of the colored insulated conductors shall be re-identified by stripping the insulation from the entire exposed length or using green tape to cover the entire exposed length.
b. When used in power applications the colored insulated conductors used as phase and neutral conductors may have to be re-identified with 3 IN of colored tape, per the Table herein, applied at the terminations.

D. Install all wiring in raceway unless otherwise indicated on the Drawings.

E. Feeder, branch, control and instrumentation circuits shall not be combined in a raceway, cable tray, junction or pull box, except as permitted in the following:
   1. Where specifically indicated on the Drawings.
   2. Where field conditions dictate and written permission is obtained from the Engineer.
   3. Control circuits shall be isolated from feeder and branch power and instrumentation circuits but combining of control circuits is permitted.
      a. The combinations shall comply with the following:
         1) 12 Vdc, 24 Vdc and 48 Vdc may be combined.
         2) 125 Vdc shall be isolated from all other AC and DC circuits.
         3) AC control circuits shall be isolated from all DC circuits.
   4. Instrumentation circuits shall be isolated from feeder and branch power and control circuits but combining of instrumentation circuits is permitted.
      a. The combinations shall comply with the following:
         1) Analog signal circuits may be combined.
         2) Digital signal circuits may be combined but isolated from analog signal circuits.
   5. Multiple branch circuits for lighting, receptacle and other 120 Vac circuits are allowed to be combined into a common raceway.
      a. Contractor is responsible for making the required adjustments in conductor and raceway size, in accordance with all requirements of the NEC, including but not limited to:
         1) Up sizing conductor size for required ampacity de-ratings for the number of current carrying conductors in the raceway.
         2) The neutral conductors may not be shared.
         3) Up sizing raceway size for the size and quantity of conductors.

F. Ground the drain wire of shielded instrumentation cables at one (1) end only.
   1. The preferred grounding location is at the load (e.g., control panel), not at the source (e.g., field mounted instrument).

G. Splices and terminations for the following circuit types shall be made in the indicated enclosure type using the indicated method.
   1. Feeder and branch power circuits:
      a. Device outlet boxes:
         1) Twist/screw on type connectors.
      b. Junction and pull boxes and wireways:
         1) Twist/screw on type connectors for use on No. 8 and smaller wire.
         2) Compression, mechanical screw or terminal block or terminal strip type connectors for use on No. 6 AWG and larger wire.
      c. Motor terminal boxes:
         1) Twist/screw on type connectors for use on No. 10 AWG and smaller wire.
         2) Mechanical screw type connectors for use on No. 8 AWG and larger wire.
      d. Manholes or handholes:
         1) Twist/screw on type connectors pre-filled with epoxy for use on No. 8 AWG and smaller wire.
         2) Watertight compression or mechanical screw type connectors for use on No. 6 AWG and larger wire.
   2. Control circuits:
b. Manholes or handholes: Twist/screw on type connectors pre-filled with epoxy.
c. Control panels and motor control centers: Terminal block or strips provided within the equipment or field installed within the equipment by the Contractor.

3. Instrumentation circuits can be spliced where field conditions dictate and written permission is obtained from the Engineer.
   a. Maintain electrical continuity of the shield when splicing twisted shielded conductors.
   b. Junction and pull boxes: Terminal block type connector.
   c. Control panels and motor control centers: Terminal block or strip provided within the equipment or field installed within the equipment by the Contractor.

4. Non-insulated compression and mechanical screw type connectors shall be insulated with tape or hot or cold shrink type insulation to the insulation level of the conductors.

H. Insulating Tape Usage:
   1. For insulating connections of No. 8 AWG wire and smaller: 7 mil vinyl tape.
   2. For insulating splices and taps of No. 6 AWG wire or larger: 10 mil vinyl tape.
   3. For insulating connections made in cold weather or in outdoor locations: 8.5 mil, all weather vinyl tape.

I. Color Coding Tape Usage: For color coding of conductors.

3.2 FIELD QUALITY CONTROL

A. Acceptance Testing:
   1. See Section 26 08 13.

END OF SECTION
SECTION 26 05 33
RACEWAYS AND BOXES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Material and installation requirements for:
      a. Conduits.
      b. Conduit fittings.
      c. Conduit supports.
      d. Wireways.
      e. Outlet boxes.
      f. Pull and junction boxes.

B. Related Sections include but are not necessarily limited to:
   1. Division 00 - Bidding Requirements, Contract Forms, and Conditions of the Contract.
   2. Division 01 - General Requirements.
   3. Section 26 05 00 - Electrical: Basic Requirements.
   5. Section 26 27 26 - Wiring Devices.

1.2 QUALITY ASSURANCE

A. Referenced Standards:
   1. American Iron and Steel Institute (AISI).
   2. ASTM International (ASTM):
   3. National Electrical Manufacturers Association (NEMA):
      a. 250, Enclosures for Electrical Equipment (1000 Volts Maximum).
      b. OS 1, Sheet-Steel Outlet Boxes, Device Boxes, Covers, and Box Supports.
      c. RN 1, Polyvinyl-Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit.
      d. TC 2, Electrical Plastic Tubing (EPT) and Conduit (EPC-40 and EPC-80).
      e. TC 3, PVC Fittings for Use with Rigid PVC Conduit and Tubing.
      a. C80.1, Rigid Steel Conduit - Zinc-Coated.
      b. C80.3, Electrical Metallic Tubing - Zinc-Coated.
   5. National Fire Protection Association (NFPA):
      a. 70, National Electrical Code (NEC).
   6. Underwriters Laboratories, Inc. (UL):
      a. 1, Standard for Safety Flexible Metal Conduit.
      b. 6, Standard for Safety Rigid Metal Conduit.
      c. 50, Standard for Safety Enclosures for Electrical Equipment.
      d. 360, Standard for Safety Liquid-Tight Flexible Steel Conduit.
      e. 467, Standard for Safety Grounding and Bonding Equipment.
      f. 514A, Standard for Safety Metallic Outlet Boxes.
      g. 514B, Standard for Safety Fittings for Cable and Conduit.
h. 651, Standard for Safety Schedule 40 and 80 Rigid PVC Conduit.
i. 797, Standard for Safety Electrical Metallic Tubing.
j. 870, Standard for Safety Wireways, Auxiliary Gutters, and Associated Fittings.
k. 886, Standard for Safety Outlet Boxes and Fittings for Use in Hazardous (Classified) Locations.

1.3 SUBMITTALS

A. Shop Drawings:
   1. See Section 01 33 00 for requirements for the mechanics and administration of the submittal process.
   2. Product technical data:
      a. Provide submittal data for all products specified in PART 2 of this Specification except:
         1) Conduit fittings.
         2) Support systems.
      b. See Section 26 05 00 for additional requirements.
   3. Fabrication and/or layout drawings:
      a. Identify dimensional size of pull and junction boxes to be used.

1.4 DELIVERY, STORAGE, AND HANDLING

A. See Section 26 05 00.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Subject to compliance with the Contract Documents, the following manufacturers are acceptable:
   1. Rigid metallic conduits:
      a. Allied Tube and Conduit Corporation.
      b. Triangle PWC Inc.
      c. Western Tube and Conduit Corporation.
      d. Wheatland Tube Company.
      e. LTV Steel Company.
   2. PVC coated rigid metallic conduits and repair kits:
      a. Occidental Coating Company.
      b. Perma-Cote.
      c. Rob-Roy Ind.
      d. Raychem "GelTek" tape.
   3. Rigid non-metallic conduit:
      a. Carlon.
      b. Cantex.
      c. Osburn Associates.
   4. Flexible conduit:
      a. AFC Cable Systems.
      b. Anamet, Inc.
      c. Electri-Flex.
      d. Flexible Metal Hose Company.
      e. International Metal Hose Company.
      f. Triangle PWC Inc.
      g. LTV Steel Company.
   5. Wireway:
      b. Wiegmann.
      c. Square D.
6. Conduit fittings and accessories:
   a. Appleton.
   b. Carlon.
   c. Cantex.
   d. Crouse-Hinds.
   e. Killark.
   f. Osburn Associates.
   g. OZ Gedney Company.
   h. RACO.
   i. Steel City.
   j. Thomas and Betts.

7. Support systems:
   b. B-Line Systems Inc.
   c. Kindorf.
   d. Minerallac Fastening Systems.
   e. Caddy.

8. Outlet, pull and junction boxes:
   a. Appleton Electric Co.
   b. Crouse-Hinds.
   c. Killark.
   d. O-Z/Gedney.
   e. Steel City.
   f. Raco.
   g. Bell.
   h. Hoffman Engineering Co.
   i. Wiegmann.
   j. B-Line Circle AW.
   k. Adalet.
   l. Rittal.

B. Submit request for substitution in accordance with Specification Section 01 25 13.

2.2 RIGID METALLIC CONDUITS

A. Rigid Galvanized Steel Conduit (RGS):
   1. Mild steel with continuous welded seam.
   2. Metallic zinc applied by hot-dip galvanizing or electro-galvanizing.
   3. Threads galvanized after cutting.
   4. Internal coating: Baked lacquer, varnish or enamel for a smooth surface.

B. PVC-Coated Rigid Steel Conduit (PVC-RGS):
   1. Nominal 40 mil Polyvinyl Chloride Exterior Coating:
      a. Coating: Bonded to hot-dipped galvanized rigid steel conduit conforming to
         NEMA/ANSI C80.1.
      b. The bond between the PVC coating and the conduit surface: Greater than the tensile
         strength of the coating.
   2. Nominal 2 mil, minimum, urethane interior coating.
   3. Urethane coating on threads.
   4. Conduit: Epoxy prime coated prior to application of PVC and urethane coatings.
   5. Female Ends:
      a. Have a plastic sleeve extending a minimum of 1 pipe diameter or 2 IN, whichever is
         less beyond the opening.
      b. The inside diameter of the sleeve shall be the same as the outside diameter of the
         conduit to be used with it.
C. Electrical Metallic Tubing (EMT):
   1. Mild steel with continuous welded seam.
   2. Metallic zinc applied by hot-dip galvanizing or electro-galvanizing.
   3. Internal coating: Baked lacquer, varnish, or enamel for a smooth surface.

2.3 RIGID NON-METALLIC CONDUIT

A. Schedules 40 (PVC-40) and 80 (PVC-80):
   1. Polyvinyl-chloride (PVC) plastic compound which includes inert modifiers to improve weatherability and heat distribution.
   2. Rated for direct sunlight exposure.
   3. Fire retardant and low smoke emission.
   4. Shall be suitable for use with 90 DegC wire and shall be marked "maximum 90 DegC".
   5. Standards: NEMA TC 2, UL 651.

2.4 FLEXIBLE CONDUIT

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

B. PVC-Coated Flexible Galvanized Steel (liquid-tight) Conduit (FLEX-LT):
   1. Core formed of continuous, spiral wound, hot-dip galvanized steel strip with successive convolutions securely interlocked.
   2. Extruded PVC outer jacket positively locked to the steel core.
   3. Liquid and vaportight.

2.5 WIREWAY

A. General:
   1. Suitable for lay-in conductors.
   2. Designed for continuous grounding.
   3. Covers:
      a. Hinged or removable in accessible areas.
      b. Non-removable when passing through partitions.
   4. Finish: Rust inhibiting primer and manufacturers standard paint inside and out except for stainless steel type.
   5. Standards: UL 870, NEMA 250.

B. General Purpose (NEMA 1 rated) Wireway:
   1. 14 or 16 gage steel without knockouts.
   2. Cover: Solid, non-gasketed and held in place by captive screws.

C. Raintight (NEMA 3R) Wiring Trough:
   1. 14 or 16 GA galvanized steel without knockouts.
   2. Cover: Non-gasketed and held in place by captive screws.

D. Watertight (NEMA 4X rated) Wireway:
   1. 14 GA Type 304 or 316 stainless steel bodies and covers without knockouts and 10 GA stainless steel flanges.
   2. Cover: Fully gasketed and held in place with captive clamp type latches.
   3. Flanges: Fully gasketed and bolted.

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

A. **Fittings for Use with RGS:**

1. **General:**
   a. In hazardous locations listed for use in Class I, Groups C and D locations.

2. **Locknuts:**
   a. Threaded steel or malleable iron.
   b. Gasketed or non-gasketed.
   c. Grounding or non-grounding type.

3. **Bushings:**
   a. Threaded, insulated metallic.
   b. Grounding or non-grounding type.

4. **Hubs:** Threaded, insulated and gasketed metallic for raintight connection.

5. **Couplings:**
   a. Threaded straight type: Same material and finish as the conduit with which they are used on.
   b. Threadless type: Gland compression or self-threading type, concrete tight.

6. **Unions:** Threaded galvanized steel or zinc plated malleable iron.

7. **Conduit bodies (ells and tees):**
   a. Body: Zinc plated cast iron or cast copper free aluminum with threaded hubs.
   b. Standard and mogul size.
   c. Cover:
      1) Clip-on type with stainless steel screws.
      2) Gasketed or non-gasketed galvanized steel, zinc plated cast iron or cast copper free aluminum.

8. **Conduit bodies (round):**
   a. Body: Zinc plated cast iron or cast copper free aluminum with threaded hubs.
   b. Cover: Threaded screw on type, gasketed, galvanized steel, zinc plated cast iron or cast copper free aluminum.

9. **Sealing fittings:**
   a. Body: Zinc plated cast iron or cast copper free aluminum with threaded hubs.
   b. Standard and mogul size.
   c. With or without drain and breather.
   d. Fiber and sealing compound: UL listed for use with the sealing fitting.

10. **Service entrance head:**
    a. Malleable iron, galvanized steel or copper free aluminum.
    b. Insulated knockout cover for use with a variety of sizes and number of conductors.

11. **Expansion couplings:**
    a. 2 IN nominal straight-line conduit movement in either direction.
    b. Galvanized steel with insulated bushing.
    c. Gasketed for wet locations.
    d. Internally or externally grounded.

12. **Expansion/deflection couplings:**
    a. 3/4 IN nominal straight-line conduit movement in either direction.
    b. 30-degree nominal deflection from the normal in all directions.
    c. Metallic hubs, neoprene outer jacket and stainless steel jacket clamps.
    d. Internally or externally grounded.
    e. Watertight, raintight and concrete tight.

13. **Standards:** UL 467, UL 514B, UL 886.

B. **Fittings for Use with PVC-RGS:**

1. The same material and construction as those fittings listed under paragraph "Fittings for Use with RGS" and coated as defined under paragraph "PVC Coated Rigid Steel Conduit (PVC-RGS)."

C. **Fittings for Use with EMT:**

1. **Connectors:**
2.7 ALL RACEWAY AND FITTINGS

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

2.8 OUTLET BOXES

A. Metallic Outlet Boxes:
1. Hot-dip galvanized steel.
2. Conduit knockouts and grounding pigtail.
3. Styles:
   a. 2 IN x 3 IN rectangle.
   b. 4 IN square.
c. 4 IN octagon.
d. Masonry/tile.

4. Accessories:
   a. Flat blank cover plates.
   b. Barriers.
   c. Extension, plaster or tile rings.
   d. Box supporting brackets in stud walls.
   e. Adjustable bar hangers.

5. Standards: NEMA OS 1, UL 514A.

B. Cast Outlet Boxes:
   1. Zinc plated cast iron or die-cast copper free aluminum with manufacturers standard finish.
   2. Threaded hubs and grounding screw.
   3. Styles:
      a. "FS" or "FD".
      b. "Bell".
      c. Single or multiple gang and tandem.
      d. "EDS" or "EFS" for hazardous locations.
   4. Accessories: 40 mil PVC exterior coating and 2 mil urethane interior coating.

C. See Section 26 for wiring devices, wallplates and coverplates.

2.9 PULL AND JUNCTION BOXES

A. NEMA 1 Rated:
   1. Body and cover: 14 GA minimum, galvanized steel or 14 GA minimum, steel finished with
      rust inhibiting primer and manufacturers standard paint inside and out.
   2. With or without concentric knockouts on four (4) sides.
   3. Flat cover fastened with screws.

B. NEMA 4 Rated:
   1. Body and cover: 14 GA steel finished with rust inhibiting primer and manufacturers
      standard paint inside and out.
   2. Seams continuously welded and ground smooth.
   3. No knockouts.
   4. External mounting flanges.
   5. Hinged or non-hinged cover held closed with stainless steel screws and clamps.
   6. Cover with oil resistant gasket.

C. NEMA 4X Rated (metallic):
   1. Body and cover: 14 GA Type 304 or 316 stainless steel.
   2. Seams continuously welded and ground smooth.
   3. No knockouts.
   4. External mounting flanges.
   5. Hinged door and stainless steel screws and clamps.
   6. Door with oil-resistant gasket.

D. NEMA 12 Rated:
   1. Body and cover:
      a. 14 GA steel finished with rust inhibiting primer and manufacturers standard paint inside
         and out.
      b. Type 5052 H-32 aluminum, unpainted.
   2. Seams continuously welded and ground smooth.
   3. No knockouts.
   4. External mounting flanges.
   5. Non-hinged cover held closed with captivated cover screws threaded into sealed wells or
      hinged cover held closed with stainless steel screws and clamps.
   6. Flat door with oil resistant gasket.
E. Miscellaneous Accessories:
1. Rigid handles for covers larger than 9 SF or heavier than 25 LBS.
2. Split covers when heavier than 25 LBS.
3. Weldnuts for mounting optional panels and terminal kits.
4. Terminal blocks: Screw-post barrier-type, rated 600 volt and 20 ampere minimum.

F. Standards: NEMA 250, UL 50.

2.10 SUPPORT SYSTEMS

A. Multi-conduit Surface or Trapeze Type Support and Pull or Junction Box Supports:
1. Material requirements:
   b. Stainless steel: AISI Type 316.
   c. PVC coat galvanized steel: ASTM A123 or ASTM A153 and 20 mil PVC coating.

B. Single Conduit and Outlet Box Support Fasteners:
1. Material requirements:
   a. Zinc plated steel.
   b. Stainless steel.
   c. Malleable iron.
   d. PVC coat malleable iron or steel: 20 mil PVC coating.
   e. Steel protected with zinc phosphate and oil finish.

2.11 OPENINGS AND PENETRATIONS IN WALLS AND FLOORS

A. Sleeves, smoke and fire stop fitting through walls and floors:
1. See Section 01 73 20.

PART 3 - EXECUTION

3.1 RACEWAY INSTALLATION - GENERAL

A. Shall be in accordance with the requirements of:
1. NFPA 70.
2. Manufacturer instructions.

B. Size of Raceways:
1. Raceway sizes are shown on the Drawings, if not shown on the Drawings, then size in accordance with NFPA 70.
2. Unless specifically indicated otherwise, the minimum raceway size shall be:
   a. Conduit: 3/4 IN.
   b. Wireway: 2-1/2 IN x 2-1/2 IN.

C. Field Bending and Cutting of Conduits:
1. Utilize tools and equipment recommended by the manufacturer of the conduit, designed for the purpose and the conduit material to make all field bends and cuts.
2. Do not reduce the internal diameter of the conduit when making conduit bends.
3. Prepare tools and equipment to prevent damage to the PVC coating.
4. Degrease threads after threading and apply a zinc rich paint.
5. Debur interior and exterior after cutting.

D. Male threads of conduit systems shall be coated with an electrically conductive anti-seize compound.

E. The protective coating integrity of conduits, fittings, outlet, pull and junction boxes and accessories shall be maintained.
1. Repair galvanized components utilizing a zinc rich paint.
2. Repair painted components utilizing touch up paint provided by or approved by the manufacturer.
3. Repair PVC coated components utilizing a patching compound, of the same material as the coating, provided by the manufacturer of the conduit; or a self-adhesive, highly conformable, cross-linked silicone composition strip, followed by a protective coating of vinyl tape.
   a. Total nominal thickness: 40 mil.
4. Repair surfaces which will be inaccessible after installation prior to installation.

F. Remove moisture and debris from conduit before wire is pulled into place.
   1. Pull mandrel with diameter nominally 1/4 IN smaller than the interior of the conduit, to remove obstructions.
   2. Swab conduit by pulling a clean, tight-fitting rag through the conduit.
   3. Tightly plug ends of conduit with tapered wood plugs or plastic inserts until wire is pulled.

G. Only nylon or polyethylene rope shall be used to pull wire and cable in conduit systems.

H. Where portions of a raceway are subject to different temperatures and where condensation is known to be a problem, as in cold storage areas of buildings or where passing from the interior to the exterior of a building, the raceway shall be sealed to prevent circulation of warm air to colder section of the raceway.

I. Fill openings in walls, floors, and ceilings and finish flush with surface.
   1. See Section 01 73 20.

3.2 RACEWAY ROUTING

A. Raceways shall be routed in the field unless otherwise indicated.
   1. Conduit and fittings shall be installed, as required, for a complete system that has a neat appearance and is in compliance with all applicable codes.
   2. Run in straight lines parallel to or at right angles to building lines.
   3. Do not route conduits:
      a. Through areas of high ambient temperature or radiant heat.
      b. In suspended concrete slabs.
   4. Conduit shall not interfere with, or prevent access to, piping, valves, ductwork, or other equipment for operation, maintenance and repair.
   5. Provide pull boxes or conduit bodies as needed so that there is a maximum of 360 degrees of bends in the conduit run or in long straight runs to limit pulling tensions.

B. All rigid conduits within a structure shall be installed exposed except as follows:
   1. As indicated on the Drawings.
   2. Concealed above gypsum wall board or acoustical tile suspended ceilings.
   3. Concealed within stud frame, poured concrete, concrete block and brick walls of an architecturally finished area.
   4. Embedded in floor slabs or buried under floor serving equipment in non-architecturally finished areas that are not located on or near a wall or column and the ceiling height is greater than 12 FT.
   5. Embedded in floor slabs or buried under floor slabs where shown on the Contract Drawings or with the Engineer's permission.

C. Maintain minimum spacing between parallel conduit and piping runs in accordance with the following when the runs are greater than 30 FT:
   1. Between instrumentation and telecommunication: 1 IN.
   2. Between instrumentation and 125 V, 48 V and 24 Vdc, 2 IN.
   3. Between instrumentation and 600 V and less AC power or control: 6 IN.
   4. Between instrumentation and greater than 600 Vac power: 12 IN.
   5. Between telecommunication and 125 V, 48 V and 24 Vdc, 2 IN.
   6. Between telecommunication and 600 V and less AC power or control: 6 IN.
   7. Between telecommunication and greater than 600 Vac power: 12 IN.
8. Between 125 V, 48 V and 24 Vdc and 600 V and less AC power or control: 2 IN.
9. Between 125 V, 48 V and 24 Vdc and greater than 600 Vac power: 2 IN.
10. Between 600 V and less AC and greater than 600 Vac: 2 IN.
11. Between process, gas, air and water pipes: 6 IN.

D. Conduits shall be installed to eliminate moisture pockets.
   1. Where water cannot drain to openings, provide drain fittings in the low spots of the conduit run.

E. Conduit shall not be routed on the exterior of structures except as specifically indicated on the Drawings.

F. Where sufficient room exists within the housing of roof-mounted equipment, the conduit shall be stubbed up inside the housing.

G. Provide all required openings in walls, floors, and ceilings for conduit penetration.
   1. See Section 01 73 20.

3.3 RACEWAY APPLICATIONS

A. Permitted Raceway Types Per Wire or Cable Types:
   1. Power wire or cables: All raceway types.
   2. Control wire or cables: All raceway types.
   3. Instrumentation cables: Metallic raceway except non-metallic may be used underground.
   4. Motor leads from a VFD: RGS, or shielded VFD cables in all other raceways.
   5. Telecommunication cables: All raceway types.

B. Permitted Raceway Types Per Area Designations:
   1. Dry areas:
      a. RGS.
   2. Wet areas:
      a. RGS.

C. Permitted Raceway Types Per Routing Locations:
   1. In stud framed walls:
      a. EMT.
   2. In concrete block or brick walls:
      a. PVC-40.
   3. Above acoustical tile ceilings:
      a. EMT.
      b. NEMA 1 rated wireway.
   4. Embedded in poured concrete walls and floors:
      a. PVC-40.
      b. RGS wrapped with factory applied weather and corrosion protection tape when emerging from concrete into areas designated as dry, wet, corrosive or highly corrosive.
      c. PVC-RGS when emerging from concrete into areas designated as wet, or corrosive.
   5. Beneath floor slab-on-grade:
      a. PVC-40.
   6. Through floor penetrations, see Section 01 73 20:
      a. RGS wrapped with factory applied weather and corrosion protection tape when emerging from concrete into areas designated as dry, wet, or corrosive.
      b. PVC-RGS in areas designated as wet, or corrosive.
   7. Direct buried conduits and ductbanks:
      a. PVC-80.
      b. 90 degree elbows for transitions to above grade:
         1) PVC-RGS.
      c. Long sweeping bends greater than 15 degrees:
         1) RGS wrapped with factory applied weather and corrosion protection tape.
         2) PVC-RGS.
8. Concrete encased ductbanks:
   a. PVC-40.
   b. 90 degree elbows for transitions to above grade:
      1) PVC-RGS.
   c. Long sweeping bends greater than 15 degrees:
      1) RGS for sizes 2 IN and larger.

D. FLEX conduits shall be installed for connections to light fixtures, HVAC equipment and other similar devices above the ceilings.
   1. The maximum length shall not exceed:
      a. 6 FT to light fixtures.
      b. 3 FT to all other equipment.

E. FLEX-LT conduits shall be install as the final conduit connection to light fixtures, dry type transformers, motors, electrically operated valves, instrumentation primary elements, and other electrical equipment that is liable to vibrate.
   1. The maximum length shall not exceed:
      a. 6 FT to light fixtures.
      b. 3 FT to motors.
      c. 2 FT to all other equipment.

F. NEMA 1 Rated Wireway:
   1. Surface mounted in electrical rooms.
   2. Surface mounted above removable ceilings tiles of an architecturally finished area.

G. NEMA 3R Wiring Trough:
   1. Surface mounted in exterior locations.

H. NEMA 4X Rated Wireway:
   1. Surface mounted in areas designated as wet and or corrosive.

I. NEMA 12 Rated Wireway:
   1. Surface mounted in areas designated as dry in architecturally and non-architecturally finished areas.

J. Underground Conduit: See Section 26 05 43.

**3.4 CONDUIT FITTINGS AND ACCESSORIES**

A. Conduit Seals:
   1. Installed in conduit systems located in hazardous areas as required by the NFPA 70.

B. Rigid non-metallic conduit and fittings shall be joined utilizing solvent cement.
   1. Immediately after installation of conduit and fitting, the fitting or conduit shall be rotated 1/4 turn to provide uniform contact.

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

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

E. Threaded connections shall be made wrench-tight.

F. Conduit joints shall be watertight:
   1. Where subjected to possible submersion.
   2. In areas classified as wet.

G. Terminate Conduits:
1. In metallic outlet boxes:
   a. RGS:
      1) Conduit hub and locknut.
      2) Insulated bushing and two (2) locknuts.
      3) Use grounding type locknut or bushing when required by NFPA 70.
   b. EMT: Compression type connector and locknut.
2. In NEMA 1 rated enclosures:
   a. RGS:
      1) Conduit hub and locknut.
      2) Insulated bushing and two (2) locknuts.
      3) Use grounding type locknut or bushing when required by NFPA 70.
   b. EMT: Compression type connector and locknut.
3. In NEMA 12 rated enclosures:
   a. Watertight, insulated and gasketed hub and locknut.
   b. Use grounding type locknut or bushing when required by NFPA 70.
4. In NEMA 4 and 4X rated enclosures:
   a. Watertight, insulated and gasketed hub and locknut.
5. When stubbed up through the floor into floor mount equipment:
   a. With an insulated grounding bushing on metallic conduits.
   b. With end bells on non-metallic conduits.

H. Threadless couplings shall only be used to join new conduit to existing conduit when the existing conduit end is not threaded and it is not practical or possible to cut threads on the existing conduit with a pipe threader.

3.5 CONDUIT SUPPORT

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

B. Permitted single conduit support fasteners per area designations and conduit types:
   1. Architecturally finished areas:
      a. Material: Zinc plated steel, or steel protected with zinc phosphate and oil finish.
      b. Types of fasteners: Spring type hangers and clips, straps, hangers with bolts, clamps with bolts and bolt on beam clamps.
      c. Provide anti-rattle conduit supports when conduits are routed through metal studs.
   2. Dry or wet areas:
      b. Types of fasteners: Straps, hangers with bolts, clamps with bolts and bolt on beam clamps.
   3. Conduit type shall be compatible with the support fastener material.
      a. Zinc plated steel, steel protected with zinc phosphate and oil finish and malleable iron fasteners may be used with RGS.
      b. Stainless steel system may be used with RGS.
      c. PVC coated fasteners may be used with PVC-RGS.

C. Conduit Support General Requirements:
   1. Maximum spacing between conduit supports per NFPA 70.
2. Support conduit from the building structure.
3. Do not support conduit from process, gas, air or water piping; or from other conduits.
4. Provide hangers and brackets to limit the maximum uniform load on a single support to 25 LBS or to the maximum uniform load recommended by the manufacturer if the support is rated less than 25 LBS.
   a. Do not exceed maximum concentrated load recommended by the manufacturer on any support.
   b. Conduit hangers: Continuous threaded rods combined with struts or conduit clamps: Do not use perforated strap hangers and iron bailing wire.
   c. Do not use suspended ceiling support systems to support raceways.
   d. Hangers in metal roof decks:
      1) Utilize fender washers.
      2) Not extend above top of ribs.
      3) Not interfere with vapor barrier, insulation, or roofing.
5. Conduit support system fasteners:
   a. Use sleeve-type expansion anchors as fasteners in masonry wall construction.
   b. Do not use concrete nails and powder-driven fasteners.

3.6 OUTLET, PULL AND JUNCTION BOX INSTALLATION

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

B. Outlet Boxes:
   1. Permitted uses of metallic outlet boxes:
      a. Housing of wiring devices:
         1) Recessed in all stud framed walls and ceilings.
         2) Recessed in poured concrete, concrete block and brick walls of architecturally finished areas and exterior building walls.
      b. Pull or junction box:
         1) Above gypsum wall board or acoustical tile ceilings.
         2) Above 10 FT in an architecturally finished area where there is no ceiling.
   2. Permitted uses of cast outlet boxes:
      a. Housing of wiring devices surface mounted in non-architecturally finished dry, wet or corrosive areas.
      b. Pull and junction box surface mounted in non-architecturally finished dry, wet or corrosive areas.
   3. Mount device outlet boxes where indicated on the Drawings and at heights as scheduled in Section 26 05 00.
   4. Set device outlet boxes plumb and vertical to the floor.
   5. Outlet boxes recessed in walls:
      a. Install with appropriate stud wall support brackets or adjustable bar hangers so that they are flush with the face of the wall.
      b. Locate in ungrouted cell of concrete block with bottom edge of box flush with bottom edge of block and flush with the face of the block.
   6. Place barriers between switches in boxes with 277 V switches on opposite phases.
   7. Back-to-back are not permitted.
   8. When an outlet box is connected to a PVC coated conduit, the box shall also be PVC coated.

C. Pull and Junction Boxes:
   1. Install pull or junction boxes in conduit runs where indicated or required to facilitate pulling of wires or making connections.
      a. Make covers of boxes accessible.
2. Permitted uses of NEMA 1 enclosure:
   a. Pull or junction box surface mounted above removable ceiling tiles of an architecturally finished area.

3. Permitted uses of NEMA 4 enclosure:
   a. Pull or junction box surface mounted in areas designated as wet.

4. Permitted uses of NEMA 4X metallic enclosure:
   a. Pull or junction box surface mounted in areas designated as wet and/or corrosive.

5. Permitted uses of NEMA 12 enclosure:
   a. Pull or junction box surface mounted in areas designated as dry.

END OF SECTION
SECTION 26 08 13
ACCEPTANCE TESTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Basic requirements for acceptance testing.

B. Related Sections include but are not necessarily limited to:
   1. Division 00 - Bidding Requirements, Contract Forms, and Conditions of the Contract.
   2. Division 01 - General Requirements.
   3. Section 26 05 00 - Electrical: Basic Requirements.
   4. Section 26 32 14 - Engine Generator - Diesel.

1.2 QUALITY ASSURANCE

A. Referenced Standards:
   1. Institute of Electrical and Electronics Engineers, Inc. (IEEE):
      a. 400, Guide for Field Testing and Evaluation of the Insulation of Shielded Power Cable Systems
   2. InterNational Electrical Testing Association (NETA):
   5. Nationally Recognized Testing Laboratory (NRTL).

B. Qualifications:
   1. The testing company shall have had as the sole or a principal part of their business the inspection, testing, calibration, and adjusting of electrical distribution systems, for a minimum of five (5) years.
   2. The testing company shall have a calibration program with accuracy traceable in an unbroken chain, to the National Institute of Standards and Technology (NIST).
      a. All test instruments used shall carry current calibration status and labels and their calibration dates shall be included in the test report.
      b. Calibration frequency shall not be less often than:
         1) Field analog instruments: 6 months.
         2) Field digital instruments: 12 months.
         3) Laboratory instruments: 12 months.
         4) More frequent if recommended by instrument manufacturer.
   3. Inspection, testing, and calibration shall be supervised by an engineering technician, certified by a national organization, such as the InterNational Electrical Testing Association (NETA) or the National Institute for Certification in Engineering Technologies (NICET), with a minimum of five (5) years experience inspecting, testing, and calibrating electrical equipment, systems and devices.
      a. Qualifications of the supervising engineering technician shall be submitted to the Engineer for approval.
4. Relay test technicians shall have previous experience with testing and calibration of relays
    of the same manufacturer and type used on this Project and shall be proficient in setting and
testing the types of protection elements used, including knowledge and experience with
multi-phase, directional, and impedance characteristics where applicable.
5. The qualifications of the testing company shall be submitted for approval prior to
    scheduling of any testing.

1.3 SYSTEM DESCRIPTION

A. The purpose of field acceptance testing is to verify equipment and system integrity and operation
    after manufacture, shipping and installation.
1. All equipment included in Division 26 shall receive all routine factory tests required by the
   applicable industry standards or Nationally Recognized Testing Laboratory (NRTL) and
   certification of these tests shall be submitted concurrent with shipment to the job site.
2. However, factory testing will not be accepted in lieu of the field acceptance testing
    requirements specified in this Section.

B. Test the following:
1. Test all electrical equipment on the project.
2. Test all electrical equipment rated over 600 V or over 225 A.
3. The following identifies the specific equipment to be tested:
   a. 600 V switchboards.
   b. Step down dry type transformers.
   c. Liquid filled transformers and associated components.
   d. Low voltage cable:
      1) All feeders.
      2) All branch circuits:
         a) Serving VFDs and/or motors.
         b) Serving a load greater than 100 A.
      3) All digital communication cables (e.g., Foundation Field Bus, DeviceNet).
   e. Low voltage circuit breakers 225 A and larger.
   f. Metering.
   g. Grounding and ground fault protection.
   h. Motors and motor controls.
   i. VFD’s.
   j. Generators.
   k. UPS.
   l. Functional tests.

C. Tests and inspections not specifically listed, but required to insure that the equipment is safe to
    energize and ready for commercial operation, shall be performed.

1.4 SUBMITTALS

A. See Section 01 33 00 for requirements for the mechanics and administration of the submittal
    process.
B. Submit a minimum of four (4) weeks before scheduling acceptance testing:
   1. Testing organization qualifications.
   2. List of proposed testing personnel and their qualifications.
   3. Sample test report forms for each type of equipment to be tested.

C. Submit prior to energizing equipment:
   1. Coordinated phasing diagram.
   2. Photocopies of field test reports for all applicable pre-energization tests including over-
      potential, insulation resistance, contact resistance, ratio and excitation, protective device and
      continuity tests.

D. Submit within two (2) weeks of the completion of acceptance testing:
1. Final test report signed by the engineering technician including the following information:
   a. Summary of Project.
   b. Description of equipment/components tested.
      1) Identify equipment by tag numbers and circuit numbers shown on the Drawings.
      2) Individual units of switchgear and switchboards shall be identified by manufacturer’s section number as shown on Shop Drawings.
   c. Date and time of each test.
   d. Ambient conditions including temperature, humidity, precipitation.
   e. Visual inspection report.
   f. Description of tests.
   g. Test results recorded legibly or typewritten on appropriate test forms.
      1) Include acceptance criteria, acceptable range of values or other basis for pass/fail decision.
      2) Include “as found” and “as left” results and identify all adjustments or corrections made during testing.
   h. Conclusions and recommendations.
   i. Identification of test equipment used:
      1) Manufacturer.
      2) Model number.
      3) Ranges.
      4) Serial number.
      5) Inventory number.
      6) Calibration number and date.

PART 2 - PRODUCTS - (NOT APPLICABLE TO THIS SECTION)

PART 3 - EXECUTION

3.1 GENERAL REQUIREMENTS

A. Scope:
   1. Complete visual inspection, mechanical and electrical operational tests and electrical acceptance tests shall be performed in accordance with NETA ATS.
   2. The following paragraphs identify the scope of testing for each item to be tested.
      a. All required tests per NETA shall be performed.
      b. Tests identified by NETA ATS as optional shall be performed when listed below.
      c. Additional tests not required by NETA ATS are also listed when required.
   3. Perform and report all tests recommended or required by the equipment manufacturer’s installation, operation and maintenance instructions, even if not included in NETA ATS or listed below.
   4. Repairs shall be made when test values do not meet known acceptable values.
      a. Test report shall clearly indicate “as found” and “as left” values, the cause of the unacceptable values, and the details of the corrective action taken to obtain acceptable results.
   5. Provide field setting and programming of all adjustable protective devices and meters to settings as determined by the approved coordination study.

B. Sequencing and Scheduling:
   1. Testing shall be performed only after completion of installation of systems and equipment unless the nature of the test requires an exception.
      a. Do not test partial systems unless specified.
   2. Schedule all tests intended to determine fitness for energizing to occur immediately prior to first energizing of equipment.
3. Equipment and systems shall not be energized or placed into service until testing is complete and all unacceptable results have been resolved.
   a. Except tests that, by their nature, require the equipment in an energized or operational state, such as synchronism-check.

C. Testing personnel shall have the following system and equipment reference data on site during all testing:
   1. Approved Shop Drawings for the Project to include at a minimum:
      a. Single line diagrams.
      b. Switchgear and switchboard plans and elevations.
      c. Three-line diagrams.
      d. Circuit breaker control schematics.
      e. Equipment schedules.
      f. Cable schedules.
   2. Manufacturers approved Shop Drawings for power transformers, switchgear, switchboards, motor control centers and other major equipment items.
   3. Manufacturer’s instruction manuals for all equipment.
   4. Protective device coordination study.
   5. A copy of this Specification Section.
   6. Manufacturer’s instruction manuals for all test instruments.
   7. NETA ATS.

3.2 ACCEPTANCE TESTING

A. Phasing Diagram:
      a. Create a phasing diagram showing the coordinated phase rotations with generators and motors through the transformers.

B. Switchboards:
   1. Perform inspections and tests per NETA ATS 7.1.
   2. Components: Test all components per applicable paragraphs of this Specification and NETA ATS.

C. Transformers - Small Dry Type:
   1. Perform inspections and tests per NETA ATS 7.2.1.
   2. Perform the following additional tests:
      a. Record phase-to-phase, phase-to-neutral, and neutral-to-ground voltages at no load after energizing, and at operating load after startup.
   3. Adjust tap connections as required to provide secondary voltage within 2-1/2 percent of nominal under normal load after approval of Engineer.
   4. Record as-left tap connections.

D. Cable - Low Voltage:
   1. Perform inspections and tests per NETA ATS 7.3.2.

E. Low Voltage Molded Case Circuit Breakers:
   1. Perform inspections and tests per NETA ATS 7.6.1.1.
   2. Components:
      a. Test all components per applicable paragraphs of this Specification and NETA ATS.
      b. Thermal magnetic breakers: Visual and mechanical inspection per NETA ATS only.
      c. Solid state trip type: Visual and mechanical inspection and electrical tests per NETA ATS.
   3. Record as-left settings.

F. Network Protectors:
   1. Perform inspections and tests per NETA ATS 7.8.
   2. Components: Test all components per applicable paragraphs of this Specification and NETA ATS.
3. Perform all tests identified as optional per NETA ATS:
4. Perform the following additional tests:
   a. Verify reverse current sensitivity by opening transformer primary switch with feeder
      energized and no load on transformer and observing that network protector opens on
      magnetizing current alone.

G. Instrument Transformers:
1. Perform inspections and tests per NETA ATS 7.10.
2. Components: Test all components per applicable paragraphs of this Specification and
   NETA ATS.
3. Perform the following optional tests per NETA ATS:
   a. Dielectric withstand test on potential transformers.

H. Metering:
1. Perform inspections and tests per NETA ATS 7.11.
2. Components: Test all components per applicable paragraphs of this Specification and
   NETA ATS.

I. Grounding:
1. Perform inspections and tests per NETA ATS 7.13.
2. Components: Test all components per applicable paragraphs of this Specification and
   NETA ATS.

J. Ground Fault Protection:
1. Perform inspections and tests per NETA ATS 7.14.
2. Components: Test all components per applicable paragraphs of this Specification and
   NETA ATS.
3. Perform the following optional tests per NETA ATS:
   a. Control wiring insulation resistance.
4. Perform the following additional tests for 4-wire systems:
   a. Primary current injection into switchgear bus with test set configured to simulate
      transformer source and high current jumper used to simulate unbalanced load and
      ground fault conditions.
   b. Verify no tripping for unbalanced load on each feeder and each main breaker.
   c. Verify no tripping for unbalanced load across tie breaker for dual-source schemes.
   d. Verify tripping for ground fault on load side of feeder each feeder and on each main
      bus.
   e. Verify tripping for ground fault on a single feeder and on each main bus through tie
      breaker(s) for multiple-source schemes.

K. Motors:
1. Perform inspections and tests per NETA ATS 7.15.1.
2. Components: Test all components per applicable paragraphs of this Specification and
   NETA ATS.
3. Perform vibration baseline test for all pumps 200 HP and larger.

L. Motor Controllers:
1. Perform inspections and tests per NETA ATS 7.16.
2. Components: Test all components per applicable paragraphs of this Specification and
   NETA ATS.

M. VFDs:
1. Perform inspections and tests per NETA ATS 7.17.
2. Components: Test all components per applicable paragraphs of this specification and
   NETA ATS.

N. Generators:
1. Perform inspections and tests per NETA ATS 7.15.2.
2. Components: Test all components per applicable paragraphs of this Specification and NETA ATS.

O. UPS Systems:
   1. Perform inspections and tests per NETA ATS 7.22.
   2. Components: Test all components per applicable paragraphs of this Specification and NETA ATS.

P. Control System Functional Test:
   1. Perform test upon completion of equipment acceptance tests.
   2. The test is to prove the correct interaction of all sensing, processing and action devices.
   3. Develop a test plan and parameters for the purpose of evaluating the performance of the system.
   4. Perform the following tests:
      a. Verify the correct operation of all interlock safety devices for fail-safe functions in addition to design function.
      b. Verify the correct operation of all sensing devices, alarms and indicating devices.
   5. Systems to be tested:

END OF SECTION
SECTION 31 10 00
SITE CLEARING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Site clearing.

PART 2 - PRODUCTS - (NOT APPLICABLE TO THIS SPECIFICATION SECTION)

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect existing trees and other vegetation to remain against damage.
   1. Do not smother trees by stockpiling construction materials or excavated materials within drip line.
   2. Avoid foot or vehicular traffic or parking of vehicles within drip line.
   3. Provide temporary protection as required.

B. Repair or replace trees and vegetation damaged by construction operations.
   1. Repair to be performed by a qualified tree surgeon/licensed arborist.
   2. Remove trees which cannot be repaired and restored to full-growth status.
   3. Replace with new trees of minimum 4 IN caliper or as required by local tree ordinance.

C. Owner will obtain authority for removal and alteration work on adjoining property, as applicable.

3.2 SITE CLEARING

A. Clearing and Grubbing:
   1. Clear from within limits of construction all trees not marked to remain.
      a. Include shrubs, brush, downed timber, rotten wood, heavy growth of grass and weeds, vines, rubbish, structures and debris.
   2. Grub (remove) from within limits of construction all stumps, roots, root mats, logs and debris encountered.

B. Disposal of Waste Materials:
   1. Do not burn combustible materials on site.
   2. Remove all waste materials from site.
   3. Do not bury organic matter on site.

END OF SECTION
SECTION 31 23 00
EARTHWORK

PART 1 - GENERAL

1.1 SUMMARY
A. Section Includes:
   1. Earthwork.

1.2 QUALITY ASSURANCE
A. Referenced Standards:
   1. ASTM International (ASTM):
      c. D1557, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 FT-LBF/FT³(2,700 kN-M/M³)).
      d. D2487, Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).
      f. D4253, Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table.
      g. D4254, Standard Test Methods for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density.
   2. Geotechnical Report:
      b. The information in the report is intended for the Contractor’s reference to ascertain subsurface conditions and soil characteristics at the project site.

1.3 DEFINITIONS
A. Bedrock:
   1. Bedrock consists of solid geologic formations underlying unconsolidated surface materials.

B. Colluvium:
   1. Unconsolidated surficial soils overlying bedrock.

C. Compaction:
   1. The process of mechanically stabilizing a material by increasing its density at a controlled moisture condition. “Degree of Compaction” is expressed as a percentage of the maximum density obtained by the test procedure described in ASTM D1557 for general soil types abbreviated in this specification.

D. Competent Material:
   1. Competent material shall be defined as material that is suitable for supporting the intended loads. Determination of competent materials will be done by a representative of the Engineer employed by the Engineer to inspect construction. Factors in determining competent material include the degree of fracturing, hardness, bearing capacity, and any other factors that affect the suitability of the soil.

E. Excavation:
   1. The removal of soil to obtain a specified depth or elevation.
F. Fill, Engineered Fill, or Embankment:
   1. Specified material placed at a specified degree of compaction and moisture content to obtain an indicated grade or elevation.

G. Foundations:
   1. Footings, base slabs, foundation walls, mat foundations, grade beams, piers and any other support placed directly on soil.

H. Lift:
   1. Layer (or course) of soil placed on top of a previously prepared or placed soil in a fill or embankment.

I. Optimum Moisture Content:
   1. Optimum moisture content shall be determined in accordance with the appropriate ASTM test.

J. Soil:
   1. Any type of subgrade that may be present at or below existing subgrade levels.

K. Structural Foundation Fill:
   1. Material used in refilling the area below the structural foundation and the base of the excavation, including all areas within 5 horizontal feet of the edge of the foundation of the structure.

L. Structural Backfill:
   1. Material used in refilling a cut or other excavation between undisturbed sides of the excavation and below grade walls.

M. Subgrade:
   1. The uppermost layer of material (sometimes in situ soil or rock) graded or otherwise prepared for supporting the addition of base material, fill material, or structural foundation materials.

N. Unstable Material:
   1. Material which lacks firmness to maintain alignment and prevent joints from separating in the pipe, conduit, or appurtenant structure during backfilling. This may be material otherwise identified as satisfactory which has been disturbed or saturated.

O. Unsuitable Material:
   1. Existing in-place soil, unstable material, substandard fill or backfill material, or other material designated by the Engineer as having insufficient strength characteristics or stability to carry intended loads in fill or embankment without excessive consolidation or loss of stability. Among others, material containing refuse, rocks greater than 6 IN, debris, excessive moisture and other material which could cause backfill not to compact shall be considered unsuitable.

P. Unyielding Material:
   1. Rock, rib, ridge, rock protrusion, or solid with cobbles in the trench bottom requiring a covering of finer grain material or special bedding to avoid bridging in the pipe or conduit.

1.4 SUBMITTALS

A. Shop Drawings:
   1. See Submittals Specification Section.
   2. Product technical data including:
      a. Source of fill and backfill materials proposed for use.
      b. Source of borrow materials proposed for use.
      c. Acknowledgement that products submitted meet requirements of standards referenced.
      d. Manufacturer's installation instructions.
   3. Certifications.
4. Test reports:
   a. Soils inspection reports and testing results.
5. Drainage and dewatering plans.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Lightweight Fill (Gravel): Selected material approved by the Engineer. Fill and backfill minimum requirements:
   1. Import fill for miscellaneous fill.
      a. Maximum dry density not more than 60 pcf per ASTM 1557.
      b. 1 IN x #4 (ASTM C136).

PART 3 - EXECUTION

3.1 PROTECTION

A. Protect existing surface and subsurface features on-site and adjacent to site as follows:
   1. Provide barricades, coverings, or other types of protection necessary to prevent damage to existing items indicated to remain in place.
   2. Protect and maintain bench marks, monuments or other established reference points and property corners.
      a. If disturbed or destroyed, replace at own expense to full satisfaction of Owner and controlling agency.
   3. Verify location of utilities.
      a. Omission or inclusion of utility items does not constitute nonexistence or definite location.
      b. Secure and examine local utility records for location data.
      c. Take necessary precautions to protect existing utilities from damage due to any construction activity.
      d. Repair damages to utility items at Contractor’s expense.
      e. In case of damage, notify Engineer at once so required protective measures may be taken.
   4. Maintain free of damage, existing sidewalks, structures, and pavement, not indicated to be removed.
      a. Any item known or unknown or not properly located that is inadvertently damaged shall be repaired to original condition.
      b. All repairs to be made and paid for by Contractor.
   5. Provide full access to public and private premises, fire hydrants, street crossings, sidewalks and other points as designated by Owner to prevent serious interruption of travel.
   6. Maintain stockpiles and excavations in such a manner to prevent inconvenience or damage to structures on-site or on adjoining property.
   7. Avoid surcharge or excavation procedures which can result in heaving, caving, or slides.

B. Dispose of waste materials, legally, off site.
   1. Burning, as a means of waste disposal, is not permitted.

3.2 SITE EXCAVATION AND GRADING

A. The work includes all operations in connection with excavation, borrow, construction of fills and embankments, rough grading, and disposal of excess materials in connection with the preparation of the site(s) for construction of the proposed facilities.

B. Excavation and Grading:
   1. Perform as required by the Contract Drawings.
   2. Contract Drawings may indicate both existing grade and finished grade required for construction of Project.
a. Stake all units, structures, piping, roads, parking areas and walks and establish their elevations.
b. Perform other layout work required.
c. Replace property corner markers to original location if disturbed or destroyed.

3. Preparation of ground surface for embankments or fills:
   a. Before fill is started, scarify to a minimum depth of 6 IN in all proposed embankment and fill areas.
   b. Where ground surface is steeper than one vertical to four horizontal, plow surface in a manner to bench and break up surface so that fill material will bind with existing surface.

4. Protection of finish grade:
   a. During construction, shape and drain embankment and excavations.
   b. Maintain ditches and drains to provide drainage at all times.
   c. Protect graded areas against action of elements prior to acceptance of work.
   d. Reestablish grade where settlement or erosion occurs.

C. Borrow:
   1. Provide necessary amount of approved fill compacted to density equal to that indicated in this Specification.
   2. Include cost of all borrow material in original proposal.
   3. Fill material to be approved by Geotechnical Engineer prior to placement.

3.3 FIELD QUALITY CONTROL

A. Moisture density relations, to be established by the Engineer required for all materials to be compacted.
B. Extent of compaction testing will be as necessary to assure compliance with Specifications.
C. Give minimum of 24 HR advance notice to the Engineer when ready for compaction or subgrade testing and inspection.
D. Should any compaction density test or subgrade inspection fail to meet Specification requirements, perform corrective work as necessary.
E. Pay for all costs associated with corrective work and retesting resulting from failing compaction density tests.
F. Responsibilities of Testing Agency for Site Excavation and Grading:

3.4 COMPACATION DENSITY REQUIREMENTS

A. Obtain approval from the Engineer with regard to suitability of soils and acceptable subgrade prior to subsequent operations.
B. Provide dewatering system necessary to successfully complete compaction and construction requirements.
C. Remove frozen, loose, wet, or soft material and replace with approved material as directed by the Engineer.
D. Stabilize subgrade with well graded granular materials as directed by the Engineer.
E. Assure by results of testing that compaction densities comply with the following requirements:
   1. Sitework:

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>COMPACATION DENSITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subgrade fill under paved areas and slabs</td>
<td>90 percent per ASTM 1557-00 at 1 to 4 percent above optimum moisture content. Rolled to a smooth unyielding surface.</td>
</tr>
</tbody>
</table>
3.5 EXCAVATION, FILLING, AND BACKFILLING FOR STRUCTURES

A. General:
   1. In general, work includes, but is not necessarily limited to, excavation for structures and retaining walls, removal of underground obstructions and undesirable material, backfilling, filling, and fill, backfill, and subgrade compaction. See structural drawings for additional sequencing constraints.
   2. Obtain fill and backfill material necessary to produce grades required.
      a. Materials and source to be approved by the Engineer.
      b. Excavated material approved by the Engineer may also be used for fill and backfill.

B. Filling and Backfilling Outside of Structures.
   1. This paragraph of this Specification applies to fill and backfill placed outside of structures above bottom level of both foundations and piping but not under paving.
   2. Provide material as approved by the Engineer for filling and backfilling outside of structures.
   3. Fill and backfill placement:
      a. Prior to placing fill and backfill material, obtain optimum moisture and maximum density properties for proposed material from the Engineer.
      b. Place fill and backfill material in 8 IN lifts as necessary to obtain required compaction density.
      c. Compact material with equipment of proper type and size to obtain density specified.
      d. Use only hand operated equipment for filling and backfilling within 5 FT of walls and retaining walls.
      e. Do not place fill or backfill material when temperature is less than 40 DegF and when subgrade to receive material is frozen, wet, loose, or soft.
      f. Use vibratory equipment for compacting granular material; do not use water.
   4. Backfilling against walls:
      a. Do not backfill around any part of structures until each part has reached specified 28-day compressive strength and backfill material has been approved.
      b. Do not start backfilling until concrete forms have been removed, trash removed from excavations, pointing of masonry work, concrete finishing, damp-proofing and waterproofing have been completed.
      c. Bring backfill and fill up uniformly around the structures and individual walls, piers, or columns.

C. Backfilling Outside of Structures Under Piping or Paving:
   1. When backfilling outside of structures requires placing backfill material under piping or paving, the material shall be placed from bottom of excavation to underside of piping or paving at the density required for fill under piping or paving as indicated in this Section.
   2. This compacted material shall extend transversely to the centerline of piping or paving a horizontal distance each side of the exterior edges of piping or paving equal to the depth of backfill measured from bottom of excavation to underside of piping or paving.
      a. Provide special compacted bedding or compacted subgrade material under piping or paving as required by other sections of these Specifications.

3.6 SPECIAL REQUIREMENTS

A. Erosion Control:
   1. Conduct work to minimize erosion of site.
   2. Construct stilling areas to settle and detain eroded material.
   3. Remove eroded material washed off site.
   4. Clean streets daily of any spillage of dirt, rocks or debris from equipment entering or leaving site.
B. Dust Control:
   1. The Contractor shall control all dust generated as a result of the Contractor’s performance of the work, either inside or outside the right-of-way. The Contractor shall apply water or a dust palliative for the alleviation or prevention of dust nuisance. Should the Contractor elect to use a dust palliative, the palliative and method of application shall be approved by the Engineer prior to use of the palliative on the site.

END OF SECTION
PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Chain link fencing and gates.

1.2 QUALITY ASSURANCE

A. Referenced Standards:
   1. ASTM International (ASTM):
      e. F567, Standard Practice for Installation of Chain-Link Fence.
   3. Chain Link Manufacturer's Institute for "Galvanized Steel Chain Link Fence Fabric and Accessories."
   5. Underwriters Laboratories, Inc. (UL).

B. Qualifications:
   1. Installer bonded and licensed in the Project state.
   2. Installer shall have a minimum two (2) years experience installing similar fencing.
   3. Utilize only AWS certified welders.

1.3 DEFINITIONS

A. See ASTM F552.

B. NPS: Nominal pipe size, in inches.

C. Installer or Applicator:
   1. Installer or applicator is the person actually installing or applying the product in the field at the Project site.
   2. Installer and applicator are synonymous.

1.4 SUBMITTALS

A. Shop Drawings:
   1. See Submittals Specification Section for requirements for the mechanics and administration of the submittal process.
   2. Product technical data including:
      a. Acknowledgement that products submitted meet requirements of standards referenced.
      b. Manufacturer's installation instructions.
   3. Scaled plan layout showing spacing of components, accessories, fittings, and post anchorage.
5. Source quality control test results.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Subject to compliance with the Contract Documents, the following manufacturers are acceptable:
   1. Fence systems:
      a. Anchor Fence, Inc.
      b. Or approved equal.

B. Submit request for substitution in accordance with Specification Section 01640.

2.2 COMPONENTS

A. Fence and Fence Accessories
   1. Height: 8 FT
   2. Materials as noted below

B. Chain Link Fabric (match existing fencing which is similar what is shown below):
   1. Fabric type:
      a. ASTM A392 zinc-coated steel:
         1) Coated before weaving, 2.0 OZ/SF.
   3. Mesh size: 2 IN.
   4. Selvage treatment:
      a. Top: Knuckled
      b. Bottom: Twisted and barbed.

C. Concrete:
   1. 3000 psi concrete.
   2. See Specification Division 03, Concrete.

D. Line Post:
   1. ASTM F1083 pipe:
      a. Schedule 40, NPS 2-1/2.

E. Corner or Terminal Posts:
   1. ASTM F1083 pipe:
      a. Schedule 80, NPS 4.

F. Brace and Rails:
   1. ASTM F1083 pipe:

G. Tension Wire:
   1. Top and bottom of fabric:
      a. ASTM A824, galvanized steel, Class 3.

H. Fence Fittings (Post and Line Caps, Rail and Brace Ends, Sleeves-Top Rail, Tie Wires and Clips, Tension and Brace Bands, Tension Bars, Truss Rods):
   1. ASTM F626.

I. Swing Gate:
   1. ASTM F900.
   3. Hardware:
      a. Galvanized per ASTM A153/A153M.
      b. Hinges to permit 90 DEG in and out gate opening.
J. Barbed Wire:
   1. Three (3) strands.
   2. Galvanized steel:
      a. ASTM A121.
      b. Class 3 zinc coating.
      c. Four-point barbs.

2.3 SOURCE QUALITY CONTROL
A. Test related fence construction materials to meet the following standards:
   1. Posts and rails:
      a. ASTM F1043, Heavy Industrial.

PART 3 - EXECUTION
3.1 INSTALLATION
A. Install in accordance with:
   1. Manufacturer's instructions.
   2. Lines and grades shown on Drawings.
   3. In accordance with ASTM F567.
B. Do not start fence installation before final grading is complete and finish elevations are established.
C. Drill holes in firm, undisturbed or compacted soil.
D. Place fence with bottom edge of fabric at maximum clearance above grade, as shown on Drawings.
   1. Correct minor irregularities in earth to maintain maximum clearance.
E. Space line posts at equal intervals not exceeding 10 FT OC.
F. Provide post braces for each gate, corner, pull and terminal post and first adjacent line post.
G. Install tension bars full height of fabric.
H. Rails:
   1. Fit rails with expansion couplings of outside sleeve type.
   2. Rails continuous for outside sleeve type for full length of fence.
I. Provide expansion couplings in top rails at not more than 20 FT intervals.
J. Anchor top rails to main posts with appropriate wrought or malleable fittings.
K. Install bracing assemblies at all end and gate posts, as well as side, corner, and pull posts.
   1. Locate compression members at mid-height of fabric.
   2. Extend diagonal tension members from compression members to bases of posts.
   3. Install so that posts are plumb when under correct tension.
L. Pull fabric taut and secure to posts and rails.
   1. Secure so that fabric remains in tension after pulling force is released.
   2. Secure to posts at not over 15 IN OC, and to rails at not over 24 IN OC, and to tension wire at not over 24 IN OC.
   3. Use U-shaped wire conforming to diameter of pipe to which attached, clasping pipe and fabric firmly with ends twisted at least two (2) full turns.
   4. Bend ends of wire to minimize hazards to persons or clothing.
M. Install post top at each post.
N. Gates:
   1. Construct with fittings or by welding.
   2. Provide rigid, weatherproof joints.
   3. Assure right, non-sagging, non-twisting gate.
   4. Coat welds with rust preventive paint, color to match pipe.

END OF SECTION
SECTION 40 05 00
PIPE AND PIPE FITTINGS - BASIC REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY
A. Section Includes:
   1. Process piping systems.

1.2 QUALITY ASSURANCE
A. Referenced Standards:
   1. American Iron and Steel Institute (AISI).
   2. ASTM International (ASTM):
   3. American Water Works Association (AWWA) latest edition:
      b. C200, Standard for Steel Water Pipe - 6 IN and Larger.
      c. C207, Standard for Steel Pipe Flanges for Waterworks Service - Sizes 4 IN through 144 IN.
      e. C210, Standard for Liquid Epoxy Coating System
      f. C651, Standard for Disinfecting Water Mains.

B. Coordinate flange dimensions and drillings between piping, valves, and equipment.

1.3 SYSTEM DESCRIPTION
A. Piping Systems Organization and Definition:
   1. Piping services are grouped into designated systems according to the chemical and physical
      properties of the fluid conveyed, system pressure, piping size and system materials of
      construction.
   2. See PIPING SPECIFICATION SCHEDULES in PART 3.

1.4 SUBMITTALS
A. Shop Drawings:
   1. See Specification Section 01 33 00 for requirements for the mechanics and administration of
      the submittal process.
   2. Product technical data including:
      a. Acknowledgement that products submitted meet requirements of standards referenced.
      b. Copies of manufacturer's written directions regarding material handling, delivery, storage and installation.
      c. Separate schedule sheet for each piping system scheduled in this Specification Section
         showing compliance of all system components.
         1) Attach technical product data on gaskets, pipe, fittings, and other components.
   3. Fabrication and/or Layout Drawings:
      a. Exterior yard piping drawings (minimum scale 1 IN equals 10 FT) with information
         including:
         1) Dimensions of piping lengths.
         2) Invert or centerline elevations of piping crossings.
         3) Acknowledgement of bury depth requirements.
         4) Details of fittings, tapping locations, thrust blocks, restrained joint segments, harnessed joint segments, hydrants, and related appurtenances.
         5) Acknowledge designated valve or gate tag numbers, manhole numbers, instrument tag numbers, pipe and line numbers.
6) Line slopes and vents.
   b. Schedule of interconnections to existing piping and method of connection.

B. Contract Closeout Information:
   1. Operation and Maintenance Data:
      a. See Specification Section 01 33 04 for requirements for the mechanics, administration,
         and the content of Operation and Maintenance Manual submittals.

C. Informational Submittals:
   1. Qualifications of lab performing disinfection analysis on water systems.
   2. Test reports:
      a. Copies of pressure test results on all piping systems.
      b. Reports defining results of dielectric testing and corrective action taken.
      c. Disinfection test report.
      d. Notification of time and date of piping pressure tests.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Protect pipe coating during handling using methods recommended by manufacturer.
   1. Use of bare cables, chains, hooks, metal bars or narrow skids in contact with coated pipe is
      not permitted.

B. Prevent damage to pipe during transit.
   1. Repair abrasions, scars, and blemishes.
   2. If repair of satisfactory quality cannot be achieved, replace damaged material immediately.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Subject to compliance with the Contract Documents, the following manufacturers are
   acceptable:
   1. Insulating unions:
      a. "Dielectric" by Epco.
   2. Elastomeric bellows type expansion joints:
   3. Dismantling Joint
      a. Romac DJ400.
      b. Smith Blair 972.

B. Submit request for substitution in accordance with Specification Section 01 25 13.

2.2 PIPING SPECIFICATION SCHEDULES

A. Piping system materials, fittings and appurtenances are subject to requirements of specific piping
   specification schedules located at the end of PART 3 of this Specification Section.

2.3 COMPONENTS AND ACCESSORIES

A. Insulating Components:
   1. Dielectric flange kits:
      a. Flat faced.
      b. 1/8 IN thick dielectric gasket, phenolic, non-asbestos.
      c. Suitable for 175 PSI, 210 DEGF.
      d. 1/32 IN wall thickness bolt sleeves.
      e. 1/8 IN thick phenolic insulating washers.
   2. Dielectric unions:
      a. Screwed end connections.
      b. Rated at 175 PSI, 210 DEGF.
      c. Provide dielectric gaskets suitable for continuous operation at union rated temperature
         and pressure.
B. Elastomeric Bellows Type Expansion Joints:
   1. Provide reducing type where indicated on the Drawings.
   2. Flanges: ANSI 125/150.
   3. Materials:
      a. Bellows:
         1) EPDM, NSF-61.
         2) Body reinforcing: Polyester, steel.
      b. Restraint:
         1) Provide restraint limit bolts (control rods) and nuts to restrain joint at test pressure of piping.
         2) Control rod material: 316 stainless steel.
      c. Working pressure: 80 psi.
      d. Minimum movement:
         1) Compression: 4.5 IN.
         2) Extension: 2.5 IN.
         3) Lateral: 2 IN.
         4) Angular: 7.64°.
   4. Arches:
      a. Provide double open arches.

PART 3 - EXECUTION

3.1 EXPOSED EXTERIOR PIPING INSTALLATION

A. Install piping in vertical and horizontal alignment as shown on Drawings.

B. Alignment of piping smaller than 4 IN may not be shown; however, install according to Drawing intent and with clearance and allowance for:
   1. Expansion and contraction.
   2. Operation and access to equipment, doors, windows, hoists, moving equipment.
   3. Headroom and walking space for working areas and aisles.
   4. System drainage and air removal.

C. Enter and exit through structure walls, floor and ceilings using penetrations and seals specified in Specification Section 01 73 20 and as shown on the Drawings.

D. Install vertical piping runs plumb and horizontal piping runs parallel with structure walls.

E. Pipe Support:
   1. Use methods of piping support as shown on Drawings and as required in Specification Section 40 05 07.
   2. Where pipes run parallel and at same elevation or grade, they may be grouped and supported from common trapeze-type hanger, provided hanger rods are increased in size as specified for total supported weight.
      a. The pipe in the group requiring the least maximum distance between supports shall set the distance between trapeze hangers.
   3. Size pipe supports with consideration to specific gravity of liquid being piped.

F. Locate and size sleeves and castings required for piping system.
   1. Arrange for chases, recesses, inserts or anchors at proper elevation and location.

G. Use reducing fittings throughout piping systems.
   1. Bushings will not be allowed unless specifically approved.

H. Equipment Drainage and Miscellaneous Piping:
   1. Provide drip pans and piping at equipment where condensation may occur.
   2. Hard pipe stuffing box leakage to nearest floor drain.
   3. Avoid piping over electrical components such as motor control centers, panelboards, etc.
a. If piping must be so routed, utilize 16 GA, 316 stainless steel drip pan under piping and over full length of electrical equipment.

b. Hard pipe drainage to nearest floor drain.

4. Collect system condensate at drip pockets, traps and blowoff valves.

5. Provide drainage for process piping at locations shown on Drawings in accordance with Drawing details.

6. For applications defined above and for other miscellaneous piping which is not addressed by a specific piping service category in PART 1, provide 304 stainless steel piping and fittings.

   a. Size to handle application with 3/4 IN being minimum size provided.

I. Install expansion devices as necessary to allow expansion/contraction movement.

J. Provide full face gaskets on all systems.

K. Anchorage and Blocking:

   1. Block, anchor, or harness exposed piping subjected to forces in which joints are installed to prevent separation of joints and transmission of stress into equipment or structural components not designed to resist those stresses.

L. Provide insulating components where dissimilar metals are joined together.

3.2 CONNECTIONS WITH EXISTING PIPING

A. Where connection between new work and existing work is made, use suitable and proper fittings to suit conditions encountered.

B. Perform connections with existing piping at time and under conditions which will least interfere with service to customers affected by such operation.

C. Undertake connections in fashion which will disturb system as little as possible.

D. Provide suitable equipment and facilities to dewater, drain, and dispose of liquid removed without damage to adjacent property.

E. Where connections to existing systems necessitate employment of past installation methods not currently part of trade practice, utilize necessary special piping components.

F. Where connection involves potable water systems, provide disinfection methods as prescribed in this Specification Section.

G. Once tie-in to each existing system is initiated, continue work continuously until tie-in is made and tested.

3.3 FIELD QUALITY CONTROL

A. Pipe Testing - General:

   1. Test piping systems as follows:

      a. Test exposed, non-insulated piping systems upon completion of system.

      b. Test buried piping (insulated and non-insulated) prior to backfilling and, if insulated, prior to application of insulation.

   2. Utilize pressures, media and pressure test durations as specified in the PIPING SPECIFICATION SCHEDULES.

   3. Isolate equipment which may be damaged by the specified pressure test conditions.

   4. Perform pressure test using calibrated pressure gages and calibrated volumetric measuring equipment to determine leakage rates.

      a. Select each gage so that the specified test pressure falls within the upper half of the gage's range.

      b. Notify the Engineer 24 HRS prior to each test.

   5. Completely assemble and test new piping systems prior to connection to existing pipe systems.

   6. Acknowledge satisfactory performance of tests and inspections in writing to Engineer prior to final acceptance.
7. Bear the cost of all testing and inspecting, locating and remedying of leaks and any necessary retesting and re-examination.

B. Pressure Testing:
1. Testing medium: Unless otherwise specified in the PIPING SPECIFICATION SCHEDULES, utilize the following test media.
   a. Process systems:
   
<table>
<thead>
<tr>
<th>PIPE LINE SIZE</th>
<th>SPECIFIED TEST PRESSURE</th>
<th>TESTING MEDIUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater than 2 IN</td>
<td>3 PSI or less</td>
<td>Water</td>
</tr>
<tr>
<td>Greater than 2 IN</td>
<td>Greater than 3 PSI</td>
<td>Water</td>
</tr>
</tbody>
</table>

   b. Liquid systems:
   
<table>
<thead>
<tr>
<th>PIPE LINE SIZE (DIA)</th>
<th>GRAVITY OR PUMPED</th>
<th>SPECIFIED TEST PRESSURE</th>
<th>TESTING MEDIUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>All sizes</td>
<td>Pumped</td>
<td>250 PSIG or less</td>
<td>Water</td>
</tr>
</tbody>
</table>

2. Allowable leakage rates:
   a. All pressure piping systems which are hydrostatically pressure tested shall have zero leakage goal at the specified test pressure throughout the duration of the test.

3. Hydrostatic pressure testing methodology:
   a. General:
      1) All joints, including welds, are to be left exposed for examination during the test.
      2) Provide additional temporary supports for piping systems designed for vapor or gas to support the weight of the test water.
      3) Provide temporary restraints for expansion joints for additional pressure load under test.
      4) Isolate equipment in piping system with rated pressure lower than pipe test pressure.
      5) Do not coat or insulate exposed piping until successful performance of pressure test.

C. Dielectric Testing Methods and Criteria:
1. Provide electrical check between metallic non-ferrous pipe or appurtenances and ferrous elements of construction to assure discontinuity has been maintained.
2. Wherever electrical contact is demonstrated by such test, locate the point or points of continuity and correct the condition.

3.4 CLEANING, DISINFECTION AND PURGING

A. Cleaning:
1. Clean interior of piping systems thoroughly before installing.
2. Maintain pipe in clean condition during installation.
3. Before jointing piping, thoroughly clean and wipe joint contact surfaces and then properly dress and make joint.
   a. Pig high pressure air piping before connecting to valves or instruments.
4. At completion of work and prior to Final Acceptance, thoroughly clean work installed under these Specifications.
   a. Clean equipment, fixtures, pipe, valves, and fittings of grease, metal cuttings, and sludge which may have accumulated by operation of system, from testing, or from other causes.
   b. Repair any stoppage or discoloration or other damage to parts of building, its finish, or furnishings, due to failure to properly clean piping system, without cost to Owner.

B. Disinfection of Potable Water Systems:
1. After favorable performance of pressure test and prior to Final Acceptance, thoroughly flush entire potable water piping system including supply, source and any appurtenant devices and perform disinfection as prescribed.
2. Perform work, including preventative measures during construction, in full compliance with AWWA C651.
3. Perform disinfection using sodium hypochlorite complying with AWWA B300.
4. Flush each segment of system to provide flushing velocity of not less than 2.5 FT per second.
5. Drain flushing water to sanitary sewer.
   a. Do not drain flushing water to receiving stream.
6. Use continuous feed method of application.
   a. Tag system during disinfection procedure to prevent use.
7. After required contact period, flush system to remove traces of heavily chlorinated water.
8. After final flushing and before placing water in service, obtain an independent laboratory approved by the Owner to collect samples and test for bacteriological quality.
   a. Repeat entire disinfection procedures until satisfactory results are obtained.
9. Secure and deliver to Owner, satisfactory bacteriological reports on samples taken from system.
   a. Ensure sampling and testing procedures are in full compliance to AWWA C651, local water purveyor and applicable requirements of Division of Drinking Water.

3.5 LOCATION OF BURIED OBSTACLES
A. Furnish exact location and description of buried utilities encountered and thrust block placement.
B. Reference items to definitive reference point locations such as found property corners, entrances to buildings, existing structure lines, fire hydrants and related fixed structures.
C. Include such information as location, elevation, coverage, supports and additional pertinent information.
D. Incorporate information on "As-Recorded" Drawings.

3.6 PIPING SYSTEM SCHEDULES
A. SPECIFICATION SCHEDULE - SYSTEM 10
1. General:
   a. Piping symbol and service:
      1) RW – Raw Water.
   b. Test requirements:
      1) Test medium: Water.
      2) Pressure: 1.25 x working pressure.
      3) Duration: 6 HRS.
   c. Gaskets and O-rings:
      1) O-rings: Neoprene or rubber.
      2) Flanged, push-on and mechanical joints (ductile iron): Rubber, AWWA/ANSI C111/A21.11.
      3) Flanged joints (steel): Rubber, AWWA C207.
      4) Grooved coupling joints (ductile and steel): Rubber, AWWA C606.
   2. System components:
      a. Pipe size greater than 24 IN:
         1) Exposed service:
            a) Material: Steel, fabricated pipe.
            b) Reference: AWWA C200.
            c) Lining: Epoxy.
            d) Coating: HPIC; See Specification Section 09 91 00.
            e) Fittings: AWWA C208.
            f) Joints: Butt welded with rigid AWWA C207 flanges at equipment, valves, and structure penetrations.
2) Buried service:
   a) Material: Steel, fabricated pipe.
   b) Reference: AWWA C200.
   c) Lining: Cement.
   d) Coating: Bituminous.
   e) Fittings: AWWA C208.
   f) Joints: Butt welded.

3. Install all threaded piping with clean-cut tapered threads and with ends thoroughly reamed after cutting to remove burrs.
   a. Pipe joint cement permitted only on external threads.

4. Install ball, butterfly and plug valves where indicated or required to adequately service all parts of system and equipment.

5. Install unions between valves and connections to each piece of equipment, and install sufficient number of unions throughout piping system to facilitate installation and servicing.
   a. On copper pipe lines, install wrought, solder-joint, copper to copper unions for lines 2 IN and smaller and, for lines 2-1/2 IN and over install brass flange unions.

3.7 SERVICE SYSTEM SUMMARY

A. Service Systems as defined in the Drawings.

END OF SECTION
PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Pipe support and anchor systems.

1.2 QUALITY ASSURANCE

A. Referenced Standards:
   1. American Society of Mechanical Engineers (ASME):
   2. ANVIL International (ANVIL).
   3. ASTM International (ASTM):
      a. D1.1, Structural Welding Code - Steel.
   5. Manufacturers Standardization Society of the Valve and Fittings Industry Inc. (MSS):
      a. SP-58, Pipe Hangers and Supports - Materials, Design and Manufacture.
      b. SP-69, Pipe Hangers and Supports - Selection and Application.

B. Responsibility:
   1. Support systems for piping greater than 12 IN DIA with internal pressure over 100 psi and piping with product temperatures over 200 DegF are shown on the Drawings.
   2. Contractor shall design support systems for 12 IN DIA piping and smaller, and for larger diameter piping where supports are not shown on the Drawings.
   3. Contractor shall provide all labor, materials, equipment and incidentals as shown, specified and required to design, furnish and install the system of hangers, supports, guidance, anchorage and appurtenances.
   4. General piping support details may be indicated on the Drawings in certain locations for pipe smaller than 12 IN DIA.
   5. Contractor shall incorporate those details with requirements of this Specification Section to provide the piping support system.

C. Each type of pipe hanger or support shall be the product of one manufacturer.

1.3 SUBMITTALS

A. Shop Drawings:
   1. See Submittals Specification Section for requirements for the mechanics and administration of the submittal process.
2. Product technical data including:
   a. Acknowledgement that products submitted meet requirements of standards referenced.
   b. Manufacturer's installation instructions.
   c. Itemized list of wall sleeves, anchors, support devices and all other items related to pipe support system.
   d. Scaled drawings showing location, installation, material, loads and forces, and deflection of all hangers and supports.
   e. Analyze each pipe system for all loads and forces on hangers and supports and their reaction forces to the structure to which they are fastened.
   f. Support systems for piping systems over 12 IN DIA, systems operating over 100 psig or systems operating over 200 DegF designed by the Contractor: Submit detail design calculations and scaled drawings prepared and signed by a registered Professional Engineer in the state of California.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS
   A. Subject to compliance with the Contract Documents, the manufacturers listed in the applicable Articles below are acceptable.

2.2 MANUFACTURED UNITS
   A. General:
      1. See Specification Section 09 91 00.
      2. Dissimilar metals protection:
         a. Galvanized-to-galvanized and galvanized-to-aluminum: No protection required.
         b. All other galvanized-to-dissimilar metal connections: Neoprene or nylon pads, shims, grommets, etc.
   B. Vertical Pipe Supports:
      1. At base of riser.
      2. Lateral movement:
         a. Clamps or brackets:
            1) ANVIL.
   C. Pipe Support Saddle:
      1. For pipe located 3 FT or less from floor elevation, except as otherwise indicated on Drawings.
      2. ANVIL Figure 264.
   D. Pipe Support Risers:
      1. Schedule 40 pipe.
      2. 304L stainless steel.
      3. Size: As recommended by saddle manufacturer.
   E. Pipe Support Base Plate:
      1. 4 IN larger than support.
      2. Collar 3/16 IN thickness, circular in shape, and sleeve type connection to pipe.
      3. Collar fitted over outside of support pipe and extended 2 IN from floor plate.
      4. Collar welded to floor plate.
      5. Edges ground smooth.
   F. Pipe Covering Protection Saddle:
      1. For insulated pipe at point of support.
      2. ANVIL Figure 167, Type B.
   G. Wall Brackets:
      1. For pipe located near walls and 8 FT or more above floor elevation or as otherwise indicated on the Drawings.
2.3 DESIGN REQUIREMENTS

A. Supports capable of supporting the pipe for all service and testing conditions.
   1. Provide 5 to 1 safety factor.

B. Allow free expansion and contraction of the piping to prevent excessive stress resulting from service and testing conditions or from weight transferred from the piping or attached equipment.

C. Design supports and hangers to allow for proper pitch of pipes.

D. For waste piping, design, materials of construction and installation of pipe hangers, supports, guides, restraints, and anchors:
   1. ASME B31.3.
   2. MSS SP-58 and MSS SP-69.
   3. Except where modified by this Specification.

E. For water piping, design, materials of construction and installation of pipe hangers, supports, guides, restraints, and anchors:
   1. ASME B31.1.
   2. MSS SP-58 and MSS SP-69.

F. Check all physical clearances between piping, support system and structure.
   1. Provide for vertical adjustment after erection.

G. Support vertical pipe runs in pipe chases at base of riser.
   1. Support pipes for lateral movement with clamps or brackets.

H. Provide 20 GA stainless steel pipe saddle for fiberglass and plastic support points to ensure minimum contact width of 4 IN.

I. Pipe Support Spacing:
   1. General:
      a. Factor loads by specific weight of liquid conveyed if specific weight is greater than water.
      b. Locate pipe supports at maximum spacing scheduled unless indicated otherwise on the Drawings.
      c. Provide at least one (1) support for each length of pipe at each change of direction and at each valve.
   2. Steel, stainless steel, cast-iron pipe support schedule:

      | PIPE SIZES - IN | MAXIMUM SPAN - FT |
      |----------------|------------------|
      | 1-1/2 and less  | 5                |
      | 2 thru 4        | 10               |
      | 5 thru 8        | 15               |
      | 10 and greater  | 20               |

3. PVC pipe support schedule:

      | PIPE SIZES - IN | MAXIMUM SPAN - FT |
      |----------------|------------------|
      | 1-1/4 and less  | 3                |
      | 1-1/2 thru 3    | 4                |
      | 4 and greater   | 5                |

* Maximum fluid temperature of 120 DegF.

4. Support each length and every fitting:
a. Mechanical coupling joints:
   1) Place hanger within 2 FT of each side of fittings to keep pipes in alignment.
5. Space supports for soil and waste pipe and other piping systems not included above every 5 FT.
6. Provide continuous support for nylon tubing.
7. For PVC and copper piping:
   a. Provide Unistruct Unicushion wrap of pipe at each support.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Weld Supports:
   1. AWS D1.1.
   2. Weld anchors to pipe in accordance with ASME B31.3.

B. Locate piping and pipe supports as to not interfere with open accesses, walkways, platforms, and with maintenance or disassembly of equipment.

C. Welding:
   2. Integral attachments:
      a. Include welded-on ears, shoes, plates and angle clips.
      b. Ensure material for integral attachments is of good weldable quality.
   3. Preheating, welding and postheat treating: ASME B31.3, Chapter V.

D. Field Painting:
   1. Comply with Specification Section 09 91 00.

END OF SECTION
PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Steel pipe, fittings, and appurtenances.

1.2 QUALITY ASSURANCE

A. Referenced Standards:
   1. American Society of Mechanical Engineers (ASME):
      a. B1.1, Unified Inch Screw Threads (UN and UNR Thread Form).
      e. B16.9, Factory-Made Wrought Steel Butt-Welding Fittings.
      f. B16.11, Forged Steel Fittings, Socket Welding and Threaded.
      g. B31.1, Power Piping.
      i. B31.9, Building Services Piping.
      j. Section IX, Qualification Standard for Welding and Brazing Procedures, Welders, Brazers, and Welding and Brazing Operators.
   2. ASTM International (ASTM):
      g. A1011, Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.
      i. [B695, Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel.]
   3. American Water Works Association (AWWA):
      a. C200, Standard for Steel Water Pipe - 6 IN and Larger.
      d. C206, Standard for Field Welding of Steel Water Pipe.
      e. C207, Standard for Steel Pipe Flanges for Waterworks Service - Sizes 4 IN through 144 IN.
      g. C209, Standard for Cold-Applied Tape Coatings for the Exterior of Special Sections, Connections, and Fittings for Steel Water Pipelines.
h. C210, Standard for Liquid-Epoxy Coating Systems for the Interior and Exterior of Steel Water Pipelines.
i. C606, Standard for Grooved and Shouldered Joints.

4. Society of Automotive Engineers (SAE):
   a. AMS-QQ-P-416, Cadmium Plating Electro deposited.

B. Qualifications:
   1. Application of coal tar lining and coating materials including preparation of surfaces, priming, and lining and coating of pipe, fittings, and specials, in shop, repairs of any damage to lining or coating occurring during shipment or any other time, and field lining and coating of ends where linings or coatings have been held back for welded field joints, shall be done by established and recognized pipe company acceptable to Engineer.
   2. Use only certified welders meeting procedures and performance outlined in ASME Section IX, AWWA C200 Section 3.3.3 and other codes and requirements per local building and utility requirements.

1.3 SUBMITTALS

A. Shop Drawings:
   1. See Submittals Specification Section for requirements for the mechanics and administration of the submittal process.
   2. See Specification Section 40 05 00.
   3. Factory test reports.
   4. If mechanical grooved type coupling system is used, submit piping, fittings, and appurtenant items which will be utilized.
   5. Coating manufacturer's qualifications.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Subject to compliance with the Contract Documents, the following manufacturers are acceptable:
   1. Flanged adaptors:
      a. Rockwell (Style 913 (steel)).
      b. Dresser (Style 128 (steel)).
   2. Mechanical couplings and fittings:
      a. Victaulic (Style 07 or 77).
   3. Factory-applied plastic or epoxy coatings:
      a. "Encoat" Division of Energy Coating Company.
      b. "Scotchkote" Division of 3M Company.

B. Submit request for substitution in accordance with Specification Section 01 25 13.

2.2 MATERIALS

A. All materials used in steel piping systems defined in Section 40 05 00 shall meet or exceed pressure test requirements specified for each respective system.

B. Steel Pipe (Fabricated Type):
   1. AWWA C200:
      a. ASTM A36, Grade C steel plate.
      b. ASTM A283, Grade D steel plate.
      c. ASTM A572, steel plate.
      d. ASTM A1011, steel sheet.

C. Fittings (For Fabricated Pipe): AWWA C208.
D. Flanges (Fabricated Pipe):
   1. Flange material: ASTM A283, Grade C or D, ASTM A181, Grade 1.
   2. Flange finish: Flat faced.

E. Nuts and Bolts:
   1. Exposed: Mechanical galvanized ASTM B695, Class 40.
   3. Threaded per ASME B1.1.
   4. Project ends 1/4 to 1/2 IN beyond nuts.

F. Gaskets: EPDM.

2.3 MANUFACTURED UNITS

A. Couplings:
   1. Flanged adaptors:
      a. Steel or carbon steel body sleeve, flange, followers and Grade 30 rubber gaskets.
      b. Provide units specified in Article 2.1.
      c. Flanges meeting standards of adjoining flanges.
      d. Entire assembly to be rated for test pressure specified on Piping Schedule for each respective application.
   2. Mechanical coupling joint:
      a. Use of mechanical grooved (AWWA C606) type couplings and fittings in lieu of flanged joints is acceptable where specifically specified in Section 40 05 00.
      b. Utilize units defined in Article 2.1.

2.4 FABRICATION

A. Provide piping (mill or fabricated) for use in this Project with minimum wall thicknesses as follows:
   1. 1/8 - 5 IN DIA pipe: Schedule 40.
   2. 6 - 10 IN DIA pipe: 3/16 IN.
   3. 12 - 14 IN DIA pipe: 7/32 IN.
   4. 16 - 48 IN DIA pipe: 1/4 IN.
   5. 54 - 60 IN DIA pipe: 5/16 IN.
   6. 66 - 72 IN DIA pipe: 3/8 IN.
   7. Sizes through 24 IN are nominal OD.
      a. Sizes greater than 24 are ID.
   8. Wall thicknesses indicated are for standard weight pipe.
      a. Design pipe in accordance with operating pressures shown in Piping Schedules for a design stress limited to 50 PCT of yield.

B. Furnish cast parts with lacquer finish compatible with finish coating.

C. Furnish without outside coating of bituminous material any exposed pipe scheduled to be painted.

D. Fabricated Fittings:
   1. AWWA C208.
   2. Assure ratio of radius of bend to diameter of pipe equal to or greater than 1.0.

E. Taper cement mortar linings as required for valve interfacing.

F. Protective Coatings and Linings:
   1. Provide liquid epoxy linings and coatings in accordance with AWWA C210
   2. Field paint pipe in accordance with Section 09 91 00.

2.5 SOURCE QUALITY CONTROL

A. Testing:
   1. Shop hydrostatic test fabricated steel pipe and fittings.
   2. Field hydrostatic test all pipe as specified in Section 40 05 00.
PART 3 - EXECUTION

3.1 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Joining Methods - Flanges:
   1. Facing method:
      a. Insert slip-on flange on pipe.
      b. Assure maximum tolerances for flange faces from normal with respect to axis of pipe is 0.005 IN per foot of flange diameter.
      c. Test flanges after welding to pipe for true to face condition and reface, if necessary, to bring to specified tolerance.
   2. Joining method:
      a. Leave 1/8 to 3/8 IN of flange bolts projecting beyond face of nut after tightening.
      b. Coordinate dimensions and drillings of flanges with flanges for valves, pumps, equipment, tank, and other interconnecting piping systems.
      c. When bolting flange joints, exercise extreme care to assure that there is no restraint on opposite end of pipe or fitting which would prevent uniform gasket compression or cause unnecessary stress, bending or torsional strains being applied to cast flanges or flanged fittings.
         1) Allow one flange free movement in any direction while bolts are being tightened.
      d. Do not assemble adjoining flexible coupled, mechanical coupled or welded joints until flanged joints in piping system have been tightened.
      e. Gradually tighten flange bolts uniformly to permit even gasket compression.
      f. Do not overstress bolts to compensate for poor installation.

C. Joining Method - Welded Joints:
   1. Perform welding in accordance with AWWA C206 and this Section.
   2. For flange attachment perform in accordance with AWWA C207.
   3. Have each welding operator affix an assigned symbol to all his welds.
      a. Mark each longitudinal joint at the extent of each operator's welding.
      b. Mark each circumferential joint, nozzle, or other weld into places 180 DEG apart.
   4. Welding for all process piping shall conform to ASME B31.3.
      a. Welding of utility piping 125 PSI and less shall be welded per ASME B31.9.
      b. Utility piping above 125 PSI shall conform to ASME B31.1.
   5. Provide caps, tees, elbows, reducers, etc., manufactured for welded applications.
   6. Weldolets may be used for 5 IN and larger pipe provided all slag is removed from inside the pipe.
   7. Weld-in nozzles may be used for branch connections to mains and where approved by Engineer.
   8. Use all long radius welding elbows for expansion loops and bends.
   9. Use long radius reducing welding elbows 90 DEG bends and size changes are required.

D. Joining Method - Couplings:
   1. Compression sleeve:
      a. Install coupling to allow space of not less than 1/4 IN but not more than 1 IN.
      b. Provide harnessed joint.
         1) Use joint harness arrangements detailed in AWWA M11.
      c. Design harness assembly with adequate number of tie rods for test pressures indicated in Section 40 05 00 and allow for expansion of pipe.
      d. Provide ends to be joined or fitted with compression sleeve couplings of the plain end type.
      e. Grind smooth welds the length of one coupling on either side of joint to be fitted with any coupling.
      f. Assure that outside diameter and out-of-round tolerances are within limits required by coupling manufacturer.
2. Mechanical coupling:
   a. Arrange piping so that pipe ends are in full contact.
   b. Groove and shoulder ends of piping in accordance with manufacturer's recommendations.
   c. Provide coupling and grooving technique assuring a connection which passes pressure testing requirements.

E. Support exposed piping in accordance with Section 40 05 00.

3.2 FIELD QUALITY CONTROL

A. Test piping systems in accordance with Section 40 05 00.

END OF SECTION
SECTION 40 05 51
VALVES: BASIC REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY
A. Section Includes:
   1. Valving, actuators, and valving appurtenances.

1.2 QUALITY ASSURANCE
A. Referenced Standards:
   1. American Society of Mechanical Engineers (ASME):
      a. B1.20.1, Pipe Threads, General Purpose.
   2. ASTM International (ASTM):
   3. American Water Works Association (AWWA):
      a. C207, Standard for Steel Pipe Flanges for Waterworks Service - Sizes 4 IN through 144 IN.
      c. C606, Standard for Grooved and Shouldered Joints.

1.3 DEFINITIONS
A. The following are definitions of abbreviations used in this Specification Section or one (1) of the individual valve sections:
   1. WWP: Water working pressure.

1.4 SUBMITTALS
A. Shop Drawings:
   1. See Specification Section 01 33 00 for requirements for the mechanics and administration of the submittal process.
   2. Product technical data including:
      a. Acknowledgement that products submitted meet requirements of standards referenced.
      b. Manufacturer's installation instructions.
      c. Valve pressure and temperature rating.
      d. Valve material of construction.
      e. Special linings.
      f. Valve dimensions and weight.
      g. Valve flow coefficient.
      h. Wiring and control diagrams for electric or cylinder actuators.
   3. Test reports.

B. Contract Closeout Information:
   1. Operation and Maintenance Data:
      a. See Specification Section 01 33 04 for requirements for the mechanics, administration, and the content of Operation and Maintenance Manual submittals.

C. Informational Submittals:
1. Verification from valve actuator manufacturer that actuators have been installed properly, that all limit switches and position potentiometers have been properly adjusted, and that the valve actuator responds correctly to the valve position command.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS
A. Subject to compliance with the Contract Documents, refer to individual valve Specification Sections for acceptable manufacturers.

2.2 MATERIALS
A. Refer to individual valve Specification Sections.

2.3 VALVE ACTUATORS
A. Valve Actuators - General:
   1. Provide actuators as shown on Drawings or specified. 
   2. Counter clockwise opening as viewed from the top.
   3. Direction of opening and the word OPEN to be cast in handwheel or valve bonnet.
   4. Size actuator to produce required torque with a maximum pull of 80 LB at the maximum pressure rating of the valve provided and withstand without damage a pull of 200 LB on handwheel or chainwheel or 300 foot-pounds torque on the operating nut.
   5. Unless otherwise specified, actuators for valves to be buried, submerged or installed in vaults or manholes shall be sealed to withstand at least 20 FT of submergence.
   6. Extension stem:
      a. Install where shown or specified.
      b. Solid steel with actuator key and nut, diameter not less than stem of valve actuator shaft.
      c. Pin all stem connections.
      d. Center in valve box or grating opening band with guide bushing.

B. Exposed Valve Manual Actuators:
   1. Provide for all exposed valves not having electric or cylinder actuators.
   2. Provide handwheels for gate and globe valves.
      a. Size handwheels for valves in accordance with AWWA C500.
   3. Provide lever actuators for plug valves, butterfly valves and ball valves 3 IN DIA and smaller.
      a. Lever actuators for butterfly valves shall have a minimum of 5 intermediate lock positions between full open and full close.
      b. Provide at least two (2) levers for each type and size of valve furnished.
   4. Gear actuators required for plug valves, butterfly valves, and ball valves 4 IN DIA and larger.
   5. Provide gearing for gate valves 20 IN and larger in accordance with AWWA C500.
   6. Gear actuators to be totally enclosed, permanently lubricated and with sealed bearings.
   7. Provide chain actuators for valves 6 FT or higher from finish floor to valve centerline.
      a. Cadmium-plated chain looped to within 3 FT of finish floor.
      b. Equip chain wheels with chain guides to permit rapid operation with reasonable side pull without "gagging" the wheel.
   8. Provide cast iron floor stands where shown on Drawings.
      a. Stands to be furnished by valve manufacturer with actuator.
      b. Stands or actuator to include thrust bearings for valve operation and weight of accessories.

2.4 FABRICATION
A. End Connections:
1. Provide the type of end connections for valves as required in the Piping Schedules presented in Specification Section 40 05 00 or as shown on the Drawings.
2. Comply with the following standards:
   b. Flanged: ASME B16.1, Class 125 unless otherwise noted or AWWA C207.
   c. Bell and spigot or mechanical (gland) type: AWWA/ANSI C111/A21.11.
   e. Grooved: Rigid joints per Table 5 of AWWA C606.
B. Refer to individual valve Specification Sections for specifications of each type of valve used on Project.
C. Nuts, Bolts, and Washers:
   1. Wetted or internal to be bronze or stainless steel.
      a. Exposed to be zinc or cadmium plated.
D. Epoxy Interior Coating: Provide epoxy interior coating for all ferrous surfaces in accordance with AWWA C550.

PART 3 - EXECUTION

3.1 INSTALLATION
   A. Install products in accordance with manufacturer's instructions.
   B. Painting Requirements: Comply with Specification Section 09 91 00.
   C. Support exposed valves and piping adjacent to valves independently to eliminate pipe loads being transferred to valve and valve loads being transferred to the piping.
   D. For grooved coupling valves, install rigid type couplings or provide separate support to prevent rotation of valve from installed position.
   E. For threaded valves, provide union on one (1) side within 2 FT of valve to allow valve removal.
   F. Install valves accessible for operation, inspection, and maintenance.
3.2 ADJUSTMENT
   A. Adjust valves, actuators and appurtenant equipment to function per manufacturer recommendations.
      1. Operate valve, open and close at system pressures.

END OF SECTION
SECTION 40 05 52
MISCELLANEOUS VALVES AND APPURTEANCES

PART 1 - GENERAL

1.1 SUMMARY
A. Section Includes:
   1. Pressure relief valves
   2. Gate valves

1.2 QUALITY ASSURANCE
A. Referenced Standards:
   1. American Water Works Association (AWWA):
      a. C509, Resilient Seated Gate Valves.
   2. National Electrical Manufacturers Association (NEMA):
      a. 250, Enclosures for Electrical Equipment (1000 Volts Maximum).

1.3 SUBMITTALS
A. Shop Drawings:
   1. See Submittals Section for requirements for the mechanics and administration of the submittal process.
   2. See Section 40 05 51.

B. Operation and Maintenance Manuals:
   1. See Section 01300 for requirements for:
      a. The mechanics and administration of the submittal process.
      b. The content of Operation and Maintenance Manuals.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS
A. Subject to compliance with the Contract Documents, the manufacturers listed under the specific valve types are acceptable.

2.2 AUTOMATIC CONTROL VALVES
A. Basic Valve:
   1. Type:
      a. Diaphragm-actuated hydraulically operated.
         1) Acceptable manufacturers (Model as shown for specific valve):
            a) Clayton
            b) Singer.
            c) Or approved equal.
      2) Materials:
         a) Body: Ductile iron.
         b) Seat insert: Stainless steel.
         c) Disc: Buna-N.
         d) Diaphragm: Nylon fabric bonded with synthetic rubber.
      3) Design requirements:
         a) Do not use diaphragm as seating surface.
2. Design requirements:
   a. Size: 16 IN.
   b. Relief valve opening pressure: adjustable in range of 30 to 110 psi. Set initially to 60 psi.
   c. Flow range (intermittent): 3,500 gpm to 25,000 gpm.
   d. Include isolation gate valves upstream and downstream of the relief valve.
   e. Relief valve and gate valves must fit in available space between existing pipe flanges. Provide spacers or relocate flanges, if required to fit furnished valves.

B. Control:
   1. Type: Pressure relief.
   2. Acceptable manufacturers:
      a. Cla-Val, Model 50-01.
      b. GA Industries, Figure 4800D (relief).
      c. Singer, Model 106-RPS
      d. Or approved equal.
   3. Design requirements: Open valve to relieve excess pressure as defined above.

2.3 ACCESSORIES
   A. Furnish any accessories required to provide a completely operable valve.

2.4 FABRICATION
   A. Completely shop assemble unit including any interconnecting piping, speed control valves, control isolation valves and electrical components.
   B. Provide internal epoxy coating suitable for potable water for all iron body valves in accordance with AWWA C550.

2.5 SOURCE QUALITY CONTROL
   A. Shop hydrostatically test to unit test pressure.

2.6 MAINTENANCE MATERIALS
   A. Provide one (1) set of any special tools or wrenches required for operation or maintenance for each type valve.

PART 3 - EXECUTION

3.1 INSTALLATION
   A. General:
      1. Follow manufacturer’s instructions.

3.2 FIELD QUALITY CONTROL
   A. Clean, inspect, and operate valve to ensure all parts are operable and valve seats properly.
   B. Check and adjust valves and accessories in accordance with manufacturer's instructions and place into operation.

END OF SECTION
**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS**

**PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1**

**FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS**

**CRAFT: # ASBESTOS WORKER, HEAT AND FROST INSULATOR**

**DETERMINATION:** NC-3-16-1-2019-1  
**ISSUE DATE:** February 22, 2019

**EXPIRATION DATE OF DETERMINATION:** July 31, 2019.* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit at (415) 703-4774 for the new rates after ten days after the expiration date if no subsequent determination is issued.

**TRAVEL AND/OR SUBSISTENCE PAYMENT:** You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm.

**NOTE:** Asbestos Removal Workers must be trained and the work conducted according to the Code of Federal Regulations 29 CFR 1926.58, the California Labor Code 6501.5 and the California Code of Regulations, Title 8, Section 5208. Contractors must be certified by the Contractors’ State License Board and registered with the Division of Occupational Safety and Health (DOSH). For further information, contact the Asbestos Contractors Abatement Registration Unit, DOSH at (510) 286-7362.

**RECOGNIZED HOLIDAYS:** Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

---

**Determination Table**

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**LOCALITY:** Mono and all Northern California Counties

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**Hazardous Material Handler Mechanic**

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**Hazardous Material Handler Worker**

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# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet at http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at http://www.dir.ca.gov/das/das.html.

1 Includes amount withheld for dues check off and for vacation.
2 Pursuant to Labor Code sections 1773.1 and 1773.8, the amount paid for this employer payment may vary resulting in a lower taxable basic hourly wage rate, but the total hourly rates for straight time and overtime may not be less than the general prevailing rate of per diem wages.
3 Includes amount for industry promotion.
4 Includes amount for vacation/holiday administration.
5 Includes amount for industry promotion.
6 Includes amount withheld for dues check off.
7 Rate applies to the shift of the workday or 40 hours in a work week, and for the first 8 hours worked on the 7th consecutive day of work in a work week.
8 Rate applies to work on any recognized holiday, all hours worked in excess of 12 hours in any workday, and for all hours worked in excess of 8 hours on the 7th consecutive day of work in a workweek.
9 A maximum of fourteen (14) Hazardous Material Handler Workers is allowed for each Hazardous Material Handler Mechanic.
10 Includes amount for industry promotion.
11 Saturdays in the same work week may be worked at straight-time if job is shut down during the normal work week due to inclement weather, major mechanical breakdown or lack of materials beyond the control of the employer.

**NOTE:** Asbestos Removal Workers must be trained and the work conducted according to the Code of Federal Regulations 29 CFR 1926.58, the California Labor Code 6501.5 and the California Code of Regulations, Title 8, Section 5208. Contractors must be certified by the Contractors’ State License Board and registered with the Division of Occupational Safety and Health (DOSH). For further information, contact the Asbestos Contractors Abatement Registration Unit, DOSH at (510) 286-7362.

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**TRAVEL AND/OR SUBSISTENCE PAYMENT:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
### GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS

Pursuant to California Labor Code Part 7, Chapter 1, Article 2, Sections 1770, 1773 and 1773.1

For commercial building, highway, heavy construction and dredging projects

**CRAFT:** #Carpenter and Related Trades

**DETERMINATION:** NC-23-31-1-2019-1

**ISSUE DATE:** February 22, 2019

**EXPIRATION DATE OF DETERMINATION:** June 30, 2019** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**LOCALITY:** All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tuolumne, Yolo, and Yuba Counties.

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<th>CLASSIFICATION (Journeyperson)</th>
<th>Basic Hourly Rate</th>
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**DETERMINATION:** NC-23-31-1-2019-1A

**ISSUE DATE:** February 22, 2019

**EXPIRATION DATE OF DETERMINATION:** June 30, 2019** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**LOCALITY:** All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tuolumne, Yolo, and Yuba Counties.

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<tr>
<th>CLASSIFICATION (Journeyperson)</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation/Holiday</th>
<th>Training</th>
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<th>Hours</th>
<th>Total Hourly Rate</th>
<th>Daily</th>
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Footnote and Millwright listed on page 34A

(Recognized Holidays and Subsistence Payment footnotes also listed on page 34A)
### Vacation/Holiday/Sick Leave Admin.

- **Area 1**: Millwright
  - Rate: $48.50
  - Hours: 8
  - Straight Time: $79.61
  - Daily Rate: $103.86
  - Sunday: $128.11

- **Area 3**: Millwright
  - Rate: $45.02
  - Hours: 8
  - Straight Time: $76.13
  - Daily Rate: $103.86
  - Sunday: $128.11

### Determination:

- **NC-23-31-1-2019-1B**
- **Expiration Date**: June 30, 2019

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### Recognized Holidays:

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**CRAFT: #CARPENTER AND RELATED TRADES (SECOND SHIFT)**

**DETERMINATION:** NC-23-31-1-2019-1  
**ISSUE DATE:** February 22, 2019  
**EXPIRATION DATE OF DETERMINATION:** June 30, 2019**  
**LOCALITY:** All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

| Area 1 | Carpenter | Hardwood Floorlayer, Power Saw Operator, Saw Filer, Shingler, Steel Scaffold and Steel Shoring Erector | $51.63 | $11.45 | $10.10 | $4.44 | $0.93 | $2.59 | 7.5 | $81.14 | $102.11 | $126.31 | $102.11 | $126.31 | $126.31 | 7.5 | $81.14 | $102.11 | $126.31 | $102.11 | $126.31 | $126.31 |
| Area 2 | Carpenter | Hardwood Floorlayer, Power Saw Operator, Saw Filer, Shingler, Steel Scaffold and Steel Shoring Erector | $45.35 | $11.45 | $10.10 | $4.44 | $0.93 | $2.59 | 7.5 | $74.86 | $93.29 | $114.55 | $93.29 | $114.55 | $114.55 | 7.5 | $74.86 | $93.29 | $114.55 | $93.29 | $114.55 | $114.55 |
| Area 3 | Carpenter | Hardwood Floorlayer, Power Saw Operator, Saw Filer, Shingler, Steel Scaffold and Steel Shoring Erector | $45.51 | $11.45 | $10.10 | $4.44 | $0.93 | $2.59 | 7.5 | $75.02 | $93.52 | $114.85 | $93.52 | $114.85 | $114.85 | 7.5 | $75.02 | $93.52 | $114.85 | $93.52 | $114.85 | $114.85 |
| Area 4 | Carpenter | Hardwood Floorlayer, Power Saw Operator, Saw Filer, Shingler, Steel Scaffold and Steel Shoring Erector | $44.07 | $11.45 | $10.10 | $4.44 | $0.93 | $2.59 | 7.5 | $73.58 | $91.49 | $112.15 | $91.49 | $112.15 | $112.15 | 7.5 | $73.58 | $91.49 | $112.15 | $91.49 | $112.15 | $112.15 |

**DETERMINATION:** NC-23-31-1-2019-1A  
**ISSUE DATE:** February 22, 2019  
**EXPIRATION DATE OF DETERMINATION:** June 30, 2019**  
**LOCALITY:** All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

| Area 3 | Carpenter | Hardwood Floorlayer, Power Saw Operator, Saw Filer, Shingler, Steel Scaffold and Steel Shoring Erector | $45.51 | $11.45 | $10.10 | $4.44 | $0.93 | $2.59 | 7.5 | $75.02 | $93.52 | $114.85 | $93.52 | $114.85 | $114.85 | 7.5 | $75.02 | $93.52 | $114.85 | $93.52 | $114.85 | $114.85 |

**DETERMINATION:** NC-23-31-1-2019-1A  
**ISSUE DATE:** February 22, 2019  
**EXPIRATION DATE OF DETERMINATION:** June 30, 2019**  
**LOCALITY:** All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

| Area 4 | Carpenter | Hardwood Floorlayer, Power Saw Operator, Saw Filer, Shingler, Steel Scaffold and Steel Shoring Erector | $44.07 | $11.45 | $10.10 | $4.44 | $0.93 | $2.59 | 7.5 | $73.58 | $91.49 | $112.15 | $91.49 | $112.15 | $112.15 | 7.5 | $73.58 | $91.49 | $112.15 | $91.49 | $112.15 | $112.15 |

(Recognized Holidays and Subsistence Payment footnotes also listed on page 34C)
**Determination:** NC-23-31-1-2019-1B  
**Issue date:** February 22, 2019  
**Expiration date:** June 30, 2019**  

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<th>CLASSIFICATION</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation</th>
<th>Holiday</th>
<th>Training</th>
<th>Other Payments</th>
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**Determination:** NC-23-31-1-2019-1B, NC-23-31-1-2019-1A and NC-23-31-1-2019-1B (FOR SECOND AND THIRD SHIFTS)

* Does not apply to tenant improvement or renovation projects in occupied buildings with a total contract value of $5 million or less.

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet at [http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp). To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards’ website at [http://www.dir.ca.gov/das/das.html](http://www.dir.ca.gov/das/das.html).

**Travel and/or subsistence payment:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPW/Determinations.htm](http://www.dir.ca.gov/OPRL/DPW/Determinations.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
Determinant: NC-23-31-1-2019-1

Issue Date: February 22, 2019

Expiration Date of Determination: June 30, 2019** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.


**Footnotes listed on page 34C**

(Recognized Holidays and Subsistence Payment footnotes also listed on page 34C)
## Bridge Builder/Highway Carpenter

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<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation/ Holiday</th>
<th>Training</th>
<th>Other Payments</th>
<th>Hours</th>
<th>Total Hourly Rate</th>
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### Notes:
- Employer Payments:
  - Straight-Time
  - Overtime Hourly Rate
- Other Payments:
  - Training
  - Other

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## Millwright

### Area 1

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<th>Training</th>
<th>Other Payments</th>
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<th>Other Payments</th>
<th>Hours</th>
<th>Total Hourly Rate</th>
<th>Daily 1 1/2X</th>
<th>Overtime Hourly Rate 2X</th>
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<td>$51.45</td>
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### Area 3

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Footnotes listed on page 34C

(Recognized Holidays and Subsistence Payment footnotes also listed on page 34C)
**CRAFT: MODULAR FURNITURE INSTALLER (CARPENTER)**

**DETERMINATION:** NC-23-31-15-2018-1  
**ISSUE DATE:** August 22, 2018  
**EXPIRATION DATE OF DETERMINATION:** June 30, 2019* Effective until superseded by a new determination issued by the Director of Industrial Relations.  
Contact the Office of the Director – Research Unit (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**LOCALITY:** All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

### Employer Payments

<table>
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<tr>
<th>Classification (Journeyperson)</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pensiona</th>
<th>Vacation/Holidaya</th>
<th>Training</th>
<th>Other Payments</th>
<th>Hours</th>
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*a Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet at [http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp). To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at [http://www.dir.ca.gov/das/das.html](http://www.dir.ca.gov/das/das.html).


*a AREA 2:* Monterey, San Benito, and Santa Cruz Counties.

*a AREA 3:* Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Sierra, Siskiyou, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne,, Yolo, and Yuba Counties.

*b Includes an amount for Annuity Trust Fund.

*c Includes an amount for Work Fee.

*d Rate applies for the first 10 hours only. All hours worked in excess of ten hours on Saturdays shall be paid at double time (2X).

**RATIO:** The ratio of employees shall be based on the increments of eight (8) employees. It is understood that the employee ratio shall apply on a company-wide basis. For every eight (8) employees, the employer shall employ one (1) Master Installer, two (2) Lead Installer, and five (5) Installer. For crew size of over eight (8) employees, please contact the Office of the Director – Research Unit at (415) 703-4774.

All drapery installation shall be performed by employees at the Installer level or above.

**RECOGNIZED HOLIDAYS:** Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at [http://www.dir.ca.gov/oprl/DPreWageDetermination.htm](http://www.dir.ca.gov/oprl/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**TRAVEL AND/OR SUBSISTENCE PAYMENT:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at [http://www.dir.ca.gov/oprl/DPreWageDetermination.htm](http://www.dir.ca.gov/oprl/DPreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
DETERMINATION: NC-31-X-16-2018-1

ISSUE DATE: August 22, 2018

EXPIRATION DATE OF DETERMINATION: June 30, 2019. The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director – Research Unit for specific rates at (415) 703-4774.


Employer Payments

<table>
<thead>
<tr>
<th>CLASSIFICATION (Journeyperson)</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation/Holiday #</th>
<th>Training</th>
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<th>Total Hourly Rate</th>
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<td>8</td>
<td>53.53</td>
<td>53.53</td>
<td>64.16</td>
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<tr>
<td>Stocker, Scraper</td>
<td>21.26</td>
<td>11.45</td>
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<td>4.39</td>
<td>-</td>
<td>0.05</td>
<td>38.55</td>
<td>8</td>
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<tr>
<td><strong>c Area 3</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drywall Installer/ Lather</td>
<td>43.02</td>
<td>11.45</td>
<td>12.85</td>
<td>4.44</td>
<td>0.87</td>
<td>1.00</td>
<td>73.63</td>
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<td>53.90</td>
<td>64.66</td>
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<td>4.39</td>
<td>-</td>
<td>0.05</td>
<td>38.80</td>
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<tr>
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<td>Drywall Installer/ Lather</td>
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<td>12.85</td>
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<td>0.05</td>
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<td>52.90</td>
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<td>63.32</td>
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<td>1.40</td>
<td>4.39</td>
<td>-</td>
<td>0.05</td>
<td>38.13</td>
<td>8</td>
<td>48.55</td>
<td>48.55</td>
<td>58.97</td>
</tr>
</tbody>
</table>

*Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet @ http://www.dir.ca.gov/OPRL/PWAwage/PWAwageStart.asp. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at http://www.dir.ca.gov/das/das.html.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: # PILE DRIVER (CARPENTER)

DETERMINATION: NC-23-31-11-2019-1
ISSUE DATE: February 22, 2019
EXPIRATION DATE OF DETERMINATION: June 30, 2019* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit at (415) 703–4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.


### Employer Payments

<table>
<thead>
<tr>
<th>Classification (Journeyperson)</th>
<th>Employer Payments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basic Hourly Rate</td>
</tr>
<tr>
<td>Pile Driver, Wharf, and Dock Builder</td>
<td>$47.65#</td>
</tr>
<tr>
<td>Diver (wet) up to 50 ft depth</td>
<td>97.17</td>
</tr>
<tr>
<td>Diver’s Tender</td>
<td>52.42</td>
</tr>
<tr>
<td>Assistant Tender</td>
<td>47.65</td>
</tr>
<tr>
<td>Diver (stand-by)</td>
<td>53.42</td>
</tr>
</tbody>
</table>

### Straight-Time

<table>
<thead>
<tr>
<th>Rate</th>
<th>Employer Payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>80.32</td>
</tr>
<tr>
<td>Saturday</td>
<td>104.145</td>
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<tr>
<td>Sunday</td>
<td>127.970</td>
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</table>

### Overtime Hourly Rate

<table>
<thead>
<tr>
<th>Rate</th>
<th>Employer Payments</th>
</tr>
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<tbody>
<tr>
<td>1 1/2 X</td>
<td>112.800</td>
</tr>
<tr>
<td>1 1/2 X</td>
<td>112.800</td>
</tr>
<tr>
<td>Holiday</td>
<td>139.510</td>
</tr>
</tbody>
</table>

FOR "PILE DRIVER-BRIDGE BUILDER" - SEE NORTHERN CALIFORNIA CARPENTER PAGE 34.

PLEASE NOTE: To obtain wage rate information for Saturation Diver, Manned Submersible, Manipulator Operator/Life Support Technician, Remote Controlled/Operated Vehicle (RCV/ROV) Pilot/Technician, Navigator Surveyor, Bell Winch Operator & Diving Equipment Technician, please contact the Office of the Director - Research Unit at (415) 703-4774.

* Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet @ http://www.dir.ca.gov/OPRL/PWD. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards’ website at http://www.dir.ca.gov/das/das.html.

# Includes Industry Promotion, Carpenters International Training Fund, Pile Drivers Employers Contract Administration, LMCC and Vacation/Holiday/Sick Leave Admin (VHSLA).

a Indicates an amount per hour for Annuity Trust Fund. Pursuant to Labor Code Sections 1773.1 and 1773.8, the amount paid for this employer payment may vary resulting in a lower taxable basic hourly wage rate, but the total hourly rates for straight time and overtime may not be less than the general prevailing rate of per diem wages.

b Includes an amount per hour for fees.

c Includes an amount per hour for work fees.

d Rate applies to the first 2 daily overtime hours and the first 8 hours worked on Saturdays. All other time is paid at the Sunday/Holiday overtime rate. For work associated with cast-in-place piles, drill shaft, Tubex piles, Tubex grout injection piles, geo piles, soil improvement piles, sand piles, augured cast in place piles, CISS and CIDH: Rate applies to all hours worked after 8 hours Monday-Friday and all hours worked on Saturdays.

e Includes Industry Promotion, Carpenters International Training Fund, Pile Drivers Employers Contract Administration, LMCC and Vacation/Holiday/Sick Leave Admin (VHSLA).

f Includes an amount per hour for work fees.

g On bridges, powerhouses and dams, men working from bosun’s chairs or swinging scaffolds or suspended from rope, cable, safety belts, or any device used as a substitute for or in lieu thereof (excluding piledriving rigs) shall receive $0.15 per hour above this rate.

h Includes an amount per hour for work fees.

i Includes an amount per hour for work fees.

j Includes an amount per hour for work fees.

k Includes an amount per hour for work fees.

l Includes an amount per hour for work fees.

m Includes an amount per hour for work fees.

n Includes an amount per hour for work fees.

o Includes an amount per hour for work fees.

p Includes an amount per hour for work fees.

q Includes an amount per hour for work fees.

r Includes an amount per hour for work fees.

s Includes an amount per hour for work fees.

Recruited: Pursuant to Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

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**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1 FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS**

**CRAFT: #ELEVATOR CONSTRUCTOR**

**DETERMINATION:** NC-62-X-1-2019-1  
**ISSUE DATE:** February 22, 2019  
**EXPIRATION DATE OF DETERMINATION:** December 31, 2019**  
The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**LOCALITY:** All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Inyo, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Mono, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties. Portions of Kern, San Bernardino and San Luis Obispo are detailed below.

<table>
<thead>
<tr>
<th>Classification (Journeyman)</th>
<th>Employer Payments</th>
<th>Straight-Time</th>
<th>Overtime Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basic</td>
<td>Health and</td>
<td>Vacation/Holiday</td>
</tr>
<tr>
<td></td>
<td>Hourly Rate</td>
<td>Pensiona</td>
<td></td>
</tr>
<tr>
<td>Mechanic</td>
<td>$67.56</td>
<td>15.575</td>
<td>17.51</td>
</tr>
<tr>
<td>Helper (Employed in industry more than 5 years)</td>
<td>67.56</td>
<td>15.575</td>
<td>17.51</td>
</tr>
<tr>
<td>Helper</td>
<td>47.29</td>
<td>15.575</td>
<td>17.51</td>
</tr>
<tr>
<td>Helper (Employed in industry more than 5 years)</td>
<td>47.29</td>
<td>15.575</td>
<td>17.51</td>
</tr>
</tbody>
</table>

#Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet @ [http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp). To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at [http://www.dir.ca.gov/das/das.html](http://www.dir.ca.gov/das/das.html).

a Applies to that portion of these counties north of the Tehachapi Line. For more information contact the Office of the Director - Research Unit.

b For paid holidays recognized in the collective bargaining agreement employees are paid for 8 hours at straight time in addition to the Holiday rate for all hours worked.

c Ratio: The total number of Helpers employed shall not exceed the number of Mechanics on any one job. For more information on the use of Helpers contact the Office of the Director - Research Unit.

d For Contract Service work only. All other overtime is paid at the Sunday/Holiday rate.

e Includes an amount for Annuity Trust Fund.

**RECOGNIZED HOLIDAYS:** Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**TRAVEL AND/OR SUBSISTENCE PAYMENT:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: # OPERATING ENGINEER (HEAVY AND HIGHWAY WORK)

DETERMINATION: NC-23-63-1-2018-1
ISSUE DATE: August 22, 2018
EXPIRATION DATE OF DETERMINATION: June 23, 2019** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.


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**Identifies an apprenticeable craft. The current apprentice wage rates are available on the Internet at http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards’ website at http://www.dir.ca.gov/das/das.html.

* For classifications within each group, see pages 39B-40.

** AREA 1 - Alameda, Butte, Contra Costa, Kings, Marin, Merced, Napa, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Solano, Stanislaus, Sutter, Yolo and Yuba counties; and portions of Alpine, Amador, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity counties.

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NOTE: For Special Single and Second Shift rates, please see page 39A.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be included in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director - Research Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
### CLASSIFICATIONS

**GROUP 1**
- Drill Equipment, over 200,000 lbs
- Operator of Helicopter (when used in erection work)
- Hydraulic Excavator 7 cu yds and over
- Power Shovels, over 7 cu yds

**GROUP 2**
- Highline Cableway
- Hydraulic Excavator 3 1/2 cu yds up to 7 cu yds
- Licensed Construction Work Boat Operator, On Site
- Microtunneling Machine
- Power Blade Operator (finish)
- Power Shovels, (over 1 cu yd and up to and including 7 cu yds m.r.c.)

**GROUP 3**
- Asphalt Milling Machine
- Cable Backhoe
- Combination Backhoe and Loader up to 1/2 cu yds
- Continuous Flight Tie Back Machine
- Crane Mounted Continuous Flight Tie Back Machine, tonnage to apply
- Crane Mounted Drill Attachments, Tonnage to apply
- Dozer, Slope Board
- Drill Equipment, over 100,000 lbs up to and including 200,000 lbs
- Gradall
- Hydraulic Excavator up to 3 1/2 cu yds
- Loader 4 cu yds and over
- Long Reach Excavator
- Multiple Engine Scrapers (when used as push pull)
- Power Shovels, up to and including 1 cu yd
- Pre-Stress Wire Wrapping machine
- Side Boom Cat, 672 or larger
- Track Loader 4 cu yds and over
- Wheel Excavator (up to and including 750 cu yds per hour)

**GROUP 4**
- Asphalt Plant Engineer/Boxman
- Chicago Boom
- Combination Backhoe and Loader up to and including 1/2 cu yds
- Concrete Batch Plants (wet or dry)
- Dozer and/or Push Cat
- Drill Equipment, over 50,000 lbs up to and including 100,000 lbs
- Pull-Type Elevating Loader
- Grader/Grader, Grade Checker (GPS, mechanical or otherwise)
- Grooving and Grinding Machine
- Heading Shield Operator
- Heavy Duty Drilling Equipment, Hughes, LDH, Watson 2000 or similar
- Heavy Duty Repairman and/or Welder
- Lime Spreader
- Loader under 4 cu yds
- Lubrication and Service Engineer (mobile and grease rack)
- Mechanical Finishers or Spreader Machine (asphalt, Barber-Greene and similar)
- Miller Formless M-9000 Slope Paver or similar
- Portable Crushing and Screening plants
- Power Blade Support
- Roller Operator, Asphalt
- Rubber-Tired Scraper, Self-Loading (paddle-wheels, etc)
- Rubber-Tired Earthmoving Equipment (Scrapers)
- Slip Form Paver (concrete)
- Small Tractor with Drag
- Soil Stabilizer (P&H or equal)
- Spider Plow and Spider Puller
- Timber Skidder
- Track Loader up to 4 yards
- Tractor Drawn Scraper
- Tractor, Compressor Drill Combination
- Tubex Pile Rig
- Unlicensed Construction Work Boat Operator, On Site
- Welder
- Woods-Mixer (and other similar Pugmill equipment)

**GROUP 5**
- Cast-In-Place Pipe Laying Machine
- Combination Slusher and Motor Operator
- Concrete Conveyor or Concrete Pump, Truck or Equipment Mounted
- Concrete Conveyor, Building Site
- Concrete Pump or Pumpcrete Gun
- Drilling Equipment, Watson 2000, Texoma 700 or similar
- Drilling and Boring Machinery, Horizontal (not to apply to waterlines, wagon drills or jackhammers)
- Concrete Mixers/all
- Man and/or Material Hoist
- Mechanical Finishers (concrete) (Clary, Johnson, Bidwell Bridge Deck or similar types)
- Mechanical Burn, Curb and/or Curb and Gutter Machine, Concrete or Asphalt
- Mine or Shaft Hoist
- Portable Crushers
- Power Jumbo Operator (setting slip-forms, etc., in tunnels)
- Screedman (automatic or manual)
- Self Propelled Compactor with Dozer
- Tractor with boom, D6 or smaller
- Trenching Machine, maximum digging capacity over 5 ft. depth
- Vermeer T-600B Rock Cutter or similar

**GROUP 6**
- Armor-Coater (or similar)
- Ballast Jack Tamiex
- Boom-Type Backfilling Machine
- Asst. Plant Engineer
- Bridge and/or Gantry Crane
- Chemical Grouting Machine, truck mounted
- Chip Spreading Machine Operator
- Concrete Barrier Moving Machine
- Concrete Saws (self-propelled unit on streets, highways, airports, and canals)
- Deck Engineer
- Drill Doctor
- Drill Equipment, over 25,000 lbs up to and including 50,000 lbs
- Drilling Equipment Texoma 600, Hughes 200 series or similar up to and including 30 ft. m.r.c.
- Helicopter Rotorman
- Hydro-Hammer or similar
- Line Master
- Skidsteer Loader, Bobcat larger than 743 series or similar (with attachments)
- Locomotive
- Rotating Extendable Forklift, Lull Hi-Lift or similar
- Assistant to Engineer, Truck Mounted Equipment
- Pavement Breaker, Truck Mounted, with compressor
- Combination
- Paving Fabric Installation and/or Laying Machine
- Pipe Bending Machine (pipelines only)
- Pipe Wrapping Machine (Tractor propelled and supported)
- Screedman, (except asphaltic concrete paving)
- Self-Loading Chipper
- Self Propelled Pipeline Wrapping Machine
- Tractor

**GROUP 7**
- Ballast Regulator
- Casy Lift or similar
- Combination Slurry Mixer and/or Cleaner
- Coolant/Surry Tanker Operator (hooked to Grooving/Grinding Machine)
- Drilling Equipment, 20 ft and under m.r.c.
- Drill Equipment, over 1,000 lbs up to and including 25,000 lbs
- Fireman Hot Plant
- Grouting Machine Operator
- Highline Cableway Signalman
- Stationary Belt Loader (Kolman or similar)
- Lift Slab Machine (Vaghtborg and similar types)
- Maginness Internal Full Slab Vibrator
- Material Hoist (1 Drum)
- Mechanical Trench Shield
- Partsman (heavy duty repair shop parts room)
- Pavement Breaker with or without Compressor
- Combination
- Pipe Cleaning Machine (tractor propelled and supported)
- Post Driver
- Roller (except Asphalt), Chip Seal
- Self Propelled Automatically Applied Concrete
- Curing Machine (on streets, highways, airports and canals)
- Self Propelled Compactor (without dozer)
- Signalman
- Slip-Form Pumps (lifting device for concrete forms)
- Super Sucker Vacuum Truck
- Tie Spacer
- Trenching Machine (maximum digging capacity up to and including 5 ft depth)
- Truck-Mounted Rotating Telescopic Boom Type
- Lift Ring Device, Manlift or similar
- (Boom Truck) - Under 15 tons
- Truck Type Loader

**GROUP 8**
- Bit Sharpener
- Boiler Tender
- Box Operator
- Brakeman
- Combination Mixer and Compressor
- (shotcrete/gunite)
- Compressor Operator
- Deckhand
- Fireman
- Generators
- Gunite/Shotcrete Equipment Operator
- Heavy Duty Repairman Helper
- Hydraulic Monitor
- Ken Seal Machine (or similar)
- Mast Type Forklift
- Mixermobile
- Assistant to Engineer
- Pump Operator
- Refrigerator Plant
- Reservoir-Debris Tug (Self-Propelled Floating)
- Ross Carrier (Construction site)
- Rotomist Operator
- Self Propelled Tape Machine
- Shuttlecar
- Self Propelled Power Sweeper Operator
- (Includes Vacuum Sweeper)
- Slusher Operator
- Surface Heater
- Switchman
- Tar Pot Fireman
- Tugger Hoist, Single Drum
- Vacuum Cooling Plant
- Welding Machine (powered other than by electricity)
DETERMINATION: NC-23-63-1-2018-1

GROUP 8-A
Articulated Dump Truck Operator
Elevator Operator
Mini Excavator under 25 H.P. (Backhoe-Trencher)
Skidsteer Loader, Bobcat 743 series or
Smaller and similar (without attachments)

ALL CRANES AND ATTACHMENTS:

GROUP 1
Cranes over 350 tons
Derrick over 350 tons
Self Propelled Boom Type Lifting Device over 350 tons

GROUP 1-A
Clamshells and Draglines over 7 cu yds
Cranes over 100 tons
Derrick, over 100 tons
Derrick Barge Pedestal mounted over 100 tons
Self Propelled Boom Type Lifting Device Over 100 tons

GROUP 2-A
Clamshells and Draglines over 1 cu yds up to and
including 7 cu yds
Cranes over 45 tons up to and including 100 tons
Derrick Barge 100 tons and under
Mobile Self-Erecting Tower Crane (Potain) over 3 stories
Self Propelled Boom Type Lifting Device over 45 tons
Tower Cranes

GROUP 3-A
Clamshells and Draglines up to and including 1 cu yd
Cranes 45 tons and under
Mobile Self-Erecting Tower Crane (Potain), 3 stories
and under
Self Propelled Boom Type Lifting Device 45 tons
and under

GROUP 4-A
Boom Truck or dual-purpose A-Frame Truck,
Non-Rotating over 15 tons.
Truck Mounted Rotating Telescopic Boom
Type Lifting Device, Manitex or similar
(Boom Truck -over 15 tons)
Truck-Mounted Rotating Telescopic Boom Type
Lifting Device, Manitex or Similar (Boom Truck),
under 15 tons
DESCRIPTION FOR AREAS 1 AND 2:

Area 1 is all of Northern California within the following Township, State and/or county Boundaries:

Commencing in the Pacific Ocean on the extension of the Southerly line of Township 19S, of the Mount Diablo Base and Meridian, Thence Easterly along the Southerly line of Township 19S, to the Northwest corner of Township 20S, Range 6E, Thence Southerly to the Southwest corner of Township 20S, Range 6E, Thence Easterly to the Northwest corner of Township 21S, Range 7E Thence Southerly to the Southwest corner of Township 21S, Range 7E, Thence Easterly to the Southwest corner of Township 22S, Range 9E, Thence Southerly to the Southwest corner of Township 22S, Range 9E, Thence Easterly to the Northeast corner of Township 17S, Range 29E, Thence Westerly to the Southeast corner of Township 17S, Range 28E, Thence Northerly to the Northeast corner of Township 13S, Range 21E, Thence Westerly to the Southeast corner of Township 13S, Range 27E, Thence Northerly to the Northeast corner of Township 12S, Range 27E, Thence Westerly to the Southeast corner of Township 11S, Range 26E, Thence Northerly to the Northeast corner of Township 11S, Range 26E, Thence Westerly to the Southeast corner of Township 10S, Range 25E, Thence Northerly to the Northeast corner of Township 9S, Range 25E, Thence Westerly to the Southeast corner of Township 8S, Range 24E, Thence Northerly to the Northeast corner of Township 8S, Range 24E, Thence Westerly to the Southeast corner of Township 7S, Range 23E, Thence Northerly to the Northeast corner of Township 6S, Range 23E, Thence Westerly to the Southeast corner of Township 5S, Range 20E, Thence Northerly to the Northeast corner of Township 5S, Range 20E, Thence Westerly to the Southeast corner of Township 4S, Range 19E, Thence Northerly to the Northeast corner of Township 4S, Range 19E, Thence Westerly to the Southeast corner of Township 3S, Range 18E, Thence Northerly to the Northeast corner of Township 3S, Range 18E, Thence Westerly to the Southeast corner of Township 2S, Range 17E, Thence Northerly to the Northeast corner of Township 2S, Range 17E, Thence Westerly to the Southeast corner of Township 1S, Range 16E, Thence Northerly to the Northeast corner of Township 1S, Range 16E, Thence Westerly to the Southeast corner of Township 1N, Range 15E, Thence Northerly to the Northeast corner of Township 1N, Range 15E, Thence Westerly to the Southeast corner of Township 10N, Range 14E, Thence Northerly to the Northeast corner of Township 10N, Range 14E, Thence Easterly along the Southern line of Township 11N, to the California / Nevada State Border, Thence Northerly along the California / Nevada State Border to the Northerly line of Township 17N, Thence Westerly to the Southeast corner of Township 18N, Range 10E, Thence Northerly to the Northeast corner of Township 20N, Range 10E, Thence Westerly to the Southeast corner of Township 21N, Range 9E, Thence Northerly to the Northeast corner of Township 21N, Range 9E, Thence Westerly to the Southeast corner of Township 22N, Range 8E, Thence Northerly to the Northeast corner of Township 22N, Range 8E, Thence Westerly to the Northwest corner of Township 27N, Range 8E, Thence Easterly to the Southeast corner of Township 27N, Range 8E, Thence Northerly to the Northeast corner of Township 28N, Range 8E, Thence Westerly to the Southeast corner of Township 29N, Range 6E, Thence Northerly to the Northeast corner of Township 32N, Range 6E, Thence Westerly to the Northwest corner of Township 32N, Range 6E, Thence Northerly to the Northeast corner of Township 35N, Range 5E, Thence Westerly to the Southeast corner of Township 35N, Range 5E, Thence Northerly to the Northeast corner of Township 36N, Range 3E, Thence Westerly to the Northwest corner of Township 36N, Range 3E, Thence Westerly to the Southeast corner of Township 37N, Range 1W, Thence Northerly to the Northeast corner of Township 38N, Range 1W, Thence Westerly to the Southeast corner of Township 39N, Range 2W, Thence Northerly to the Northeast corner of Township 40N, Range 2W, Thence Westerly to the Southeast corner of Township 41N, Range 4W, Thence Northerly to the Northeast corner of Township 42N, Range 4W, Thence Westerly to the Southeast corner of Township 43N, Range 5W, Thence Northerly to the California / Oregon State Border, Thence Westerly along the California / Oregon State Border to the Westerly Boundary of Township Range 8W, Thence Southerly to the Southwest corner of Township 43N, Range 8W, Thence Easterly to the Southeast corner of Township 43N, Range 8W, Thence Southerly to the Southwest corner of Township 42N, Range 7W, Thence Easterly to the Southeast corner of Township 42N, Range 7W, Thence Southerly to the Southwest corner of Township 41N, Range 6W, Thence Easterly to the Northwest corner of Township 40N, Range 5W, Thence Southerly to the Southwest corner of Township 38N, Range 5W, Thence Westerly to the Northwest corner of Township 37N, Range 6W, Thence Southerly to the Southwest corner of Township 35N, Range 6W, Thence Westerly to the Northwest corner of Township 34N, Range 10W, Thence Southerly to the Southwest corner of Township 31N, Range 10W, Thence Easterly to the Northwest corner of Township 30N, Range 9W, Thence Southerly to the Southwest corner of Township 30N, Range 9W, Thence Easterly to the Northwest corner of Township 29N, Range 8W, Thence Southerly to the Southwest corner of Township 23N, Range 8W, Thence Easterly to the Northwest corner of Township 22N, Range 6W, Thence Southerly to the Southwest corner of Township 16N, Range 6W, Thence Westerly to the Southeast corner of Township 16N, Range 9W, Thence Northerly to the Northeast corner of Township 16N, Range 9W, Thence Westerly to the Southeast, corner of Township 17N, Range 12W, Thence Northerly to the Northeast corner of Township 18N, Range 12W, Thence Westerly to the Northwest corner of Township 18N, Range 15W, Thence Southerly to the Southwest corner of Township 14N, Range 15W, Thence Easterly to the Northwest corner of Township 13N, Range 14W, Thence Southerly to the Southwest corner of Township 13N, Range 14W, Thence Easterly to the Northwest corner of Township 12N, Range 13W, Thence Southerly to the Southwest corner of Township 12N, Range 13W, Thence Easterly to the Northwest corner of Township 11N, Range 12W, Thence Southerly into the Pacific Ocean and Comencing in the Pacific Ocean on the extension of the Humboldt Base Line, Thence Easterly to the Northwest corner of Township 1S, Range 2E, Thence Southerly to the Southwest corner of Township 2S, Range 2E, Thence Easterly to the Northwest corner of Township 3S, Range 3E, Thence Southerly to the Southwest corner of Township 5S, Range 3E, Thence Easterly to the Southeast corner of Township 5S, Range 4E, Thence Northerly to the Northeast corner of Township 4S, Range 4E, Thence Westerly to the Southeast corner of Township 3S, Range 3E, Thence Northerly to the Northeast corner of Township 5N, Range 3E, Thence Easterly to the Southeast corner of Township 6N, Range 1E, Thence Northerly to the Northeast corner of Township 10N, Range 1E, Thence Easterly along the Southern line of Township 11N, to the California / Nevada State Border, Thence Northerly along the California / Nevada State Border to the Northerly line of Township 17N, Thence Westerly to the Southeast corner of Township 18N, Range 10E, Thence Northerly to the Northeast corner of Township 20N, Range 10E, Thence Westerly to the Southeast corner of Township 21N, Range 9E, Thence Northerly to the Northeast corner of Township 21N, Range 9E, Thence Westerly to the Southeast corner of Township 22N, Range 8E, Thence Northerly to the Northeast corner of Township 22N, Range 8E, Thence Westerly to the Northwest corner of Township 27N, Range 8E, Thence Easterly to the Southeast corner of Township 27N, Range 8E, Thence Northerly to the Northeast corner of Township 28N, Range 8E, Thence Westerly to the Southeast corner of Township 29N, Range 6E, Thence Northerly to the Northeast corner of Township 32N, Range 6E, Thence Westerly to the Northwest corner of Township 32N, Range 6E, Thence Northerly to the Northeast corner of Township 35N, Range 5E, Thence Westerly to the Southeast corner of Township 35N, Range 5E, Thence Northerly to the Northeast corner of Township 36N, Range 3E, Thence Westerly to the Southeast corner of Township 37N, Range 1W, Thence Northerly to the Northeast corner of Township 38N, Range 1W, Thence Westerly to the Southeast corner of Township 39N, Range 2W, Thence Northerly to the Northeast corner of Township 40N, Range 2W, Thence Westerly to the Southeast corner of Township 41N, Range 4W, Thence Northerly to the Northeast corner of Township 42N, Range 4W, Thence Westerly to the Southeast corner of Township 43N, Range 5W, Thence Northerly to the California / Oregon State Border, and/or county Boundaries:
### GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

#### CRAFT: # OPERATING ENGINEER (HEAVY AND HIGHWAY WORK) (SPECIAL SINGLE AND SECOND SHIFT)

**DETERMINATION: NC-23-63-1-2018-1**

**ISSUE DATE:** August 22, 2018

**EXPIRATION DATE OF DETERMINATION:** June 23, 2019** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**LOCALITY:** All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

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### EMPLOYER PAYMENTS

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<th>Classification Group</th>
<th>Area 1b</th>
<th>Area 2c</th>
<th>Area 1b</th>
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**ALL CRANES AND ATTACHMENTS:**

**Group 1**

- **Assistant to Engineer** $52.83
- **Truck Crane Assistant to Engineer** $45.00
- **Assistant to Engineer** $42.41
- **Truck Crane Assistant to Engineer** $42.41
- **Assistant to Engineer** $41.66
- **Truck Crane Assistant to Engineer** $41.66
- **Assistant to Engineer** $41.43
- **Truck Crane Assistant to Engineer** $41.43
- **Hydraulic** $43.23
- **Assistant to Engineer** $41.12

**Group 2-A**

- **Truck Crane Assistant to Engineer** $43.69

**Group 3-A**

- **Group 4-A**

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**# Indicates an apprenticeable craft.** The current apprentice wage rates are available on the Internet at [http://www.dir.ca.gov/OPRL/PWApp/Wage/PWAppWageStart.asp](http://www.dir.ca.gov/OPRL/PWApp/Wage/PWAppWageStart.asp). To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards’ website at [http://www.dir.ca.gov/das/das.html](http://www.dir.ca.gov/das/das.html).

### TRAVEL AND/OR SUBSISTENCE PAYMENT:

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPriWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPriWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director - Research Unit at (415) 703-4774.
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS.
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1773, 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: OPERATING ENGINEER (BUILDING CONSTRUCTION)

DETERMINATION: NC-23-63-1-2018-1A
ISSUE DATE: August 22, 2018
EXPIRATION DATE OF DETERMINATION: June 23, 2019* The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

LOCALITY: All localities within Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Santa Cruz, Shasta, Sierra, Siskiyou, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

For total base bid project value of less than $3,000,000 only. The Operating Engineer (Heavy and Highway Work) determination is applicable for all work $3,000,000 and above.

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet at http://www.dir.ca.gov/OPRL/PWApp/Wage/PWAppWageStart.asp. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards’ website at http://www.dir.ca.gov/das/das.html.

For classifications within each group, see pages 398-40.

AREA 1 - Modoc, and portions of Alpine, Amador, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, and Trinity counties.

AREA 2 - Modoc, and portions of Alpine, Amador, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity counties. (Portions of counties falling in each area Detailed on page 41).

Saturday in the same work week may be worked at straight-time if a job is shut down during the normal work week due to inclement weather.

Includes an amount for supplemental dues.

When three shifts are employed for five (5) or more consecutive days, seven and one-half (7 1/2) consecutive hours (exclusive of meal period), shall constitute a day of work, for which eight (8) times the straight time hourly rate shall be paid at the non-shift wage rate for the second shift. The third shift shall be seven (7) hours of work for eight (8) hours of pay at the non-shift wage rate.

For total base bid project value of less than $3,000,000 only. The Operating Engineer (Heavy and Highway Work) determination is applicable for all work $3,000,000 and above.

Where there is a published or advertised estimate of the construction costs of a project, such estimate shall determine the total base bid project value, for the purposes of the three million dollars ($3,000,000) threshold.

NOTE: For Special Single and Second Shift rates, please see page 40C.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/PWApp/WageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet http://www.dir.ca.gov/OPRL/PWApp/WageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

40A
**CLASSIFICATION GROUPS**

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<th>Classification Group</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation</th>
<th>Training</th>
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<th>Overtime Hourly Rate</th>
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<td>$0.79</td>
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</table>

**AREA 2 - Modoc, and portions of Alpine, Amador, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne, and Trinity counties.**

**RECOGNIZED HOLIDAYS:**
- Saturdays in the same work week may be worked at straight-time if a job is shut down during the normal work week due to inclement weather.
- Includes an amount for supplemental dues.
- For total base bid project value of less than $3,000,000 only. The Operating Engineer (Heavy and Highway Work) determination is applicable for all work $3,000,000 and above.

**Pursuant to California Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp.**
### General Prevailing Wage Determination

**Craft:** Steel Erector and Fabricator (Operating Engineer-Building Construction)**a**

**Determination:** NC-23-83-1-2018-1D1

**Expiration Date of Determination:** June 23, 2019** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Locality:** All localities within Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Santa Cruz, Shasta, Sierra, Siskiyou, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

**Note:**
- # Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet at [http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp). To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at [http://www.dir.ca.gov/das/das.html](http://www.dir.ca.gov/das/das.html).
- a Saturday in the same work week may be worked at straight-time rates if a job is shut down during the normal work week due to inclement weather.
- b For classifications within each group, see page 45.
- c Includes an amount for supplemental dues.
- d When three shifts are employed for five (5) or more consecutive days, seven and one-half (7 1/2) consecutive hours (exclusive of meal period), shall constitute a day of work, for which eight (8) times the straight time hourly rate shall be paid at the non-shift wage rate for the second shift. The third shift shall be seven (7) hours of work for eight (8) hours of pay at the non-shift wage rate.
- e For total base bid project value of less than $3,000,000 only. The Operating Engineer (Heavy and Highway Work) determination is applicable for all work $3,000,000 and above.

Where there is a published or advertised estimate of the construction costs of a project, such estimate shall determine the total base bid project value, for the purposes of the three million dollars ($3,000,000) threshold.

**Note:** For Special Single and Second Shift rates, please see page 40D.

**Recognized Holidays:** Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or Subsistence Payment:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

### Classification (Journeyperson)

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<tr>
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**Employer Payments**

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**Employee Payments**

- Includes an amount for supplemental dues.
- When three shifts are employed for five (5) or more consecutive days, seven and one-half (7 1/2) consecutive hours (exclusive of meal period), shall constitute a day of work, for which eight (8) times the straight time hourly rate shall be paid at the non-shift wage rate for the second shift. The third shift shall be seven (7) hours of work for eight (8) hours of pay at the non-shift wage rate.
- For total base bid project value of less than $3,000,000 only. The Operating Engineer (Heavy and Highway Work) determination is applicable for all work $3,000,000 and above.

Where there is a published or advertised estimate of the construction costs of a project, such estimate shall determine the total base bid project value, for the purposes of the three million dollars ($3,000,000) threshold.

**Note:** For Special Single and Second Shift rates, please see page 40D.

**Recognized Holidays:** Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

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**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS**

**PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1**

**FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS**

**CRAFT: #STEEL ERECTOR AND FABRICATOR (OPERATING ENGINEER-BUILDING CONSTRUCTION)**

**(SPECIAL SINGLE AND SECOND SHIFT)**

**DETERMINATION:** NC-23-63-1-2018-1D1

**ISSUE DATE:** August 22, 2018

**EXPIRATION DATE OF DETERMINATION:** June 23, 2019** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**LOCALITY:** All localities within Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Santa Cruz, Shasta, Sierra, Siskiyou, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

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*# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet at http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at http://www.dir.ca.gov/das/das.html.*

**Employer Payments**

**Straight-Time**

**Overtime Hourly Rate**

**RECOGNIZED HOLIDAYS:** Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPrefWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**TRAVEL AND/OR SUBSISTENCE PAYMENT:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPrefWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR LANDSCAPE CONSTRUCTION PROJECTS

CRAFT: # OPERATING ENGINEER

DETERMINATION: NC-63-3-75-2018-1

ISSUE DATE: August 22, 2018

EXPIRATION DATE OF DETERMINATION: June 23, 2019** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director – Research Unit for specific rates at (415) 703-4774.


RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/oprl/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

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For classifications within each group, see below.

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet at http://www.dir.ca.gov/oprl/DPreWageDetermination.htm. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at http://www.dir.ca.gov/dav/das.html.


AREA 2 - Modoc, and portions of Alpine, Amador, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity Counties. (Portions of counties falling in each area detailed on page 41).

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet at http://www.dir.ca.gov/oprl/DPreWageDetermination.htm. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at http://www.dir.ca.gov/dav/das.html.

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CLASSIFICATIONS

Group I
Landscape Finish Grade Operator. All finish grade work regardless of the equipment used, and all equipment with a horsepower rating of more than 65.

Group II
Landscape Operator up to 65 H.P. All equipment with a manufacturer's horsepower rating of 65 or less except equipment covered by Group I or Group III. The following equipment shall be included in Group II except when used for finish work so long as its manufacturer's horsepower rating is 65 or less.

A-Frame and Winch Truck
Backhoe
Forklift (Jobsite)

Group III
Landscape Utility Operator
Small Rubber-Tired Tractor
Trencher - Under 35 Horsepower

Group IV
Assistant Landscape Utility Operator
**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS**

**PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1**

**FOR LANDSCAPE CONSTRUCTION PROJECTS**

**CRAFT: # OPERATING ENGINEER (SPECIAL SINGLE AND SECOND SHIFT)**

**DETERMINATION:** NC-63-3-75-2018-1  
**ISSUE DATE:** August 22, 2018  
**EXPIRATION DATE OF DETERMINATION:** June 23, 2019**

The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director – Research Unit for specific rates at (415) 703-4774.

**LOCALITY:** All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

## Classification Group**

<table>
<thead>
<tr>
<th>Classification (Journeyperson)</th>
<th>Employer Payments</th>
<th>Straight-Time Hours</th>
<th>Overtime Hourly Rate</th>
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<td></td>
<td>Basic Rate</td>
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<td>Area 1b</td>
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<td>Area 2c</td>
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# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet at [http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp). To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at [http://www.dir.ca.gov/das/das.html](http://www.dir.ca.gov/das/das.html).

For classifications within each group, see below.


**GROUP II** - Modoc, and portions of Alpine, Amador, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity Counties. (Portions of counties falling in each area detailed on page 41).

Includes an amount for Supplemental Dues.

SATURDAYS in the same work week may be worked at straight-time if a job is shut down during the normal work week due to inclement weather, major mechanical breakdown or shortage of materials beyond the control of the Individual Employer.

**RECOGNIZED HOLIDAYS:** Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at [http://www.dir.ca.gov/oprl/DPRewardWageDetermination.htm](http://www.dir.ca.gov/oprl/DPRewardWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**TRAVEL AND/OR SUBSISTENCE PAYMENT:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at [http://www.dir.ca.gov/oprl/DPRewardWageDetermination.htm](http://www.dir.ca.gov/oprl/DPRewardWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**CLASSIFICATIONS**

### Group I

Landscape Finish Grade Operator. All finish grade work regardless of the equipment used, and all equipment with a horsepower rating of more than 65.

### Group II

Landscape Operator up to 65 H.P. All equipment with a manufacturer's horsepower rating of 65 or less except equipment covered by Group I or Group III. The following equipment shall be included in Group II except when used for finish work so long as its manufacturer's horsepower rating is 65 or less.

- A-Frame and Winch Truck
- Backhoe
- Forklift (Jobsite)

- HDR Welder - Landscape - Operating Engineer's Equipment
- Hydro Seeder Machine
- Roller
- Rubber-Tired and Track Earthmoving Equipment
- Skiploader
- Straw Blowers
- Trencher - 35 Horsepower up to 65 Horsepower

### Group III

Landscape Utility Operator

- Small Rubber-Tired Tractor
- Trencher - Under 35 Horsepower

### Group IV

Assistant Landscape Utility Operator

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42A
## CRAFT: # DREDGER OPERATING ENGINEER

( CLAMSHELL AND DIPPER DREDGING AND HYDRAULIC SUCTION DREDGING)  

### DETERMINATION:  
NC-63-3-12-2018-1 

### ISSUE DATE:  
August 22, 2018 

**EXPIRATION DATE OF DETERMINATION:** June 30, 2019**  
The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director – Research Unit for specific rates at (415) 703-4774.

### LOCALITY:  

### TRAVEL AND/OR SUBSISTENCE PAYMENT:  
In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm.  Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

### RECOGNIZED HOLIDAYS:  
Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

### Employer Payments | Straight-Time | Overtime Hourly Rate
---|---|---

<table>
<thead>
<tr>
<th>Classification (Journeyperson)</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension Vacation and Training</th>
<th>Other Payments</th>
<th>Hours</th>
<th>Total Hourly Rate</th>
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<td>38.50</td>
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<td>13.79</td>
<td>5.93</td>
<td>0.44</td>
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<td>8</td>
<td>70.84</td>
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</table>

| **Special Single & Second Shift** | | | | | | | | | |
| Group 1 | $50.19 | 52.19 | 13.88 | 13.79 | 5.93 | 0.44 | 0.30 | 8 | 84.53 | 86.53 | 109.62 | 112.62 | 109.62 | 112.62 | 134.72 | 138.72 |
| Group 2 | $44.61 | 46.61 | 13.88 | 13.79 | 5.93 | 0.44 | 0.30 | 8 | 78.95 | 80.95 | 101.25 | 104.25 | 101.25 | 104.25 | 123.57 | 127.57 |
| Group 3 | $43.35 | 45.35 | 13.88 | 13.79 | 5.93 | 0.44 | 0.30 | 8 | 77.69 | 79.69 | 99.36 | 102.36 | 99.36 | 102.36 | 121.04 | 125.04 |
| Group 4 | $39.64 | 41.64 | 13.88 | 13.79 | 5.93 | 0.44 | 0.30 | 8 | 73.98 | 75.98 | 93.80 | 96.80 | 93.80 | 96.80 | 113.62 | 117.62 |

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet @ http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp.  To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at http://www.dir.ca.gov/das/das.html.

* For classifications within each group, see below.

**AREA 1** - Alameda, Butte, Contra Costa, Kings, Marin, Merced, Napa, Sacramento, San Benito, San Francisco, San Joaquín, San Mateo, Santa Clara, Santa Cruz, Solano, Stanislaus, Sutter, Yolo and Yuba counties; and portions of Alpine, Amador, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Solano, Sonoma, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

**AREA 2** - Modoc, and portions of Alpine, Amador, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Solano, Sonoma, Tehama, Trinity, Tulare, and Tuolumne counties.  (Portions of counties falling in each area detailed on page 41).

Includes an amount for Supplemental Dues.

Includes an amount for Annuity Trust Fund.

Saturday in the same workweek may be worked at straight-time if a job is shut down during the normal workweek due to inclement weather.

Rate applies to the first 4 daily overtime hours Monday thru Friday and the first 12 hours on Saturday.  All other time worked is paid at the Sunday and Holiday overtime rate.

### GROUP 1

- **Chief Engineer**  
- **Day Mate (Captain)**  
- **Leverman/Operator**

### GROUP 2

- **Dredge Dozer**  
- **HDR/Welder**

### GROUP 3

- **Booster Pump Operator**  
- **Deck Engineer**  
- **Deck Mate**  
- **Dredge Tender**  
- **Watch Engineer**  
- **Welder**  
- **Winch Man**

### GROUP 4

- **Bargeman**  
- **Deckhand**  
- **Fireman**  
- **Leveehand**  
- **Oiler**

[43]
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: TRAFFIC CONTROL/LANE CLOSURE (LABORER) b
AND
# PARKING AND HIGHWAY IMPROVEMENT PAINTER (LABORER)

DETERMINATION: NC-23-102-13-2018-1
ISSUE DATE: August 22, 2018
EXPIRATION DATE OF DETERMINATION: June 30, 2019* Effective until superseded by a new determination issued by the Director of Industrial Relations.
Contact the Office of the Director – Research Unit (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.


Employer Payments                                            Straight-Time                   Overtime Hourly Rate
Classification  Basic Health Pension* Vacation Training Other Payments Total Hours          Daily 1 1/2X Saturday 2 1/2X Sunday 2
(Journeyperson)  Hourly and and and Holiday b Hourly and and and
Rate Welfare                   Rate 1 1/2X 1 1/2X Holiday g

TRAFFIC CONTROL AND RELATED CLASSIFICATIONS

AREA 1 d
Traffic Control Person I 30.84 8.25 12.20 2.75 0.45 0.30 8 54.79 70.21 70.21 6 5.63
Traffic Control Person II 28.34 8.25 12.20 2.75 0.45 0.30 8 52.29 66.46 66.46 6 80.63
Construction Zone Traffic
Control Pilot Car, Flag Person 30.54 8.25 12.20 2.75 0.45 0.30 8 54.49 69.76 69.76 8 85.03

AREA 2 d
Traffic Control Person I 29.84 8.25 12.20 2.75 0.45 0.30 8 53.79 68.71 68.71 8 83.63
Traffic Control Person II 27.34 8.25 12.20 2.75 0.45 0.30 8 51.29 64.96 64.96 7 78.63
Construction Zone Traffic
Control Pilot Car, Flag Person 29.54 8.25 12.20 2.75 0.45 0.30 8 53.49 68.26 68.26 8 83.03

DETERMINATION: NC-23-102-13-2018-1A
ISSUE DATE: August 22, 2018
EXPIRATION DATE OF DETERMINATION: June 30, 2019* Effective until superseded by a new determination issued by the Director of Industrial Relations.
Contact the Office of the Director – Research Unit (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.


STRIPER AND RELATED CLASSIFICATIONS

Employer Payments                                            Straight-Time                   Overtime Hourly Rate
Classification  Basic Health Pension* Vacation Training Other Payments Total Hours          Daily 1 1/2X Saturday 2 1/2X Sunday 2
(Journeyperson)  Hourly and and and Holiday b Hourly and and and
Rate Welfare                   Rate 1 1/2X 1 1/2X Holiday g

Group 1
Traffic Striping Applicator
Group 2
Traffic Delineating Device Applicator
Traffic Protective System Installer
Pavement Markings Applicator
Decorative Asphalt Surfacing Applicator

Footnotes are listed on page 44A

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# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet at http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at http://www.dir.ca.gov/das/das.html.
a Includes an amount for the Annuity Trust Fund.
b Includes an amount for Supplemental Dues.
c Saturdays or scheduled sixth (6th) consecutive work day in the same work week may be worked at straight-time if the job is shut down during the normal work week due to inclement weather, major mechanical breakdown or lack of materials beyond the control of the employer.
AREA 2 - Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo and Yuba Counties.
e Includes an amount for Retiree Health & Welfare.
f One and one-half (1-1/2) the straight time hourly rate of pay shall be paid for all work performed in excess of forty hours (40) a week or eight hours (8) a day and the sixth (6th) consecutive day worked or Saturdays.
g Two times (2x) the straight time hourly rate of pay shall be paid for all work performed on the seventh (7th) consecutive day worked, or Sundays and holidays.
h The rates of the Laborer classifications for the craft of Traffic Control/Lane Closure (Laborer) do not apply to traffic control work associated with parking and highway improvement projects in San Joaquin, Tuolumne, and Yolo Counties. For traffic control work associated with parking and highway improvement projects in these three counties, the minimum rate of pay is that of the Painter classifications for the craft of Parking and Highway Improvement Painter (Painter).

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #STEEL ERECTOR AND FABRICATOR (OPERATING ENGINEER-HEAVY AND HIGHWAY WORK)^

DETERMINATION: NC-23-63-1-2019-1D
ISSUE DATE: February 22, 2019
EXPIRATION DATE OF DETERMINATION: June 23, 2019** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.


TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm.

EXPIRATION DATE OF DETERMINATION:
February 22, 2019
ISSUE DATE:
June 23, 2019** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

NOTE: For Special Single and Second Shift rates, please see page 45A.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

GROUP A-1

Cranes over 350 Tons
Derrick over 350 Tons
Self Profelled Boom Type Lifting Devices over 350 Tons

GROUP 1

Crane over 100 tons
Self Profelled Boom Type Lifting Device over 100 tons

GROUP 2

Crane over 45 tons up to and including 100 tons
Derrick, 100 tons and under
Self Profelled Boom Type Lifting Device, over 45 tons
Tower Crane

GROUP 3

Cranes, 45 tons and under
Self Profelled Boom Type Lifting Device, 45 tons and under

GROUP 4

Chicago Boom
Forklift, 10 tons and over
Heavy Duty Repairman/Welder

GROUP 5

Boom Cat
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
Pursuant to California Labor Code Part 7, Chapter 1, Article 2, Sections 1770, 1773 and 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #STEEL ERECTOR AND FABRICATOR (OPERATING ENGINEER-HEAVY AND HIGHWAY WORK) 
(SPECIAL SINGLE AND SECOND SHIFT)

DETERMINATION: NC-23-63-1-2019-1D
ISSUE DATE: February 22, 2019
EXPIRATION DATE OF DETERMINATION: June 23, 2019** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.


<table>
<thead>
<tr>
<th>Classification (Journeyperson)</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation and Holiday</th>
<th>Training</th>
<th>Other Payments</th>
<th>Hours</th>
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* Saturday in the same work week may be worked at straight-time rates if a job is shut down during the normal work week due to inclement weather.  
  # Includes an amount for supplemental dues.

** Issued June 23, 2019. 

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## Indicates an apprenticeable craft. 

- **Group A-1**
  - Cranes over 350 Tons
  - Derrick over 350 Tons
  - Self Propelled Boom Type Lifting Devices over 350 Tons

- **Group 1**
  - Cranes over 100 tons
  - Derrick over 100 tons
  - Self Propelled Boom Type Lifting Device over 100 tons

- **Group 2**
  - Cranes over 45 tons up to and including 100 tons
  - Derrick, 100 tons and under
  - Self Propelled Boom Type Lifting Device, over 45 tons

- **Group 3**
  - Cranes, 45 tons and under
  - Self Propelled Boom Type Lifting Device, 45 tons and under

- **Group 4**
  - Chicago Boom
  - Forklift, 10 tons and over
  - Heavy Duty Repairman/Welder

- **Group 5**
  - Boom Cat

**RECOGNIZED HOLIDAYS:** Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPRecWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

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45A
### Employer Payments

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#### Hourly and Holiday Payments
- $48.74 $13.88 $10.78 $4.56 $1.02 $0.79 8 $79.77 $104.14 $128.51
- $41.76 $13.88 $10.78 $4.56 $1.02 $0.79 8 $72.79 $93.67 $114.55
- $38.73 $13.88 $10.78 $4.56 $1.02 $0.79 8 $69.76 $89.13 $108.49
- $38.46 $13.88 $10.78 $4.56 $1.02 $0.79 8 $69.49 $88.72 $107.95
- $41.76 $13.88 $10.78 $4.56 $1.02 $0.79 8 $72.79 $93.67 $114.55

#### Group A-1
- **Truck Crane Assistant to Engineer**
  - $48.74 $13.88 $10.78 $4.56 $1.02 $0.79 8 $79.77 $104.14 $128.51
- **Assistant to Engineer**
  - $39.48 $13.88 $10.78 $4.56 $1.02 $0.79 8 $68.88 $87.81 $106.73
- **Assistant Operator**
  - $39.48 $13.88 $10.78 $4.56 $1.02 $0.79 8 $70.51 $90.25 $109.99
- **Fireman**
  - $46.17 $13.88 $10.78 $4.56 $1.02 $0.79 8 $77.20 $100.29 $123.37
- **Derrick Barge Pedestal Mounted Under 45 Tons**
  - $48.74 $13.88 $10.78 $4.56 $1.02 $0.79 8 $79.77 $104.14 $128.51
- **Shid/Scow Piledriver, Any Tonnage**
  - $40.76 $13.88 $10.78 $4.56 $1.02 $0.79 8 $71.79 $92.17 $112.55
- **Fundex F-12 Hydraulic Pile Rig**
  - $38.73 $13.88 $10.78 $4.56 $1.02 $0.79 8 $69.76 $89.13 $108.49
- **GROUP 6**
  - Truck Crane or Crawler, Land Or Barge Mounted Under 45 Tons
  - $42.72 $13.88 $10.78 $4.56 $1.02 $0.79 8 $73.75 $95.11 $116.47
  - Self Propelled Boom Type Lifting Device 45 Tons And Under
  - $40.08 $13.88 $10.78 $4.56 $1.02 $0.79 8 $69.27 $88.39 $107.51
  - Clamshells Over 7 Cu Yds
  - $38.46 $13.88 $10.78 $4.56 $1.02 $0.79 8 $69.49 $88.72 $107.95
  - **GROUP 1**
  - **Truck Crane Assistant to Engineer**
  - $40.76 $13.88 $10.78 $4.56 $1.02 $0.79 8 $70.51 $90.25 $109.99
  - **Assistant to Engineer**
  - $38.73 $13.88 $10.78 $4.56 $1.02 $0.79 8 $69.76 $89.13 $108.49
  - **GROUP 6**
  - **Truck Crane Assistant to Engineer**
  - $40.76 $13.88 $10.78 $4.56 $1.02 $0.79 8 $70.79 $90.25 $109.99
  - **Assistant to Engineer**
  - $38.73 $13.88 $10.78 $4.56 $1.02 $0.79 8 $69.76 $89.13 $108.49
  - **Group 8**
  - **Shid/Scow Piledriver, Any Tonnage**
  - $44.49 $13.88 $10.78 $4.56 $1.02 $0.79 8 $75.52 $97.77 $120.01
  - **Fundex F-12 Hydraulic Pile Rig**
  - $38.46 $13.88 $10.78 $4.56 $1.02 $0.79 8 $69.49 $88.72 $107.95
  - **GROUP 1**
  - **Truck Crane Assistant to Engineer**
  - $40.76 $13.88 $10.78 $4.56 $1.02 $0.79 8 $70.51 $90.25 $109.99
  - **Assistant to Engineer**
  - $38.73 $13.88 $10.78 $4.56 $1.02 $0.79 8 $69.76 $89.13 $108.49
  - **Group 8**
  - **Shid/Scow Piledriver, Any Tonnage**
  - $42.72 $13.88 $10.78 $4.56 $1.02 $0.79 8 $73.75 $95.11 $116.47
  - **Fundex F-12 Hydraulic Pile Rig**
  - $38.24 $13.88 $10.78 $4.56 $1.02 $0.79 8 $69.27 $88.39 $107.51
  - **Group 6**
  - **Truck Crane Assistant to Engineer**
  - $40.08 $13.88 $10.78 $4.56 $1.02 $0.79 8 $69.27 $88.39 $107.51
  - **Assistant to Engineer**
  - $38.08 $13.88 $10.78 $4.56 $1.02 $0.79 8 $68.88 $87.81 $106.73

### Recognition of Holidays
- **Holidayb**
  - Includes an amount for supplemental dues.
  - Rate applies to the first 2 daily overtime hours only. All other time is paid at the double time rate.
  - When three shifts are employed for five (5) or more consecutive days, seven and one-half (7 1/2) consecutive hours (exclusive of meal period), shall constitute a day of work, for which eight (8) times the straight time hourly rate shall be paid at the non-shift wage rate for the second shift. The third shift shall be seven (7) hours of work for eight (8) hours of pay at the non-shift wage rate.

### Group A-1

- **Cranes over 350 Tons**
- **Derrick over 350 Tons**
- **Self Profelled Boom Type Lifting Devices over 350 Tons**

### Group 1

- **Self Propelled Boom Type Lifting Device Over 100 Tons**
- **Derrick Barge Pedestal Mounted Over 100 Tons**
- **Clamshells Over 7 Cu Yds**

### Group 2

- **Fundex F-12 Hydraulic Pile Rig**
- **Self Propelled Boom Type Lifting Device Over 45 Tons**
- **Truck Crane Or Crawler, Land Or Barge Mounted Over 45 Tons**

### Group 3

- **Derrick Barge Pedestal Mounted Under 45 Tons**
- **Self Propelled Boom Type Lifting Device 45 Tons And Under**

### Group 4

- **Truck Crane Or Crawler, Land Or Barge Mounted 45 Tons And Under**
- **Assistant Operator**

### Group 6

- **Assistant to Engineer**
- **Truck Crane Assistant to Engineer**
- **Assistant Operator**

### Group 8

- **Shid/Scow Piledriver, Any Tonnage**
- **Fundex F-12 Hydraulic Pile Rig**
- **Truck Crane Or Crawler, Land Or Barge Mounted, Over 45 Tons**

### Localities

- **Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.**
- **Madera, Marin, Mariposa, Mendocino, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.**

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GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #PILE DRIVER (OPERATING ENGINEER-HEAVY AND HIGHWAY WORK)
(SPECIAL SINGLE AND SECOND SHIFT)

DETERMINATION: NC-23-63-1-2018-1B
ISSUE DATE: August 22, 2018
EXPIRATION DATE OF DETERMINATION: June 23, 2019** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.


Employer Payments

<table>
<thead>
<tr>
<th>Classification (Journeyperson)</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
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<th>Vacation and Training</th>
<th>Other Payments</th>
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GROUP A-1
- Cranes over 350 Tons
- Derrick over 350 Tons
- Self Profelled Boom Type Lifting Devices over 350 Tons

GROUP 1
- Clamshells Over 7 Cu Yds
- Derrick Barge Pedestal Mounted Over 100 Tons
- Self Profelled Boom Type Lifting Device Over 100 Tons
- Truck Crane Or Crawler, Land Or Barge Mounted Over 100 Tons

GROUP 2
- Clamshells Up To And Including 7 Cu Yds
- Derrick Barge Pedestal Mounted 45 Tons Up To And Including 100 Tons
- Fundex F-12 Hydraulic Pile Rig
- Self Propelled Boom Type Lifting Device Over 45 Tons
- Truck Crane Or Crawler, Land Or Barge Mounted, Over 45 Tons
- Up To And Including 100 Tons

GROUP 3
- Derrick Barge Pedestal Mounted Under 45 Tons
- Shid/Scow Piledriver, Any Tonnage
- Truck Crane Or Crawler, Land Or Barge Mounted 45 Tons And Under

GROUP 4
- Assistant Operator
- Forklift, 10 Tons And Over
- Heavy Duty Repairman/Welder

GROUP 5
- Deck Crane

GROUP 6
- Deckhand

GROUP 7
- Fireman

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### Notes:
- `#` Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet at http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at http://www.dir.ca.gov/das/das.html.
- `a` Saturday in the same work week may be worked at straight-time rates if a job is shut down during the normal work week due to inclement weather.
- `b` For classifications within each group, see page 47.
- `c` Includes an amount for supplemental dues.
- `d` When three shifts are employed for five (5) or more consecutive days, seven and one-half (7 1/2) consecutive hours (exclusive of meal period), shall constitute a day of work, for which eight (8) times the straight time hourly rate shall be paid at the non-shift wage rate for the second shift. The third shift shall be seven (7) hours of work for eight (8) hours of pay at the non-shift wage rate.
- `e` For total base bid project value of less than $3,000,000 only. The Operating Engineer (Heavy and Highway Work) determination is applicable for all work $3,000,000 and above.

### Recognized Holidays:
Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

### Travel and/or Subsistence Payment:
In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
DETERMINATION: NC-23-63-1-2018-1B1

ISSUE DATE: August 22, 2018

LOCALITY: All localities within Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Santa Cruz, Shasta, Sierra, Siskiyou, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

Employer Payments

<table>
<thead>
<tr>
<th>Classification</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation and Training</th>
<th>Other Holiday Payments</th>
<th>Hours</th>
<th>Total Pay</th>
<th>Daily Rate</th>
<th>Saturday Rate</th>
<th>Sunday and Holiday Rate</th>
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<td>$70.97</td>
<td>$90.94</td>
<td>$90.94</td>
<td>$110.91</td>
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To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at [http://www.dir.ca.gov/das/das.html](http://www.dir.ca.gov/das/das.html).


To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at [http://www.dir.ca.gov/das/das.html](http://www.dir.ca.gov/das/das.html).

**SPECIAL SINGLE AND SECOND SHIFT**

**RECOGNIZED HOLIDAYS:** Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**TRAVEL AND/OR SUBSISTENCE PAYMENT:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
### AREA 1

<table>
<thead>
<tr>
<th>Classification(^a) (Journeyperson)</th>
<th>Basic Hourly Rate(^c)</th>
<th>Employer Payments</th>
<th>Straight-Time</th>
<th>Overtime Hourly Rate</th>
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<tbody>
<tr>
<td><strong>Construction Specialist</strong></td>
<td>31.40</td>
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<td>12.20</td>
<td>2.75 0.45 0.30 8 55.44</td>
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<tr>
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<tr>
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### AREA 2

<table>
<thead>
<tr>
<th>Classification(^a) (Journeyperson)</th>
<th>Basic Hourly Rate(^c)</th>
<th>Employer Payments</th>
<th>Straight-Time</th>
<th>Overtime Hourly Rate</th>
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<tr>
<td><strong>Construction Specialist</strong></td>
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<tr>
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Please go to page 30 for classifications within each group.

\(^a\) Indicates an apprenticeable craft. The current apprentice wage rates are available on the internet at [HTTP://WWW.DIR.CA.GOV/DAS/DAS.HTML](HTTP://WWW.DIR.CA.GOV/DAS/DAS.HTML).

\(^b\) Group 1(D) – maintenance or repair track and road beds and all employees performing work covered by this classification shall receive $0.25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This shall not apply to work below ground level in open cut. This shall be applied to cut and cover work of subway construction after temporary cover has been placed.

\(^c\) Group 1(H) – all workers working off or with or from bow’r chairs, swinging scaffolds, belts receive 50.50 per hour above their applicable wage rate.

\(^d\) This shall not apply to workers entitled to receive the wage rate set forth in group 1(A).

\(^e\) Saturdays in the same work week may be worked at straight-time if job is shut down during the normal work week due to inclement weather, major mechanical breakdown or lack of materials beyond the control of the employer.

\(^f\) Service landscape worker on new construction may work any five (5) days within a week.

\(^g\) Zone pay at three dollars ($3.00) per hour, factored at the applicable overtime multiple, will be added to the base rate for work performed outside the free zone described by the boundaries along townships and range lines. Please see travel and subsistence provision for map description and exceptions.

\(^h\) Recognized holidays: holidays upon which the general prevailing hourly wage rate for holiday work shall be paid. Shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of industrial relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in section 6706 of the government code. You may obtain the holiday provisions for the current determinations on the internet at [HTTP://WWW.DIR.CA.GOV/OPRL/DPRSh ĐiệnlEMALEDETERMINATION.HTM](HTTP://WWW.DIR.CA.GOV/OPRL/DPRSh ĐiệnlEMALEDETERMINATION.HTM). Holiday provisions for current or superseded determinations may be obtained by contacting the office of the director – research unit at (415) 703-4774.

### TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with labor code sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the internet at [HTTP://WWW.DIR.CA.GOV/OPRL/DPRSh ĐiệnlEMALEDETERMINATION.HTM](HTTP://WWW.DIR.CA.GOV/OPRL/DPRSh ĐiệnlEMALEDETERMINATION.HTM). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the office of the director – research unit at (415) 703-4774.
CONSTRUCTION SPECIALIST

ASPHALT RONERS AND RAKERS
CHAINSAW
CONCRETE CHAINSAW
LASER BEAM IN CONNECTION WITH LABORER’S WORK
MASONRY AND PLASTER TENDER
MECHANICAL PIPE LAY-ALL TYPES REGARDLESS OF TYPE OR METHOD OF POWER
CAST IN PLACE MANHOLE FORM SETTERS
PRESSURE PIPELAYERS
DAVS TRENCHER – 300 OR SIMILAR TYPE (AND ALL SMALL SITCHERS)
STATE LICENSED BLASTERS AS DESIGNATED
DIAMOND DRILLERS
DIAMOND CORE DRILLER
MULTIPLE UNIT DRILLS
HIGH SCALERS (INCLUDING DRILLING OF SAME)
HYDRAULIC DRILLS
CERTIFIED WELDER

GROUP 1 (FOR CONTRA COSTA COUNTY ONLY, USE GROUP 1 (G) FOR SOME OF THE FOLLOWING CLASSIFICATIONS)

ASPHALT SPREADER BOXES (ALL TYPES)
BARKO, WACKER AND SIMILAR TYPE TAMPERs
BULLDOZER
CAULKERS, BANDERS, PIPEWRAPPERS, CONDUIT LAYERS, PLASTIC PIPE LAYERS
CERTIFIED ASBESTOS AND MOLD REMOVAL WORKER
CERTIFIED HAZARDOUS WASTE WORKER (INCLUDING LEAD ABATEMENT)
COMPARATORS OF ALL TYPES
CONCRETE AND MAGEISTE MIXER AND \( \frac{1}{2} \) YARD CONCRETE
CONCRETE SANDERS, CONCRETE SAW
CRIERs AND/OR SHOING
CUT GRANITE CURB SETTER
DRI-PAK IT MACHINE
FALLER, LOGOADER AND RUCKER
FORM RAISERS, SLIP FORMS
GREEN CUTTERS
HEADBOARD MEN, SUBSETTERS, ALIGNERS BY ANY METHOD
HIGH PRESSURE BLOW PIPE (1-1/2” OR OVER, 100 LBS. PRESSURE/OVER)
HYDRO SEEDER AND SIMILAR TYPE
JACKHAMMER OPERATOR
JACKING OF PIPE OVER 12 INCHES
JACKSON AND SIMILAR TYPE COMPACTORS
KEITLHEMEN, POTMEN, AND MEN APPLYING ASPHALT, LAY-KOLD, CREOSOTE, LIME,
CAUSTIC AND SIMILAR TYPE MATERIALS (APPLYING MEANS APPLYING DIPPING, OR
HANDLING OF SUCH MATERIALS, LAYING CONCRETE, MASONRY, OR POSITIONING
LAVING, SHEETING, WAVING, BRACING, TRENCH-JACKING, LAVVING HAMMER
MAGNENITE, EPOXY RESIN, FIBER GLASS AND MAStIC WORKERS (WET/DRY)
NO-JOINT PIPE AND STRIPPING OF SAME, INCLUDING REPAIR OF Voids
Pavement Breakers and Spaders, Including Tool Grinder
PERMA CURBS
PRES MANHOLE SETTERS
PIPELAYERS (INCLUDING GRADE CHECKING IN CONNECTION WITH PIPELAYING)
PRESSURE PIPE TESTER
POST HOLE DIGGERS, AIR, GAS, AND ELECTRIC POWER BLOOD SLEEPERS
POWER TAMPERs OF ALL TYPES, EXCEPT AS SHOWN IN GROUP 2
RAM SET GUN AND STUD GUN
RIPRAP-STONEPAVER AND ROCK-SLINGER, INCLUDING PLACING OF SACKED CONCRETE
AND OR SAND (WET OR DRY) AND GABIONS AND SIMILAR TYPE
ROD MAN
ROTARY SCARIFIER OR MULTIPLE HEAD CONCRETE SCARIFING SCARIFER
ROTO AND DITCH CH
ROTTOTILLER
SAN BREATHERS, POTMEN, GUNMEN, AND NOZZLEs
SIGNALLING AND RIGGING
SKILLED WRECKER (REMOVING AND SALVAGING OF SASH, WINDOWS, DOORS, PLUMBING
AND ELECTRIC FIXTURES)
TANK CLEANERS
TREE CLIMBERS
TRENCHLESS TECHNOLOGY LABORER- PIPE INSTALLATION, BURSTING, RELINING, OR
SIMILAR
TRENCHLESS LABORER’S WORK, CAMERA CONTROLLER
TURBO BLASTER
VIBRA-SCREW-BULL FLOAT IN CONNECTION WITH LABORER’S WORK
VIBRATORS

GROUP 1 (A)
ALL WORK OF LOADING, PLACING AND BLASTING OF ALL POWDER & EXPLOSIVES
OF WHATEVER TYPE, REGARDLESS OF METHOD USED FOR LOADING AND PLACING
JOY DRILL MODEL TWM-2A
GARDENER-DRIVER MODEL DH 143 AND SIMILAR TYPE DRILLS
TRACK DRILLERS
JACK LEG DRILLERS
WAGON DRILLERS
MECHANICAL DRILLERS-ALL TYPES REGARDLESS OF TYPE OR METHOD OF POWER
BLASTERS AND POWDERMAN
TREE TOPPER
BIT GRINDER

GROUP 1 (B)
SEWER CLEANERS (ANY WORKMEN WHO HANDLE OR COME IN CONTACT WITH RAW
SEWAGE IN SMALL DIAMETER SEWERS) SHALL RECEIVE $4.00 PER DAY ABOVE
GROUP 1 WAGE RATES. THOSE WHO WORK INSIDE RECENTLY ACTIVE, LARGE DIAMETER
SEWERS, AND ALL RECENTLY ACTIVE SEWER MANHOLES SHALL RECEIVE $3.50 TO
$5.00 PER DAY ABOVE GROUP 1 WAGE RATES.

GROUP 1 (C)
BURNING AND WELDING IN CONNECTION WITH LABORER’S WORK
SYNTHETIC THERMOPLASTICS AND SIMILAR TYPE WELDING

GROUP 1 (D)
WORK ON AND/OR IN HOLE FOOTINGS AND SHAFTS THEREOF, AND WORK ON AND
IN DEEP FOOTINGS (DEEP FOOTINGS IS A HOLE 15 FEET OR MORE IN DEPTH)
SHAFT IS AN EXCAVATION OVER FIFTEEN (15) FEET DEEP OF ANY TYPE

GROUP 1 (E)
APPLIES ONLY TO WORK IN CONTRA COSTA COUNTY
PIPELAYERS (INCLUDING GRADE CHECKING IN CONNECTION WITH PIPELAYING),
CAULKERS, BANDERS, PIPEWRAPPERS, CONDUIT LAYERS, PLASTIC PIPE LAYER,
PRESSURE PIPE TESTER, NO JOINT PIPE, AND STRIPPING OF SAME, INCLUDING REPAIR
OF Voids, PRECAST MANHOLE SETTERS, CAST IN PLACE MANHOLE FORM SETTERS IN
CONTRA COSTA COUNTY ONLY

GROUP 1 (F)
SEE FOOTNOTE A ON PAGE 49

GROUP 2
ASPHALT SHOEVELERS
CEMENT DUMPERS AND HANDLING DRY CEMENT OR GYPSEM
CHASE-SETTER AND RIGGER (CLEARING WORK)
CONCRETE BUCKET DUMPER AND CHUTE MAN
CONCRETE CHIPPING AND GRINDING
CONCRETE LABORERS (WET OR DRY)
DRILLERS HELPER, CHUCK TENDER, NIPPER (ONE CHUCKTENDER ON SINGLE MACHINE
OPERATION WITH MINIMUM OF ONE CHUCKTENDER FOR EACH TWO MACHINES ON
MULTIPLE MACHINE OPERATION. JACKHAMMERS IN NO WAY INVOLVED IN THIS ITEM.)
GUENEA CHASER (STAKEMAN), GUEN GROUP
HIGH PRESSURE NOZZLEMAN, ADDEDUS
HYDRAULIC MONITOR (OVER 100 LBS. PRESSURE)
LOADING AND UNLOADING, CARRYING AND HANDLING OF ALL RODS AND MATERIALS
FOR USE IN REINFORCING CONCRETE
PITTSBURGH CHIPPER, AND SIMILAR TYPE BRUSH SHREDDERS
SEM-SKILLED WRECKER (SALVAGING OF OTHER BUILDING MATERIALS) – SEE ALSO
SKILLED WRECKER (GROUP 1)
SLOPER
SINGLEFOOT, HAND HELD, PNEUMATIC TAMPER
ALL PNEUMATIC, AIR, GAS AND ELECTRIC TOOLS NOT LISTED IN GROUPS 1 THROUGH 1 (F)
JACKING OF PIPE-UNDER 12 INCHES

GROUP 3
CONSTRUCTION LABORERS INCLUDING BRIDGE LABORERS, GENERAL LABORERS AND
CLEANUP LABORERS
DEMOATION WORKER
DUMPMAN, LOAD SPOTTER
FLAGPERSON/PEDESTRIAN MONITOR
FIRE WATCHER
FENCE ERECTORS, INCLUDING TEMPORARY FENCING
GUARDRAIL ERECTORS
GARDNER, HORTICULTURAL AND LANDSCAPE LABORERS (SEE GROUP 4, FOR
LANDSCAPE MAINTENANCE ON NEW CONSTRUCTION DURING PLANT ESTABLISHMENT
PERIOD)
JETTING
LIMBERS, BRUSH LOADERS, AND PILERS
PAVEMENT MARKERS (BUTTON SETTERS)
PATTERNS, INTERLOCKING PATTERNS (ALL TYPES) AND INTERLOCKING PAVER MACHINES
MAINTENANCE, REPAIR TRACRENCHES AND ROAD REVS
STREETCAR AND RAILROAD CONSTRUCTION TRACK LABORERS
TEMPORARY AIR AND WATER LINES, VIATCAUL OR SIMILAR
TOOL ROOM ATTENDANT (CAST-UP ONLY)
WHEELBARROW, INCLUDING POWER DRIVEN

GROUP 3 (A)
COMPOSITE CREW PERSON (OPERATION OF VEHICLES, WHEN IN CONJUNCTION WITH
LABORER’S DUTIES)

GROUP 4
ALL FINAL CLEANUP OF DEBRIS, GROUNDS AND BUILDINGS NEAR THE COMPLETION OF
THE PROJECT INCLUDING BUT NOT LIMITED TO STREET CLEANERS (NOT APPLICABLE
TO ENGINEERING OR HEAVY HIGHWAY PROJECTS)
CLEANING AND WASHING WINDOWS (NEW CONSTRUCTION ONLY), SERVICE LANDSCAPE
LABORERS (SUCH AS GARDENER, HORTICULTURE, MOWING, TRIMMING, REPLANTING,
WATERING DURING PLANT ESTABLISHMENT PERIOD) ON NEW CONSTRUCTION
BRICK CLEANERS (JOB SITE ONLY)
TANK CLEANERS (JOB SITE ONLY)
NOTE: AN ADDITIONAL DETERMINATION FOR LANDSCAPE MAINTENANCE WORK AFTER
THE PLANT ESTABLISHMENT PERIOD OR WARRANTY PERIOD IS PUBLISHED ON PAGE 57
OF THESE GENERAL DETERMINATIONS.

GROUP 6
STRUCTURAL NOZZLEMAN

GROUP 6 (A)
NOZZLEMAN (INCLUDING GUNMAN, POTMAN)
RODMAN
GROUNDMAIN

GROUP 6 (B)
SEE GROUP 4 RATES

GROUP 6 (C)
REBOUNDSMAN

GROUP 6 (D)
ALUMINUM PIPE WINDING MACHINE IN CONNECTION WITH GUNITING OR SHOT CRETE

GROUP 6 (E)
ALUMINUM HELPER OF PIPE WINDING MACHINE IN CONNECTION WITH GUNITING OR SHOT CRETE

GROUP 7
ENTRY LEVEL LANDSCAPE LABORER (RATIO FOR ENTRY LEVEL IS ONE IN THREE. AT
LEAST ONE SECOND PERIOD ENTRY LEVEL AND AT LEAST ONE THIRD PERIOD ENTRY LEVEL
MUST BE EMPLOYED BEFORE EMPLOYING ANOTHER FIRST PERIOD TRAINEE)
NOTE: THIS RATIO APPLIES ONLY TO WORK ON THE SAME JOB SITE.

GROUP 8
NOTE: THIS RATIO APPLIES ONLY TO WORK ON THE SAME JOB SITE.

GROUP 9
NOTE: THIS RATIO APPLIES ONLY TO WORK ON THE SAME JOB SITE.

GROUP 10
NOTE: THIS RATIO APPLIES ONLY TO WORK ON THE SAME JOB SITE.
AREA 1

Construction Specialist
34.49
2.85
12.20
2.75
0.45
0.30
8
58.44
75.69
75.69
92.93

Group 1; Group (C)
33.79
2.85
12.20
2.75
0.45
0.30
8
57.74
74.64
74.64
91.53

Group 1 (A)
34.01
2.85
12.20
2.75
0.45
0.30
8
57.96
74.97
74.97
91.97

Group 1 (C)
33.84
2.85
12.20
2.75
0.45
0.30
8
57.79
74.71
74.71
91.63

Group 1 (E)
34.34
2.85
12.20
2.75
0.45
0.30
8
58.29
75.46
75.46
92.63

Group 3
34.59
2.85
12.20
2.75
0.45
0.30
8
57.94
74.94
74.94
91.93

Group 3; Group (A)
33.64
2.85
12.20
2.75
0.45
0.30
8
57.59
74.41
74.41
91.23

Group 3; Group (C)
33.54
2.85
12.20
2.75
0.45
0.30
8
57.49
74.26
74.26
91.03

Group 4; Group (B)
27.22
2.85
12.20
2.75
0.45
0.30
8
51.18
64.80
64.80
78.41

Group 5
34.75
2.85
12.20
2.75
0.45
0.30
8
58.70
76.08
76.08
93.45

Group 6 (A)
34.25
2.85
12.20
2.75
0.45
0.30
8
58.20
75.33
75.33
92.45

Group 6 (B)
33.66
2.85
12.20
2.75
0.45
0.30
8
57.61
74.44
74.44
91.27

Group 6 (C)
34.37
2.85
12.20
2.75
0.45
0.30
8
58.32
75.51
75.51
92.69

Group 6 (G)
33.39
2.85
12.20
2.75
0.45
0.30
8
57.34
74.04
74.04
90.73

Group 7 – Stage 1 (1st 6 months)
24.38
2.85
12.20
2.75
0.45
0.30
8
48.33
60.52
60.52
72.71

Stage 2 (2nd 6 months)
27.43
2.85
12.20
2.75
0.45
0.30
8
51.38
65.10
65.10
78.81

Stage 3 (3rd 6 months)
30.49
2.85
12.20
2.75
0.45
0.30
8
54.44
69.68
69.68
84.92

AREA 2

Construction Specialist
34.49
2.85
12.20
2.75
0.45
0.30
8
57.44
74.19
74.19
90.93

Group 1; Group (C)
32.79
2.85
12.20
2.75
0.45
0.30
8
56.74
73.14
73.14
89.53

Group 1 (A)
33.01
2.85
12.20
2.75
0.45
0.30
8
56.96
73.47
73.47
89.97

Group 1 (C)
32.84
2.85
12.20
2.75
0.45
0.30
8
56.79
73.21
73.21
89.63

Group 1 (E)
33.34
2.85
12.20
2.75
0.45
0.30
8
57.29
73.96
73.96
90.63

Group 2
32.64
2.85
12.20
2.75
0.45
0.30
8
56.59
72.91
72.91
89.23

Group 3; Group (A)
32.54
2.85
12.20
2.75
0.45
0.30
8
56.49
72.76
72.76
89.03

Group 4; Group (B)
26.23
2.85
12.20
2.75
0.45
0.30
8
50.18
63.30
63.30
76.41

Group 6
33.75
2.85
12.20
2.75
0.45
0.30
8
57.70
74.58
74.58
91.45

Group 6 (A)
33.25
2.85
12.20
2.75
0.45
0.30
8
57.20
73.83
73.83
90.45

Group 6 (C)
32.66
2.85
12.20
2.75
0.45
0.30
8
56.61
72.94
72.94
89.27

Group 6 (D)
33.37
2.85
12.20
2.75
0.45
0.30
8
57.32
74.01
74.01
90.69

Group 6 (E)
32.39
2.85
12.20
2.75
0.45
0.30
8
56.34
72.54
72.54
88.73

Group 7 – Stage 1 (1st 6 months)
23.68
2.85
12.20
2.75
0.45
0.30
8
47.63
59.47
59.47
71.31

Stage 2 (2nd 6 months)
26.63
2.85
12.20
2.75
0.45
0.30
8
50.58
63.90
63.90
72.21

Stage 3 (3rd 6 months)
29.99
2.85
12.20
2.75
0.45
0.30
8
53.54
68.33
68.33
83.12
CRAFT: #TUNNEL WORKER (LABORER)

**Determination:** NC-23-102-11-2018-1  
**Issue Date:** August 22, 2018  
**Expiration Date of Determination:** June 30, 2019* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit at (415) 703-4774 for the new rates after ten days after the expiration date if no subsequent determination is issued.

**Locality:** All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

<table>
<thead>
<tr>
<th>Classification (Journeyman)</th>
<th>Basic Hourly Rate</th>
<th>Health Pension and Welfare</th>
<th>Vacation/Holiday</th>
<th>Training</th>
<th>Other Payments</th>
<th>Straight-Time Hours^b</th>
<th>Total Hourly Rate</th>
<th>Overtime Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diamond driller, groundman, gunite or shotcrete nozzleman</td>
<td>$37.82</td>
<td>8.25</td>
<td>12.20</td>
<td>2.75</td>
<td>0.91</td>
<td>0.30</td>
<td>8</td>
<td>62.23</td>
</tr>
<tr>
<td>Rodman, shaft work and raise (below actual or excavated ground level)</td>
<td>$37.59</td>
<td>8.25</td>
<td>12.20</td>
<td>2.75</td>
<td>0.91</td>
<td>0.30</td>
<td>8</td>
<td>62.00</td>
</tr>
<tr>
<td>Bit grinder, blaster, driller, powderman-heading, cherry pickerman-where car is lifted, concrete finisher in tunnel, concrete/screed man, grout pumpman and potman, gunite and shotcrete gunman and potman, headerman, high pressure nozzleman, miner-tunnel, including top and bottom man on shaft and raise work, nipper, nozzleman on slick line, sandblaster-potman (work assignment interchangeable)</td>
<td>$37.34</td>
<td>8.25</td>
<td>12.20</td>
<td>2.75</td>
<td>0.91</td>
<td>0.30</td>
<td>8</td>
<td>61.75</td>
</tr>
<tr>
<td>Steel form raiser and setter, timberman, retimberman (wood or steel or substitute materials), tugger, cabbeltender, chucktender, powderman-primer house</td>
<td>$37.34</td>
<td>8.25</td>
<td>12.20</td>
<td>2.75</td>
<td>0.91</td>
<td>0.30</td>
<td>8</td>
<td>61.75</td>
</tr>
<tr>
<td>Vibratorman, pavement breaker, bull gang-mucker, trackman, concrete crew-including rodding and spreading</td>
<td>$36.89</td>
<td>8.25</td>
<td>12.20</td>
<td>2.75</td>
<td>0.91</td>
<td>0.30</td>
<td>8</td>
<td>61.30</td>
</tr>
<tr>
<td>Dumpman (any method), grout crew, reboundman, swamper/brakeman, watchman</td>
<td>$36.35</td>
<td>8.25</td>
<td>12.20</td>
<td>2.75</td>
<td>0.91</td>
<td>0.30</td>
<td>8</td>
<td>60.76</td>
</tr>
</tbody>
</table>

When designated by an employer, state licensed blaster receives $1.00 per hour above miner’s rate.

**Note:** Rates for tunnel workers working in compressed air as well as their support classifications are available by request. Please contact the Office of the Director - Research Unit at (415) 703-4774.

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^ Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet@[http://www.dir.ca.gov/OPRL/PWA/PWAappWage/PWAappWageStart.asp](http://www.dir.ca.gov/OPRL/PWA/PWAappWage/PWAappWageStart.asp). To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at [http://www.dir.ca.gov/das/das.html](http://www.dir.ca.gov/das/das.html).

_a_ Includes an amount for supplemental dues.

_b_ Saturdays in the same work week may be worked at straight-time if job is shut down during the normal workweek due to inclement weather. Excludes Alameda, Contra Costa, and San Francisco Counties.

_c_ All work performed on Saturdays, Sundays and Holidays shall be paid for at double (2x) the regular time hourly rate, except maintenance work, in the counties of Alameda, Contra Costa, and San Francisco.

**Recognized Holidays:** Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or Subsistence Payment:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
**Determination:** NC-23-102-11-2018-1A  
**Issue Date:** August 22, 2018  
**Expiration Date of Determination:** June 30, 2019* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit at (415) 703-4774 for the new rates after ten days after the expiration date if no subsequent determination is issued.

**Locality:** All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

<table>
<thead>
<tr>
<th>Classification (Journeyperson)</th>
<th>Basic Hourly Rate</th>
<th>Health and Pension</th>
<th>Vacation/Holiday</th>
<th>Training</th>
<th>Other Payments</th>
<th>Straight-Time Hours(^b)</th>
<th>Total Hourly Rate</th>
<th>Overtime Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diamond driller, groundman, gunite or shotcrete nozzleman</td>
<td>$40.82</td>
<td>8.25</td>
<td>12.20</td>
<td>2.75</td>
<td>0.91</td>
<td>0.30</td>
<td>8</td>
<td>65.23</td>
</tr>
<tr>
<td>Rodman, shaft work and raise (below actual or excavated ground level)</td>
<td>$40.59</td>
<td>8.25</td>
<td>12.20</td>
<td>2.75</td>
<td>0.91</td>
<td>0.30</td>
<td>8</td>
<td>65.00</td>
</tr>
<tr>
<td>Bit grinder, blaster, driller, powderman-heading, cherry pickerman-where car is lifted, concrete finisher in tunnel, concrete/ screed man, grout pumpman and potman, gunite and shotcrete gunman and potman, headerman, high pressure nozzleman, miner-tunnel, including top and bottom man on shaft and raise work, nipper, nozzleman on slick line, sandblaster-potman (work assignment interchangeable)</td>
<td>$40.34</td>
<td>8.25</td>
<td>12.20</td>
<td>2.75</td>
<td>0.91</td>
<td>0.30</td>
<td>8</td>
<td>64.75</td>
</tr>
<tr>
<td>Steel form raiser and setter, timberman, retimberman (wood or steel or substitute materials), tugger, cabletender, chucktender, powderman-primer house</td>
<td>$40.34</td>
<td>8.25</td>
<td>12.20</td>
<td>2.75</td>
<td>0.91</td>
<td>0.30</td>
<td>8</td>
<td>64.75</td>
</tr>
<tr>
<td>Vibratorman, pavement breaker, bull gang-mucker, trackman, concrete crew-including rodding and spreading</td>
<td>$39.89</td>
<td>8.25</td>
<td>12.20</td>
<td>2.75</td>
<td>0.91</td>
<td>0.30</td>
<td>8</td>
<td>64.30</td>
</tr>
<tr>
<td>Dumpman (any method), grout crew, reboundman, swampman/brakeman, watchman</td>
<td>$39.35</td>
<td>8.25</td>
<td>12.20</td>
<td>2.75</td>
<td>0.91</td>
<td>0.30</td>
<td>8</td>
<td>63.76</td>
</tr>
</tbody>
</table>

When designated by an employer, state licensed blaster receives $0.50 per hour above miner’s rate.

**Note:** Rates for tunnel workers working in compressed air as well as their support classifications are available by request. Please contact the Office of the Director - Research Unit at (415) 703-4774.

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* Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet at: [http://www.dir.ca.gov/OPRL/PWAAppWage/PWAappWageStart.asp](http://www.dir.ca.gov/OPRL/PWAAppWage/PWAappWageStart.asp). To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at [http://www.dir.ca.gov/das/das.html](http://www.dir.ca.gov/das/das.html).

\(^a\) Includes an amount for supplemental dues.

\(^b\) Saturdays in the same work week may be worked at straight-time if job is shut down during the normal workweek due to inclement weather. Excludes Alameda, Contra Costa, and San Francisco Counties.

\(^c\) All work performed on Saturdays, Sundays and Holidays shall be paid for at double (2x) the regular time hourly rate, except maintenance work, in the counties of Alameda, Contra Costa, and San Francisco.

**Recognized Holidays:** Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or Subsistence Payment:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: # PARKING AND HIGHWAY IMPROVEMENT PAINTER (PAINTER) a

DETERMINATION: NC-200-X-17-2019-1
ISSUE DATE: February 22, 2019
EXPIRATION DATE OF DETERMINATION: June 30, 2019** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director – Research Unit for specific rates at (415) 703-4774.

LOCALITY: All localities within San Joaquin, Tuolumne, and Yolo counties.

### Employer Payments

<table>
<thead>
<tr>
<th>CLASSIFICATION</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation/Holiday c</th>
<th>Training</th>
<th>Other</th>
<th>Hours</th>
<th>Total Hourly Rate</th>
<th>Daily</th>
<th>Holiday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Striper; Layout and application of painted traffic stripes; hot thermo plastic; tape traffic stripes</td>
<td>b36.68</td>
<td>10.25</td>
<td>5.03</td>
<td>-</td>
<td>0.10</td>
<td>-</td>
<td>8</td>
<td>52.06</td>
<td>70.40</td>
<td>88.74</td>
</tr>
<tr>
<td>Parking Lots, Gamecourts, Playgrounds</td>
<td>b31.18</td>
<td>10.25</td>
<td>5.03</td>
<td>-</td>
<td>0.10</td>
<td>-</td>
<td>8</td>
<td>46.56</td>
<td>62.15</td>
<td>77.74</td>
</tr>
<tr>
<td>Protective Coating, Resurfacing, Pavement Sealing, Including Repair When Done in Conjunction With Pavement Sealing</td>
<td>b31.54</td>
<td>10.25</td>
<td>5.03</td>
<td>-</td>
<td>0.10</td>
<td>-</td>
<td>8</td>
<td>46.92</td>
<td>62.69</td>
<td>78.46</td>
</tr>
</tbody>
</table>

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet at [http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp). To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards’ website at [http://www.dir.ca.gov/das/das.html](http://www.dir.ca.gov/das/das.html).

b Includes an amount withheld for Dues Check-Off.

c Included in Basic Hourly Rate ($2.24). Rate applies to the first 9 years of employment only; $2.63 per hour worked for 10 years or more.

d Rate applies to first 4 overtime hours in any one day and for work in excess of 40 hours in any one designated work week. All other overtime is paid at the double time rate.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
Determination: NC-23-102-1B-2019-1  
Issue Date: February 22, 2019  
Expiration Date of Determination: March 31, 2019** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director – Research Unit for specific rates at (415) 703-4774.


<table>
<thead>
<tr>
<th>Classification (Journeyperson)</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation/Holiday</th>
<th>Training</th>
<th>Straight-Time Hours</th>
<th>Total Hourly Rate</th>
<th>Overtime Hourly Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixer Operator</td>
<td>$32.04</td>
<td>8.25</td>
<td>1.50</td>
<td>2.28</td>
<td>0.10</td>
<td>8</td>
<td>$44.17</td>
<td>$60.19  $60.19  $76.21</td>
</tr>
<tr>
<td>Shuttle/Line Driver</td>
<td>30.04</td>
<td>8.25</td>
<td>1.50</td>
<td>2.28</td>
<td>0.10</td>
<td>8</td>
<td>42.17</td>
<td>57.19  57.19  72.21</td>
</tr>
<tr>
<td>Squeegee/Sealer</td>
<td>29.04</td>
<td>8.25</td>
<td>1.50</td>
<td>2.28</td>
<td>0.10</td>
<td>8</td>
<td>41.17</td>
<td>55.69  55.69  70.21</td>
</tr>
<tr>
<td>Utility-Maintenance Man</td>
<td>29.04</td>
<td>8.25</td>
<td>1.50</td>
<td>2.28</td>
<td>0.10</td>
<td>8</td>
<td>41.17</td>
<td>55.69  55.69  70.21</td>
</tr>
</tbody>
</table>

a Saturdays in the same work week may be worked at straight-time if job is shut down during the normal work week due to inclement weather, major mechanical breakdown or lack of materials beyond the control of the employer.

b Zone Pay at three dollars ($3.00) per hour, factored at the applicable overtime multiplier, will be added to the base rate for work performed outside the Free Zone described by the boundaries along township and range lines. Please see travel and subsistence provision for map description and exceptions.

Recognized Holidays: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

Travel and/or subsistence payment: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
CRAFT: ASBESTOS REMOVAL WORKER (LABORER)

**DETERMINATION:** NC-102-67-1-2019-1  
**ISSUE DATE:** February 22, 2019  
**EXPIRATION DATE OF DETERMINATION:** November 30, 2019* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**LOCALITY:** All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

<table>
<thead>
<tr>
<th>Classification (Journeyperson)</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation/ Holiday</th>
<th>Training</th>
<th>Other Payments</th>
<th>Hours</th>
<th>Total Hourly Rate</th>
<th>1-1/2Xb</th>
<th>2X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asbestos Removal Specialist II</td>
<td>28.49</td>
<td>5.84</td>
<td>8.25</td>
<td>2.75</td>
<td>0.46</td>
<td>0.18</td>
<td>8</td>
<td>45.97</td>
<td>60.215</td>
<td>74.46</td>
</tr>
<tr>
<td>Asbestos Removal Specialist I</td>
<td>27.11</td>
<td>5.84</td>
<td>2.76</td>
<td>2.75</td>
<td>0.46</td>
<td>0.18</td>
<td>8</td>
<td>39.10</td>
<td>52.655</td>
<td>66.21</td>
</tr>
<tr>
<td>Asbestos Removal Worker</td>
<td>24.00</td>
<td>5.84</td>
<td>2.25</td>
<td>2.75</td>
<td>0.46</td>
<td>0.18</td>
<td>8</td>
<td>35.48</td>
<td>47.48</td>
<td>59.48</td>
</tr>
</tbody>
</table>

**DETERMINATION:** NC-102-67-1-2018-1A  
**ISSUE DATE:** August 22, 2018  
**EXPIRATION DATE OF DETERMINATION:** November 30, 2019* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit at (415) 703-4774 for the new rates after ten days after the expiration date if no subsequent determination is issued.

**LOCALITY:** All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

<table>
<thead>
<tr>
<th>Classification (Journeyperson)</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation/ Holiday</th>
<th>Training</th>
<th>Other Payments</th>
<th>Hours</th>
<th>Total Hourly Rate</th>
<th>1-1/2Xb</th>
<th>2X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead Removal Workerd</td>
<td>31.81</td>
<td>9.00</td>
<td>10.31</td>
<td>2.75</td>
<td>0.65</td>
<td>0.22</td>
<td>8</td>
<td>54.74</td>
<td>70.645</td>
<td>86.55</td>
</tr>
<tr>
<td>Lead Removal Workerd</td>
<td>30.81</td>
<td>9.00</td>
<td>10.31</td>
<td>2.75</td>
<td>0.65</td>
<td>0.22</td>
<td>8</td>
<td>53.74</td>
<td>69.145</td>
<td>84.55</td>
</tr>
</tbody>
</table>

*a Includes an amount for Supplemental Dues.  
*b Rate applies to the first 4 overtime hours in any workday or 40 hours in a workweek, and for the first 8 hours worked on the 7th consecutive day of work in a workweek. All work on Saturdays and Sundays shall be paid at the rate of one and one-half (1 1/2) times the regular rate of pay, unless the Saturday and Sunday work is part of an established workweek.  
*c Rate applies to Holidays and to all hours worked in excess of 12 hours in any workday and for all hours worked in excess of 8 hours on the 7th consecutive day of work in a workweek.  
*d Rate applies to all localities within Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo and Santa Clara Counties.  
*e Rate applies to all localities within Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Monterey, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo and Yuba Counties.

(Recognized Holidays and Subsistence Payment footnotes listed on page 52C)
NOTE: Asbestos Removal Workers must be trained and the work conducted according to the Code of Federal Regulations 29 CFR 1926.58, the California Labor Code 6501.5 and the California Code of Regulations, Title 8, Section 5208. Contractors must be certified by the Contractors' State License Board and registered with the Division of Occupational Safety and Health (DOSH). For further information, contact the Asbestos Contractors Abatement Registration Unit, DOSH at (510) 286-7362.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: # CEMENT MASON

DETERMINATION: NC-23-203-1-2018-1
ISSUE DATE: August 22, 2018
EXPIRATION DATE OF DETERMINATION: June 30, 2019* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.


<table>
<thead>
<tr>
<th>CLASSIFICATION</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation and Holiday</th>
<th>Training</th>
<th>Other</th>
<th>Straight-Time Hoursb</th>
<th>Total Daily Hours</th>
<th>Overtime Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td># CEMENT MASON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 1/2X</td>
</tr>
<tr>
<td>(JOURNEYPRESON)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Holiday</td>
</tr>
<tr>
<td>Cement Mason</td>
<td>$35.05</td>
<td>8.45</td>
<td>11.00</td>
<td>5.79a</td>
<td>0.57</td>
<td>0.10</td>
<td>8</td>
<td>60.96</td>
<td>78.485</td>
</tr>
<tr>
<td>Mastic Magnesite Gypsum, Epoxy, Polyester, Resin and all composition masons, swing or slip form scaffolds</td>
<td>$36.05</td>
<td>8.45</td>
<td>11.00</td>
<td>5.79a</td>
<td>0.57</td>
<td>0.10</td>
<td>8</td>
<td>61.96</td>
<td>79.985</td>
</tr>
</tbody>
</table>

* Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet @ http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at http://www.dir.ca.gov/das/das.html.

a Includes an amount for supplemental dues.
b Where multiple shifts are worked, the day shift shall work eight (8) hours and for such work they shall be paid the regular straight time rate for eight (8) hours; the second (2nd) shift shall work seven and one-half (7 ½) hours, and for such work they shall be paid the regular straight time rate for eight (8) hours; if a third (3rd) shift is worked, they shall work seven (7) hours and for such work they shall be paid eight (8) hours regular straight time pay. No multiple shift shall be started for less than five (5) consecutive days.
c Saturdays in the same work week may be worked at straight time if a job is shut down during the normal work week due to inclement weather or major mechanical breakdown (limited to curb and gutter machine, concrete pump, and concrete plant).
d Rate applies to the first 8 hours of work on Saturday. All other hours worked on Saturday are paid at the Sunday/Holiday rate.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
CRAFT: # CEMENT MASON (SPECIAL SINGLE SHIFT)

**DETERMINATION:** NC-23-203-1A-2018-1  
**ISSUE DATE:** August 22, 2018  
**EXPIRATION DATE OF DETERMINATION:** June 30, 2019* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**LOCALITY:** All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

<table>
<thead>
<tr>
<th>CLASSIFICATION (JOURNEYPERSON)</th>
<th>Employer Payments</th>
<th>Straight-Time</th>
<th>Overtime Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basic Hourly Rate</td>
<td>Health and Welfare</td>
<td>Pension</td>
</tr>
<tr>
<td>Cement Mason</td>
<td>$38.05</td>
<td>8.45</td>
<td>11.00</td>
</tr>
<tr>
<td>Mastic Magnesite Gypsum, Epoxy, Polyester, Resin and all composition masons, swing or slip form scaffolds</td>
<td>$39.05</td>
<td>8.45</td>
<td>11.00</td>
</tr>
</tbody>
</table>

<sup>a</sup> Includes an amount for supplemental dues.

<sup>b</sup> Saturdays in the same work week may be worked at straight time if a job is shut down during the normal work week due to inclement weather or major mechanical breakdown (limited to curb and gutter machine, concrete pump, and concrete plant).

<sup>c</sup> Rate applies to the first 8 hours of work on Saturday. All other hours worked on Saturday are paid at the Sunday/Holiday rate.

**RECOGNIZED HOLIDAYS:** Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**TRAVEL AND/OR SUBSISTENCE PAYMENT:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #BUILDING/CONSTRUCTION INSPECTOR AND FIELD SOILS AND MATERIAL TESTER

DETERMINATION: NC-63-3-9-2018-2
ISSUE DATE: August 22, 2018
EXPIRATION DATE OF DETERMINATION: September 30, 2019** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director – Research Unit for specific rates at (415) 703-4774.


| CLASSIFICATION (JOURNEYPERSON) | Basic Hourly Rate | Health and Pension | Vacation and Holiday | Training Payment | Other Hours | Total Daily Hours | Straight-Time Holiday Rate | Overtime Hourly Rate \\
<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>$47.03</td>
<td>13.88</td>
<td>9.57</td>
<td>6.24</td>
<td>1.13</td>
<td>0.24</td>
<td>8</td>
<td>78.09</td>
</tr>
<tr>
<td>Group 2</td>
<td>45.03</td>
<td>13.88</td>
<td>9.57</td>
<td>6.24</td>
<td>1.13</td>
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<td>8</td>
<td>76.09</td>
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<tr>
<td>Group 3</td>
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<td>9.57</td>
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<td>69.95</td>
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<tr>
<td>Group 4</td>
<td>33.66</td>
<td>13.88</td>
<td>9.57</td>
<td>6.24</td>
<td>1.13</td>
<td>0.24</td>
<td>8</td>
<td>64.72</td>
</tr>
</tbody>
</table>

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet @ http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at http://www.dir.ca.gov/das/das.html.

a Amount shall be paid for all hours worked up to 173 hours per month.
b Rate applies to the first 4 daily overtime hours, Monday through Friday, and the first 8 hours on Saturday. All other overtime is paid at the Sunday/Holiday overtime rate.

---

CLASSIFICATIONS:

<table>
<thead>
<tr>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASNT Level II-III</td>
<td>AWS-CWI</td>
<td>Geotechnical Driller</td>
<td>ACI</td>
</tr>
<tr>
<td>DSA Masonry</td>
<td>ICC Certified Structural Inspector</td>
<td>Soils/Asphalt</td>
<td>Drillers Helper</td>
</tr>
<tr>
<td>DSA Shotcrete</td>
<td>NICET Level III</td>
<td>Earthwork Grading</td>
<td>ICC Fireproofing</td>
</tr>
<tr>
<td>Lead Inspector</td>
<td>Shear Wall/Floor System Inspector</td>
<td>Excavation and Backfill</td>
<td>NICET Level I</td>
</tr>
<tr>
<td>NICET Level IV</td>
<td>Building/Construction Inspector</td>
<td>NICET Level II</td>
<td>Proofload Testing</td>
</tr>
<tr>
<td>NDT Level Two</td>
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<td>Torque Testing</td>
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<tr>
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<td></td>
<td></td>
<td>NACE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>NDT Level One</td>
</tr>
</tbody>
</table>

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #BUILDING/CONSTRUCTION INSPECTOR AND FIELD SOILS AND MATERIAL TESTER (SECOND SHIFT)

DETERMINATION:  NC-63-3-9-2018-2
ISSUE DATE:  August 22, 2018
EXPIRATION DATE OF DETERMINATION:  September 30, 2019**  The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director – Research Unit for specific rates at (415) 703-4774.


<table>
<thead>
<tr>
<th>CLASSIFICATION (JOURNEYPERSON)</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfarea</th>
<th>Pension</th>
<th>Vacation and Holiday</th>
<th>Training</th>
<th>Other Payment</th>
<th>Straight-Time Hours</th>
<th>Total Daily Hoursb</th>
<th>Saturday/Sunday/ Holiday Overtime Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>$52.91</td>
<td>13.88</td>
<td>9.57</td>
<td>6.24</td>
<td>1.13</td>
<td>0.24</td>
<td>8</td>
<td>10.425</td>
<td>110.425 136.88</td>
</tr>
<tr>
<td>Group 2</td>
<td>50.66</td>
<td>13.88</td>
<td>9.57</td>
<td>6.24</td>
<td>1.13</td>
<td>0.24</td>
<td>8</td>
<td>74.81</td>
<td>96.685 118.56</td>
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<tr>
<td>Group 3</td>
<td>43.75</td>
<td>13.88</td>
<td>9.57</td>
<td>6.24</td>
<td>1.13</td>
<td>0.24</td>
<td>8</td>
<td>68.93</td>
<td>87.865 106.80</td>
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<tr>
<td>Group 4</td>
<td>37.87</td>
<td>13.88</td>
<td>9.57</td>
<td>6.24</td>
<td>1.13</td>
<td>0.24</td>
<td>8</td>
<td>81.72</td>
<td>107.050 132.38</td>
</tr>
</tbody>
</table>

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet @ http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards’ website at http://www.dir.ca.gov/das/das.html.

a Amount shall be paid for all hours worked up to 173 hours per month.

b Rate applies to the first 4 daily overtime hours, Monday through Friday, and the first 8 hours on Saturday. All other overtime is paid at the Sunday/Holiday overtime rate.

CLASSIFICATIONS:

- Group 1: ASNT Level II-III, DSA Masonry, DSA Shotcrete, Lead Inspector, NICET Level IV, NDT Level Two
- Group 2: AWS-CWI, ICC Certified Structural Inspector, Shear Wall/Floor System Inspector, Building/Construction Inspector
- Group 3: Geotechnical Driller, Soils/Asphalt, Earthwork Grading, Excavation and Backfill, NICET Level II
- Group 4: ACI, Drillers Helper, ICC Fireproofing, Proofload Testing, NACE, NDT Level One

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
Pursuant to California Labor Code Part 7, Chapter 1, Article 2, Sections 1770, 1773 and 1773.1
for Commercial Building, Highway, Heavy Construction and Dredging Projects

CRAFT: Teamster (Applies Only to Work on the Construction Site)

Determination: NC-23-261-1-2018-1
Issue Date: August 22, 2018
Expiration Date of Determination: June 30, 2019** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director – Research Unit for specific rates at (415) 703-4774.


<table>
<thead>
<tr>
<th>Classification</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Vacation/Holiday</th>
<th>Training Other Payments</th>
<th>Employer Payments</th>
<th>Straight-Time Hours Total Hourly Rate</th>
<th>Overtime Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>$31.68</td>
<td>$17.91</td>
<td>$6.75</td>
<td>$2.30</td>
<td>$0.90</td>
<td>8</td>
<td>$60.17</td>
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<tr>
<td>Group 2</td>
<td>31.98</td>
<td>17.91</td>
<td>6.75</td>
<td>2.30</td>
<td>0.90</td>
<td>8</td>
<td>60.47</td>
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<tr>
<td>Group 3</td>
<td>32.28</td>
<td>17.91</td>
<td>6.75</td>
<td>2.30</td>
<td>0.90</td>
<td>8</td>
<td>60.77</td>
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<tr>
<td>Group 4</td>
<td>32.63</td>
<td>17.91</td>
<td>6.75</td>
<td>2.30</td>
<td>0.90</td>
<td>8</td>
<td>61.12</td>
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<tr>
<td>Group 5</td>
<td>32.98</td>
<td>17.91</td>
<td>6.75</td>
<td>2.30</td>
<td>0.90</td>
<td>8</td>
<td>61.47</td>
</tr>
<tr>
<td>Group 6</td>
<td>USE DUMP TRUCK YARDAGE RATE</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Group 7</td>
<td>USE APPROPRIATE RATE FOR THE POWER UNIT OR THE EQUIPMENT UTILIZED</td>
<td></td>
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</tr>
</tbody>
</table>

A Supplemental Dues and Contract Administration.
B Saturday in the same work week may be worked at straight-time hourly rate if a job is shut down during the normal work week due to inclement weather or major mechanical breakdown, or lack of materials beyond the control of the Employer.
C An individual employer may employ one (1) trainee for every four (4) journey level Teamsters actively employed. Individual employers with less than four (4) journey level Teamsters may utilize one (1) trainee; thereafter, one (1) for every four (4) journey level Teamsters.
D Sixty-five percent (65%) of the Journey level wage for the type of equipment operated, plus full fringes without Vacation/Holiday.
E Seventy-five percent (75%) of the Journey level wage for the type of equipment operated, plus full fringes without Vacation/Holiday.
F Eighty-five percent (85%) of the Journey level wage for the type of equipment operated, plus full fringes without Vacation/Holiday.
G For classifications within each group, see page 56.

Recognized Holidays: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/PreWageDetermination.htm](http://www.dir.ca.gov/OPRL/PreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

Travel and/or subsistence payment: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/PreWageDetermination.htm](http://www.dir.ca.gov/OPRL/PreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
DETERMINATION: NC-23-261-1-2018-1 and NC-23-261-1-2018-1A

CLASSIFICATIONS:

**GROUP 1**
- Dump Trucks under 6 yards
- Single Unit Flat Rack (2 axle unit)
- Nipper Truck (When Flat Rack Truck is used appropriate Flat Rack shall apply)
- Concrete pump truck (When Flat Rack Truck is used appropriate Flat Rack shall apply)
- Concrete pump machine
- Snow Buggy
- Steam Cleaning
- Bus or Manhaul Driver
- Escort or Pilot Car Driver
- Pickup Truck
- Teamster Oiler/Greaser/and or Serviceman
- Hook Tenders
- Team Drivers
- Warehouseman
- Tool Room Attendant (Refineries)
- Fork Lift and Lift Jitneys
- Warehouse Clerk/Parts Man
- Fuel and/or Grease Truck Driver or Fuelman
- Truck Repair Helper
- Fuel Island Attendant, or Combination Pit and/or Grease Rack and Fuel Island Attendant

**GROUP 2**
- Dump Trucks 6 yards Under 8 yards
- Transit Mixers through 10 yards
- Water Trucks Under 7000 gals.
- Jetting Trucks Under 7000 gals.
- Single Unit flat rack (3 axle unit)
- Highbed Heavy Duty Transport
- Scissor Truck
- Rubber Tired Muck Car (not self-loaded)
- Rubber Tired Truck Jumbo
- Winch Truck and “A” Frame Drivers
- Combination Winch Truck With Hoist
- Road Oil Truck or Boottman
- Buggymobile
- Ross, Hyster and similar Straddle Carrier
- Small Rubber Tired Tractor
- Truck Dispatcher

**GROUP 3 (continued)**
- Truck Mounted Self Propelled Street Sweeper with or without Self-Contained Refuse Bin and or Vacuum Unit
- Boom Truck - Hydro-Lift or Swedish Type Extension or Retracting Crane
- P.B. or Similar Type Self Loading Truck
- Combination Bootman and Road Oiler
- Dry Distribution Truck (A Bootman when employed on such equipment, shall receive the rate specified for the classification of Road Oil Trucks or Bootman)
- Ammonia Nitrate Distributor, Driver and Mixer
- Snow Go and/or Plow

**GROUP 4**
- Dump Trucks over 25 yards and under 65 yards
- Vacuum Trucks 7500 gals and over.
- Truck Repairman
- Water Pulls - DW 10s, 20s, 21s and other similar equipment when pulling Aqua/pak or Water Tank Trailers
- Helicopter Pilots
- Lowbed Heavy Duty Transport (up to and including 7 axles)
- DW 10s, 20s, 21s and other similar Cat type, Terra Cobra, LeTourneau Pulls, Tournorocker, Euclid and similar type Equipment when pulling fuel and/or grease tank trailers or other miscellaneous trailers

**GROUP 5**
- Dump Truck 65 yards and over
- Holland Hauler
- Lowbed Heavy Duty Transport (over 7 axles)

**GROUP 6** (Use dump truck yardage rate)
- Articulated Dump Truck
- Bulk Cement Spreader (w/ or w/o Auger)
- Dumpcrete Truck
- Skid Truck (Debris Box)
- Dry Pre-Batch Concrete Mix Trucks
- Dumpster or Similar Type
- Slurry Truck

**GROUP 7** (Use appropriate Rate for the Power Unit or the Equipment Utilized)
- Heater Planer
- Asphalt Burner
- Scarifier Burner
- Fire Guard
- Industrial Lift Truck (mechanical tailgate)
- Utility and Clean-up Truck
- Composite Crewman

**GROUP 8**
- Trainee
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: TEAMSTER (SPECIAL SINGLE SHIFT RATE)
(APPLIES ONLY TO WORK ON THE CONSTRUCTION SITE)

DETERMINATION: NC-23-261-1-2018-1A
ISSUE DATE: August 22, 2018
EXPIRATION DATE OF DETERMINATION: June 30, 2019** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director – Research Unit for specific rates at (415) 703-4774.


<table>
<thead>
<tr>
<th>Classification (Journeyperson)</th>
<th>Basic Hourly Rate</th>
<th>Health and Pension Welfare</th>
<th>Vacation/ Holiday Training</th>
<th>Other Payments</th>
<th>Straight-Time Hours Total Daily Hourly Rate</th>
<th>Overtime Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>$33.68</td>
<td>$17.91</td>
<td>$6.75</td>
<td>$2.30</td>
<td>$0.90 a $0.63</td>
<td>8</td>
</tr>
<tr>
<td>Group 2</td>
<td>33.98</td>
<td>17.91</td>
<td>6.75</td>
<td>2.30</td>
<td>0.90 a 0.63</td>
<td>8</td>
</tr>
<tr>
<td>Group 3</td>
<td>34.28</td>
<td>17.91</td>
<td>6.75</td>
<td>2.30</td>
<td>0.90 a 0.63</td>
<td>8</td>
</tr>
<tr>
<td>Group 4</td>
<td>34.63</td>
<td>17.91</td>
<td>6.75</td>
<td>2.30</td>
<td>0.90 a 0.63</td>
<td>8</td>
</tr>
<tr>
<td>Group 5</td>
<td>34.98</td>
<td>17.91</td>
<td>6.75</td>
<td>2.30</td>
<td>0.90 a 0.63</td>
<td>8</td>
</tr>
<tr>
<td>Group 6</td>
<td>USE DUMP TRUCK YARDAGE RATE</td>
<td></td>
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</tr>
<tr>
<td>Group 7</td>
<td>USE APPROPRIATE RATE FOR THE POWER UNIT OR THE EQUIPMENT UTILIZED</td>
<td></td>
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</tr>
<tr>
<td>Group 8 (Trainee)</td>
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<td></td>
<td>d Step I – 1st 1000 Hours</td>
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<tr>
<td>d Step II – 2nd 1000 Hours</td>
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</tr>
<tr>
<td>f Step III – 3rd 1000 Hours</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

a Supplemental Dues and Contract Administration.
b Saturday in the same work week may be worked at straight-time hourly rate if a job is shut down during the normal work week due to inclement weather or major mechanical breakdown, or lack of materials beyond the control of the Employer.
c An individual employer may employ one (1) trainee for every four (4) journey level Teamsters actively employed. Individual employers with less than four (4) journey level Teamsters may utilize one (1) trainee; thereafter, one (1) for every four (4) journey level Teamsters.
d Sixty-five percent (65%) of the Journey level wage for the type of equipment operated, plus full fringes without Vacation/Holiday.
e Seventy-five percent (75%) of the Journey level wage for the type of equipment operated, plus full fringes without Vacation/Holiday.
f Eighty-five percent (85%) of the Journey level wage for the type of equipment operated, plus full fringes without Vacation/Holiday.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/PreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/PreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
## LANDSCAPE MAINTENANCE LABORER

(Applies only to routine landscape maintenance work not new landscape construction)

**Determination:** NC-LML-2019-1  
**Issue Date:** February 22, 2019  
**Expiration Date of Determination:** March 31, 2019* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

<table>
<thead>
<tr>
<th>Locality</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Vacation</th>
<th>Holiday</th>
<th>Training</th>
<th>Hours</th>
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**Note:** If there are two rates, the first rate is for routine work, the second rate is for complex work.

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**Craft is not apprenticeable**
DETERMINATION: NC-LML-2019-1

a. $0.20 after 3 years of service; $0.27 after 5 years of service.
b. Computation is based on first years of employment. This rate should be increased by any applicable vacation increase as stated in other footnotes.
c. $0.25 after 7 years of service.
d. $0.38 after 3 years of service.
e. $0.37 after 5 years of service; $0.49 after 15 years of service.
f. $0.19 after 1 year of service; $0.25 after 2 years of service.
g. $0.22 after 1 year of service; $0.29 after 2 years of service.
h. $0.31 after 5 years of service.
i. $0.24 after 5 years of service.
j. $0.23 after 2 years of service; $0.35 after 6 years of service.
k. $0.26 after 1 year of service; $0.39 after 5 years of service.
l. $0.27 after 1 year of service; $0.40 after 5 years of service.
m. $0.26 after 7 years of service.
n. $0.31 after 3 years of service; $0.46 after 7 years of service.
o. $0.27 after 3 years of service; $0.40 after 5 years of service.
p. $0.23 after 2 years of service.
q. $0.23 after 7 years of service.

1 This determination does not apply to work of a landscape laborer employed on landscape construction (work incidental to construction or post-construction maintenance during the plant installation and establishment period). The following is a description of the landscape work covered under this determination:

ROUTINE – mowing, watering, pruning, trimming, weeding, spraying, occasional planting and replacement of plants and janitorial work incidental to such landscape maintenance.

COMPLEX – servicing of irrigation and sprinkler systems, repairing of equipment use in such landscape maintenance.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
### General Prevailing Wage Determination Made by the Director of Industrial Relations

**Pursuant to California Labor Code Part 7, Chapter 1, Article 2, Sections 1770, 1773 and 1773.1**

**For Commercial Building, Highway, Heavy Construction and Dredging Projects**

**Craft:** # Tunnel/Underground (Operating Engineer-Heavy and Highway Work)

**Determination:** NC-23-63-1-2018-1C

**Issue Date:** August 22, 2018

**Expiration Date of Determination:** June 23, 2019

The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Locality:** All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

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<tr>
<th>Classification</th>
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<th>Health and Pension Contributions</th>
<th>Vacation and Training Contributions</th>
<th>Other Employer Payments</th>
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**Classifications:**

**Group 1-A**
- Tunnel Bore Machine Operator - 20 ft in diameter or more
- Concrete Pump or Pumpcrete Guns

**Group 1**
- Tunnel Bore Machine Operator - 20 ft in diameter or more
- Concrete Pump or Pumpcrete Guns

**Classifications:**

- **AREA 1** - Alameda, Butte, Contra Costa, Kings, Marin, Merced, Napa, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Solano, Stanislaus, Sutter, Yolo and Yuba counties; and portions of Alpine, Amador, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Solano, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

**Classifications:**

- **AREA 2** - Modoc, and portions of Alpine, Amador, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Solano, Tehama, Tulare, Tuolumne and Trinity counties. (Portions of counties falling in each area detailed on page 41).

**Classifications:**

- **AREA 3** - Modoc, and portions of Alpine, Amador, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Solano, Tehama, Tulare, Tuolumne and Trinity counties.

**Note:** For Special Single and Second Shift rates, please see page 58A.

**Recognized Holidays:** Holidays upon which the general prevailing hourly wage rate shall be paid are all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the general prevailing hourly wage rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/Das/das.html.

**Travel and/or Subsistence Payment:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

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# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet at http://www.dir.ca.gov/OPRL/PWApp/Wage/PWAppWageStart.asp. To obtain any apprentice wage rates as of July 1, 2009 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards’ website at http://www.dir.ca.gov/das/das.html.

**a** Includes an amount for supplemental dues.

**b** Saturday in the same work week may be worked at straight-time if a job is shut down during the normal work week due to inclement weather.

**c** When three shifts are employed for five (5) or more consecutive days, seven and one-half (7 1/2) consecutive hours (exclusive of meal period), shall constitute a day of work, for which eight (8) times the straight time hourly rate shall be paid at the non-shift wage rate for the second shift. The third shift shall be seven (7) hours of work for eight (8) hours of pay at the non-shift wage rate.

**NOTE:** For Special Single and Second Shift rates, please see page 58A.

**Travel and/or Subsistence Payment:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

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### GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS

Pursuant to California Labor Code Part 7, Chapter 1, Article 2, Sections 1779, 1773 and 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: # TUNNEL/UNDERGROUND (OPERATING ENGINEER-HEAVY AND HIGHWAY WORK) (SPECIAL SINGLE AND SECOND SHIFT)**

**DETERMINATION:** NC-23-63-1-2018-1C  
**ISSUE DATE:** August 22, 2018  
**EXPIRATION DATE OF DETERMINATION:** June 23, 2019**  
**LOCALITY:** All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

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**Employer Payments**

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**Classifications:**

**GROUP 1**  
- Tunnel Bore Machine Operator - 20 feet in diameter or more
- Heading Shield Operator
- Heavy Duty Repairman/Welder
- Mucking Machine
- Raised Bore Operator
- Tunnel Mole Bore Operator
- Tunnel Boring Machine Operator 10 ft up to 20 ft

**GROUP 2**  
- Combination Slusher and Motor Operator
- Concrete Pump or Pumpcrete Guns
- Drill Doctor
- Mine or Shaft Hoist
- Combination Mixer and Compressor (Gunite)
- Compressor Operator

**GROUP 3**  
- Combination Compressor (Gunite)
- Grouting Machine Operator
- Assistant to Engineer
- Pump Operator
- Slusher Operator

**GROUP 4**  
- Combination Slurry Mixer Cleaner
- Grouting Machine Operator
- Assistant to Engineer
- Pump Operator
- Slusher Operator

**GROUP 5**  
- Slusher Operator

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## CLASSIFICATIONS:

**GROUP 1-A**  
- Tunnel Bore Machine Operator - 20 feet in diameter or more
- Heading Shield Operator
- Heavy Duty Repairman/Welder
- Mucking Machine
- Raised Bore Operator
- Tunnel Mole Bore Operator
- Tunnel Boring Machine Operator 10 ft up to 20 ft

**GROUP 2**  
- Combination Slusher and Motor Operator
- Concrete Pump or Pumpcrete Guns
- Drill Doctor
- Mine or Shaft Hoist
- Combination Mixer and Compressor (Gunite)
- Compressor Operator

**GROUP 3**  
- Combination Mixer and Compressor (Gunite)
- Grouting Machine Operator
- Assistant to Engineer
- Pump Operator
- Slusher Operator

**GROUP 4**  
- Combination Slurry Mixer Cleaner
- Grouting Machine Operator
- Assistant to Engineer
- Pump Operator
- Slusher Operator

**GROUP 5**  
- Slusher Operator

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**# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet at http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards’ website at http://www.dir.ca.gov/das/das.html.**

**A AREA 1 - Alameda, Butte, Contra Costa, Kings, Marin, Merced, Napa, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Solano, Stanislaus, Sutter, Yolo and Yuba counties; and portions of Alpine, Amador, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity counties.**

**A AREA 2 - Modoc, and portions of Alpine, Amador, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity counties. (Portions of counties falling in each area detailed on page 41).**

**5 Includes an amount for supplemental dues.**

**Saturday in the same work week may be worked at straight-time if a job is shut down during the normal work week due to inclement weather.**

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**RECOGNIZED HOLIDAYS:** Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

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**TRAVEL AND/OR SUBSISTENCE PAYMENT:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS**
Pursuant to California Labor Code Part 7, Chapter 1, Article 2, Sections 1770, 1773 and 1773.1

**FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS**

**CRAFT: TREE MAINTENANCE**¹ (LABORER)
(APPLIES ONLY TO ROUTINE TREE MAINTENANCE WORK, NOT CONSTRUCTION AND/OR LANDSCAPE CONSTRUCTION²)

**DETERMINATION:** NC-102-X-21-2018-2

**ISSUE DATE:** August 22, 2018

**EXPIRATION DATE OF DETERMINATION:** June 30, 2019** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director – Research Unit for specific rates at (415) 703-4774.

**Locality:** All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

<table>
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<tr>
<th>CLASSIFICATION(s)² (Journeyperson)</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation and Training</th>
<th>Other</th>
<th>Straight-Time</th>
<th>Overtime Hourly Rate</th>
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</table>

¹ This determination does not apply to the work of a landscape laborer employed on landscape construction (work incidental to construction or post-construction maintenance during the plant installation and establishment period) or to tree trimming work involving line clearance.

² This determination does not apply to tree trimming, removal, or planting work performed on construction or landscape construction contracts.

³ AREA 1 – MARIN, MONTEREY, NAPA, SAN BENITO, SAN FRANCISCO, SAN MATEO, SANTA CLARA, SANTA CRUZ, SOLANO, AND SONOMA COUNTIES.

AREA 2 – ALAMEDA, ALPINE, AMADOR, BUTTE, CALAVERAS, COLUSA, CONTRA COSTA, DEL NORTE, EL DORADO, FRESNO, GLENN, HUMBOLDT, KINGS, LAKE, LASSEN, MADERA, MARIPosa, MENDoCINO, MERcED, MODoc, NEVADA, PLACER, PLUMAS, SACRAMENTO, SAN JOAQUIN, SHASTA, SIERRA, SISKIYOU, STANISLAUS, SUTTER, TEHAMA, TRINITY, TULARE, TUOLUMNE, YOLO, AND YUBA COUNTIES.

a There shall be at least one Senior Tree Trimmer on crews of three or more.

b Monday thru Saturday shall constitute a workweek. Rate applies to first 4 overtime hours Monday thru Saturday, and all time worked in excess of forty (40) hours per workweek. All other time is paid at the Sunday and Holiday double-time rate.

c AREA 1 – ALAMEDA, ALPINE, AMADOR, BUTTE, CALAVERAS, COLUSA, CONTRA COSTA, DEL NORTE, EL DORADO, FRESNO, GLENN, HUMBOLDT, KINGS, LAKE, LASSEN, MADERA, MARIPOSA, MENDOCINO, MERCEd, MODoc, NEVADA, PLACER, PLUMAS, SACRAMENTO, SAN JOAQUIN, SHASTA, SIERRA, SISKIYOU, STANISLAUS, SUTTER, TEHAMA, TRINITY, TULARE, TUOLUMNE, YOLO, AND YUBA COUNTIES.

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