INVITATION FOR BIDS

City of Santa Rosa

FOR CONSTRUCTION OF

ROUTE 101 BICYCLE AND PEDESTRIAN OVERCROSSING

CITY CONTRACT NUMBER
C00769

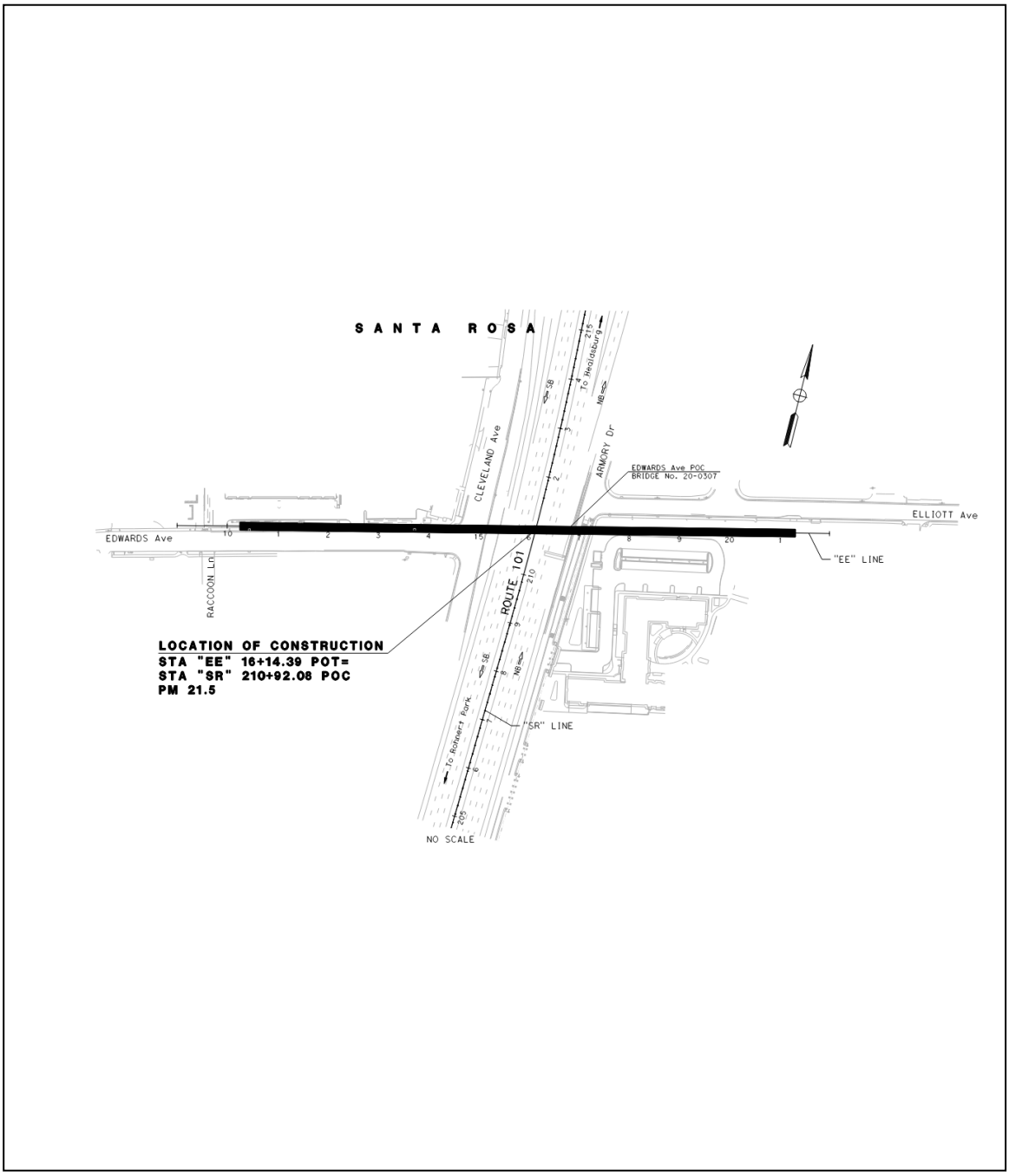
CALTRANS CONTRACT NUMBER
04-2G3404
PROJECT ID: 0413000213

ISSUED BY

CAPITAL PROJECTS ENGINEERING DIVISION

CITY OF SANTA ROSA, CALIFORNIA

2025



LOCATION MAP

City of Santa Rosa

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Notice Inviting Bids

1. **Bid Submission.** City of Santa Rosa ("City") will accept sealed bids for its Route 101 Bicycle and Pedestrian Overcrossing ("Project"), before December 16, 2025, at 2:00 p.m., at its Transportation and Public Works office, located at 69 Stony Circle, Santa Rosa, California, at which time the bids will be publicly opened and read aloud. Bidders may attend the public opening in person.

2. **Project Information.**

   2.1 **Location and Description.** The Project is located 0.3 miles south of the Steele Lane Undercrossing and is described as follows: The project would construct a bicycle and pedestrian shared-use overcrossing spanning U.S. 101 to connect Elliot Avenue to Edwards Avenue. The Project is to be 100% ADA compliant and focused on usability for active transportation in the City of Santa Rosa. The eastern landing will be located on Elliot Avenue, which runs through the Santa Rosa Junior College. The western landing will be located on Edwards Avenue, adjacent to the Coddingtown Shopping Center area and various multifamily residential housing units. The project will include site enhancements and the bridge landing areas within the City right of way to improve connectivity of the bike and pedestrian facilities in the area.

   2.2 **Time for Final Completion.** The Project must be fully completed within 380 Working Days from the start date set forth in the Notice to Proceed. City anticipates that the Work will begin on or about March 2026 but the anticipated start date is provided solely for convenience and is neither certain nor binding.

   2.3 **Estimated Cost.** The estimated construction cost is $29,000,000.00.

3. **License and Registration Requirements.**

   3.1 **License.** This Project requires a valid California contractor's license for the following classification(s): A.

   3.2 **DIR Registration.** City may not accept a Bid Proposal from, or enter into the Contract with, a bidder without proof that the bidder is registered with the California Department of Industrial Relations ("DIR") to perform public work pursuant to Labor Code § 1725.5, subject to limited legal exceptions.

4. **Contract Documents.** The plans, specifications, bid forms and contract documents for the Project, and any addenda thereto ("Contract Documents") may be downloaded from the City's PlanetBids portal, which may be accessed by selecting the "Bid/Proposal Opportunities" link on the City's website at https://www.srcity.org/165/Bids-Proposals. A printed copy of the Contract Documents is not available.

5. **Bid Security.** The Bid Proposal must be accompanied by bid security of ten percent of the maximum bid amount, in the form of a cashier's or certified check made payable to City, or a bid bond executed by a surety licensed to do business in the State of California on the Bid Bond form included with the Contract Documents. The bid security must guarantee that within ten days after City issues the Notice of Award, the successful bidder will execute the Contract and submit the payment and performance bonds, insurance certificates and endorsements, valid Certificates of Reported Compliance as required under the California Air Resources Board's In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR § 2449

et seq.) (“Off-Road Regulation”), if applicable, and any other submittals required by the Contract Documents and as specified in the Notice of Award.

6. Prevailing Wage Requirements.

6.1 General. Pursuant to California Labor Code § 1720 et seq., this Project is subject to the prevailing wage requirements applicable to the locality in which the Work is to be performed for each craft, classification or type of worker needed to perform the Work, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes.

6.2 Rates. The prevailing rates are on file with the City and are available online at http://www.dir.ca.gov/DLSR. Each Contractor and Subcontractor must pay no less than the specified rates to all workers employed to work on the Project. The schedule of per diem wages is based upon a working day of eight hours. The rate for holiday and overtime work must be at least time and one-half.

6.3 Compliance. The Contract will be subject to compliance monitoring and enforcement by the DIR, under Labor Code § 1771.4.

7. Performance and Payment Bonds. The successful bidder will be required to provide performance and payment bonds, each for 100% of the Contract Price, as further specified in the Contract Documents.

8. Substitution of Securities. Substitution of appropriate securities in lieu of retention amounts from progress payments is permitted under Public Contract Code § 22300.

9. Subcontractor List. Each Subcontractor must be registered with the DIR to perform work on public projects. Each bidder must submit a completed Subcontractor List form with its Bid Proposal, including the name, location of the place of business, California contractor license number, DIR registration number, and percentage of the Work to be performed (based on the base bid price) for each Subcontractor that will perform Work or service, or fabricate and install Work, for the prime contractor in excess of one-half of 1% of the bid price, using the Subcontractor List form included with the Contract Documents.

10. Bidders’ Conference. A bidders’ conference will be held on November 18, 2025 at 11:00 a.m., at the following location: 69 Stony Circle, Santa Rosa California 95401 to acquaint all prospective bidders with the Contract Documents and the Project site. The bidders’ conference is not mandatory. A bidder who fails to attend a mandatory bidders’ conference may be disqualified from bidding.

11. Caltrans Administered Project. This Project is funded in whole or in part by federal funds administered under Caltrans’ Local Assistance Procedures Manual (“LAPM”).

11.1 Federal Bidding Requirements. LAPM bidding requirements and forms are provided in Attachment A - Federal Bidding Requirements. Each bidder must comply with the requirements set forth in Attachment A, including completion and submission of required federal forms with its Bid Proposal, as further specified in Attachment A.

11.2 Title VI Non-Discrimination Assurances. The City, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. § 2000d et seq.) and applicable regulations, including 49 CFR Part 21, 28 CFR § 50.3, and any other applicable statutory or regulatory authorities identified in the Standard Title VI/Non-Discrimination Assurances, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this

advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award. Any contract entered into pursuant to this advertisement will be subject to Appendix E of the Title VI Assurances, a copy of which is included in Attachment B - Federal Contract Requirements.

12. Instructions to Bidders. All bidders should carefully review the Instructions to Bidders for more detailed information before submitting a Bid Proposal. The definitions provided in Article 1 of the General Conditions apply to all of the Contract Documents, as defined therein, including this Notice Inviting Bids.

By: Lisa Welsh Date: 11/4/2025

Lisa Welsh, Supervising Engineer

Publication Date: November 4th, 2025

END OF NOTICE INVITING BIDS

Instructions to Bidders

Each Bid Proposal submitted to the City of Santa Rosa ("City") for its Route 101 Bicycle and Pedestrian Overcrossing ("Project") must be submitted in accordance with the following instructions and requirements:

1. Bid Submission.

1.1 General. Each Bid Proposal must be completed, using the form provided in the Contract Documents, signed, and submitted to City in a sealed envelope, with all required forms and attachments, before the deadline set forth in Section 1 of the Notice Inviting Bids, or as amended by subsequent addendum. Faxed or emailed Bid Proposals will not be accepted, unless otherwise specified. Late submissions (i.e., submissions at or after the exact hour of bid opening) will be returned unopened. City reserves the right to postpone the date or time for receiving or opening bids. Each bidder is solely responsible for all of its costs to prepare and submit its bid and by submitting a bid waives any right to recover those costs from City. The bid price(s) must include all costs to perform the Work as specified, including all labor, material, supplies, and equipment and all other direct or indirect costs such as applicable taxes, insurance and overhead. The official time clock for accepting bids will be an electric date and time stamping clock, located in the Transportation and Public Works Department office.

1.2 Vendor Registration. To participate in the bidding process, each bidder must register as a vendor on PlanetBids, download the Contract Documents, and add itself to the "Prospective Bidders" list for the Project. If City issues an addendum, each bidder must log in to PlanetBids and acknowledge the addendum prior to the bid deadline. (See Section 8, below.)

1.3 Bid Envelope. The sealed envelope containing the Bid Proposal and all required forms and attachments must be clearly labeled and addressed as follows:

> **BID PROPOSAL:**
> Route 101 Bicycle and Pedestrian Overcrossing
> Contract No. C00769
>
> Transportation and Public Works Department
> 69 Stony Circle
> Santa Rosa, California 95401
> Attn: Jose Mederos

The envelope must also be clearly labeled, as follows, with the bidder's name, address, and its registration number with the California Department of Industrial Relations ("DIR") for bidding on public works contracts (Labor Code §§ 1725.5 and 1771.1):

> *[Contractor company name]*
> *[street address]*
> *[city, state, zip code]*
> DIR Registration No: _____

1.4 DIR Registration. Subject to limited legal exceptions for joint venture bids and federally-funded projects, City may not accept a Bid Proposal from a bidder without proof that the bidder is registered with the DIR to perform public work under Labor Code § 1725.5. If City is unable to confirm that the bidder is currently registered

with the DIR, City may disqualify the bidder and return its bid unopened. (Labor Code §§ 1725.5 and 1771.1(a).)

1.5 Bid Tabulation. To access the bid tabulation when available, visit www.srcity.org/bids. Bid tabulations will be posted on PlanetBids portal and the Project specific website by visiting cippublic.srcity.org/CIPList.html.

2. Bid Proposal Form and Enclosures. Each Bid Proposal must be completed legibly using the Bid Proposal form included with the Contract Documents. The Bid Proposal form must be fully completed without interlineations, alterations, or erasures. Any necessary corrections must be clear and legible, and must be initialed by the bidder's authorized representative. A Bid Proposal submitted with exceptions or terms such as "negotiable," "will negotiate," or similar, will be considered nonresponsive. Each Bid Proposal must be accompanied by bid security, as set forth in Section 4 below, and by a completed Bid Schedule, Subcontractor List, and Non-Collusion Declaration using the forms included with the Contract Documents, and any additional forms required by the Notice Inviting Bids or Instructions to Bidders.

3. Authorization and Execution. Each Bid Proposal must be signed by the bidder's authorized representative. A Bid Proposal submitted by a partnership must be signed in the partnership name by a general partner with authority to bind the partnership. A Bid Proposal submitted by a corporation must be signed with the legal name of the corporation, followed by the signature and title of two officers of the corporation with full authority to bind the corporation to the terms of the Bid Proposal under California Corporations Code § 313 or as otherwise authorized by law.

4. Bid Security. Each Bid Proposal must be accompanied by bid security of ten percent of the maximum bid amount, in the form of a cashier's check or certified check, made payable to the City, or bid bond using the form included in the Contract Documents and executed by a surety licensed to do business in the State of California. The bid security must guarantee that, within ten days after issuance of the Notice of Award, the bidder will: execute and submit the enclosed Contract for the bid price; submit payment and performance bonds for 100% of the maximum Contract Price; submit the insurance certificates and endorsements; and submit valid Certificates of Reported Compliance as required by the Off-Road Regulation, if applicable, and any other submittals, if any, required by the Contract Documents or the Notice of Award.

5. Requests for Information. Questions or requests for clarifications regarding the Project, the bid procedures, or any of the Contract Documents must be submitted in writing to City via the PlanetBids portal. Oral responses are not authorized and are not binding on the City. Bidders should submit any such written inquiries at least five Working Days before the scheduled bid opening. Questions received any later might not be addressed before the bid deadline. An interpretation or clarification by City in response to a written inquiry will be issued in an addendum.

6. Pre-Bid Investigation.

6.1 General. Each bidder is solely responsible at its sole expense for diligent and thorough review of the Contract Documents, examination of the Project site, and reasonable and prudent inquiry concerning known and potential site and area conditions prior to submitting a Bid Proposal. Each bidder is responsible for knowledge of conditions and requirements which reasonable review and investigation would have disclosed. However, except for any areas that are open to the public at large, bidders may not enter property owned or leased by the City or the Project site without prior written authorization from City.

6.2 Document Review. Each bidder is responsible for review of the Contract Documents and any informational documents provided "For Reference Only," e.g., as-builts, technical reports, test data, and the like. A bidder is responsible for notifying City of any errors, omissions, inconsistencies, or conflicts it discovers in the Contract Documents, acting solely in its capacity as a contractor and subject to the limitations of Public Contract Code § 1104. Notification of any such errors, omissions, inconsistencies, or conflicts must be submitted in writing to the City no later than five Working Days before the scheduled bid opening. (See Section 5, above.) City expressly disclaims responsibility for assumptions a bidder might draw from the presence or absence of information provided by City.

6.3 Project Site. Questions regarding the availability of soil test data, water table elevations, and the like should be submitted to the City in writing, as specified in Section 5, above. Any subsurface exploration at the Project site must be done at the bidder's expense, but only with prior written authorization from City. All soil data and analyses available for inspection or provided in the Contract Documents apply only to the test hole locations. Any water table elevation indicated by a soil test report existed on the date the test hole was drilled. The bidder is responsible for determining and allowing for any differing soil or water table conditions during construction. Because groundwater levels may fluctuate, difference(s) in elevation between ground water shown in soil boring logs and ground water actually encountered during construction will not be considered changed Project site conditions. Actual locations and depths must be determined by bidder's field investigation. The bidder may request access to underlying or background information on the Project site in City's possession that is necessary for the bidder to form its own conclusions, including, if available, record drawings or other documents indicating the location of subsurface lines, utilities, or other structures.

6.4 Utility Company Standards. The Project must be completed in a manner that satisfies the standards and requirements of any affected utility companies or agencies (collectively, "utility owners"). The successful bidder may be required by the third party utility owners to provide detailed plans prepared by a California registered civil engineer showing the necessary temporary support of the utilities during coordinated construction work. Bidders are directed to contact the affected third party utility owners about their requirements before submitting a Bid Proposal.

7. Bidders Interested in More Than One Bid. No person, firm, or corporation may submit or be a party to more than one Bid Proposal unless alternate bids are specifically called for. However, a person, firm, or corporation that has submitted a subcontract proposal or quote to a bidder may submit subcontract proposals or quotes to other bidders.

8. Addenda. Subject to the limitations of Public Contract Code § 4104.5, City reserves the right to issue addenda prior to bid time. Any addenda issued prior to the bid opening are part of the Contract Documents. Bidders should check City's PlanetBids portal periodically for any addenda or updates on the Project, which may be accessed via City's website at: https://www.srcity.org/165/Bids-Proposals. Each bidder is solely responsible for ensuring it has received and reviewed all addenda prior to submitting its bid and must acknowledge each addendum in the PlanetBids portal.

9. Brand Designations and "Or Equal" Substitutions. Any specification designating a material, product, thing, or service by specific brand or trade name, followed by the words "or equal," is intended only to indicate quality and type of item desired, and bidders may request use of any equal material, product, thing, or service. All data substantiating the proposed substitute as an equal item must be submitted with the written request for

substitution. A request for substitution must be submitted within 35 days after Notice of Award unless otherwise provided in the Contract Documents. This provision does not apply to materials, products, things, or services that may lawfully be designated by a specific brand or trade name under Public Contract Code § 3400(c).

10. Bid Protest. Any bid protest against another bidder must be submitted in writing and received by City at 69 Stony Circle, Santa Rosa, California or sent via email at jmederos@srcity.org before 5:00 p.m. no later than two Working Days following bid opening ("Bid Protest Deadline") and must comply with the following requirements:

10.1 General. Only a bidder who has actually submitted a Bid Proposal is eligible to submit a bid protest against another bidder. Subcontractors are not eligible to submit bid protests. A bidder may not rely on the bid protest submitted by another bidder, but must timely pursue its own protest. For purposes of this Section 10, a "Working Day" means a day that City is open for normal business, and excludes weekends and holidays observed by City. Pursuant to Public Contract Code § 4104, inadvertent omission of a Subcontractor's DIR registration number on the Subcontractor List form is not grounds for a bid protest, provided it is corrected within 24 hours of the bid opening or as otherwise provided under Labor Code § 1771.1(b).

10.2 Protest Contents. The bid protest must contain a complete statement of the basis for the protest and must include all supporting documentation. Material submitted after the Bid Protest Deadline will not be considered. The protest must refer to the *specific* portion or portions of the Contract Documents upon which the protest is based. The protest must include the name, address, email address, and telephone number of the protesting bidder and any person submitting the protest on behalf of or as an authorized representative of the protesting bidder.

10.3 Copy to Protested Bidder. Upon submission of its bid protest to City, the protesting bidder must also concurrently transmit the protest and all supporting documents to the protested bidder, and to any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest, by email or hand delivery to ensure delivery before the Bid Protest Deadline.

10.4 Response to Protest. The protested bidder may submit a written response to the protest, provided the response is received by City before 5:00 p.m., within two Working Days after the Bid Protest Deadline or after actual receipt of the bid protest, whichever is sooner (the "Response Deadline"). The response must attach all supporting documentation. Material submitted after the Response Deadline will not be considered. The response must include the name, address, email address, and telephone number of the person responding on behalf of or representing the protested bidder if different from the protested bidder.

10.5 Copy to Protesting Bidder. Upon submission of its response to the bid protest to the City, the protested bidder must also concurrently transmit by email or hand delivery, by or before the Response Deadline, a copy of its response and all supporting documents to the protesting bidder and to any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.

10.6 Exclusive Remedy. The procedure and time limits set forth in this Section are mandatory and are the bidder's sole and exclusive remedy in the event of a bid protest. A bidder's failure to comply with these procedures will constitute a waiver

of any right to further pursue a bid protest, including filing a Government Code Claim or initiation of legal proceedings.

10.7 Right to Award. City reserves the right, acting in its sole discretion, to reject any bid protest that it determines lacks merit, to award the Contract to the bidder it has determined to be the responsible bidder submitting the lowest responsive bid, and to issue a Notice to Proceed with the Work notwithstanding any pending or continuing challenge to its determination.

11. Reservation of Rights. Subject to the provisions of its charter and the Santa Rosa City Code ("City Code"), City reserves the unfettered right, acting in its sole discretion, to waive or to decline to waive any immaterial bid irregularities; to accept or reject any or all bids; to cancel or reschedule the bid; to postpone or abandon the Project entirely; or to perform all or part of the Work with its own forces. The Contract will be awarded, if at all, within 90 days after opening of bids or as otherwise specified in the Special Conditions, to the responsible bidder that submitted the lowest responsive bid. Any planned start date for the Project represents the City's expectations at the time the Notice Inviting Bids was first issued. City is not bound to issue a Notice to Proceed by or before such planned start date, and it reserves the right to issue the Notice to Proceed when the City determines, in its sole discretion, the appropriate time for commencing the Work. The City expressly disclaims responsibility for any assumptions a bidder might draw from the presence or absence of information provided by the City in any form. Each bidder is solely responsible for its costs to prepare and submit a bid, including site investigation costs.

12. Bonds. Within ten calendar days following issuance of the Notice of Award, the successful bidder must submit payment and performance bonds to City as specified in the Contract Documents using the bond forms included in the Contract Documents. All required bonds must be calculated on the maximum total Contract Price as awarded, including additive alternates, if applicable.

13. License(s) and Certificate(s). The successful bidder and its Subcontractor(s) must possess the California contractor's license(s) in the classification(s) required by law to perform the Work. The successful bidder must also obtain a City business tax certificate, issued pursuant to Chapter 6.04 of the City Code, within ten days following issuance of the Notice of Award and before performing any Work on the Project and within 10 days of the Notice of Award. Subcontractors must also obtain a City business tax certificate before performing any Work.

14. Ineligible Subcontractor. Any Subcontractor who is ineligible to perform work on a public works project under Labor Code §§ 1777.1 or 1777.7 is prohibited from performing work on the Project.

15. Safety Orders. If the Project includes construction of a pipeline, sewer, sewage disposal system, boring and jacking pits, or similar trenches or open excavations, which are five feet or deeper, each bid must include a bid item for adequate sheeting, shoring, and bracing, or equivalent method, for the protection of life or limb, which comply with safety orders as required by Labor Code § 6707.

16. In-Use Off-Road Diesel-Fueled Fleets. If the Project involves the use of vehicles subject to the California Air Resources Board's In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR § 2449 et seq.) ("Off-Road Regulation"), then within ten calendar days following City's issuance of the Notice of Award, the successful bidder must submit to City valid Certificates of Reported Compliance for its fleet and its listed Subcontractors, if applicable, in accordance with the Off-Road Regulation, unless exempt under the Off-Road Regulation.

17. Community Workforce Agreement. If checked below, the Project is subject to the City's Community Workforce Agreement ("CWA") and the successful bidder must comply with the requirements therein.

Select One:

☒ This Project is subject to the City's CWA, which is available on the City's website at https://www.srcity.org/165/Bids-Proposals and incorporated herein by reference. Within three Working Days following a request from City, the apparent low bidder must submit to City an executed Appendix A, Contractor Agreement to be Bound, using the form provided with the Contract Documents. Each bidder must provide a copy of the CWA to its Subcontractors, and the successful bidder and its Subcontractors must comply with the CWA. Entering into the CWA is a condition of award of the Contract for the Project.

☐ This Project is not subject to the City's CWA.

18. Bid Schedule. Each bidder must complete the Bid Schedule form with unit prices as indicated, and submit the completed Bid Schedule with its Bid Proposal.

18.1 Incorrect Totals. In the event a computational error for any bid item (base bid or alternate) results in an incorrect extended total for that item, the submitted base bid or bid alternate total will be adjusted to reflect the corrected amount as the product of the estimated quantity and the unit cost. In the event of a discrepancy between the actual total of the itemized or unit prices shown on the Bid Schedule for the base bid, and the amount entered as the base bid on the Bid Proposal form, the actual total of the itemized or unit prices shown on the Bid Schedule for the base bid will be deemed the base bid price. Likewise, in the event of a discrepancy between the actual total of the itemized or unit prices shown on the Bid Schedule for any bid alternate, and the amount entered for the alternate on the Bid Proposal form, the actual total of the itemized prices shown on the Bid Schedule for that alternate will be deemed the alternate price. Nothing in this provision is intended to prevent a bidder from requesting to withdraw its bid for material error under Public Contract Code § 5100 et seq.

18.2 Estimated Quantities. Unless identified as a "Final Pay Quantity," the quantities shown on the Bid Schedule are estimated and the actual quantities required to perform the Work may be greater or less than the estimated amount. The Contract Price will be adjusted to reflect the actual quantities required for the Work based on the itemized or unit prices provided in the Bid Schedule, with no allowance for anticipated profit for quantities that are deleted or decreased, and no increase in the unit price, and without regard to the percentage increase or decrease of the estimated quantity and the actual quantity.

18.3 Bid Item Description. The descriptions of bid items in the Specifications are not intended as exclusive descriptions of the Work. Each bidder must determine, and include in its unit pricing, all things necessary and incidental for the timely performance and completion of the Work as specified in the Contract Documents, including, but not limited to, all necessary labor, materials, supplies, tools, equipment, transportation, facilities, and utilities, unless otherwise specified.

19. Withdrawal. A Bid Proposal may not be withdrawn for a period of 90 days after the bid opening without forfeiture of the bid security, except as authorized for material error under

Public Contract Code § 5100 et seq. In the event that a bid includes a material error, the bidder may request to withdraw its bid in accordance with Public Contract Code § 5100 et seq. The written request must establish the elements set forth in Public Contract Code § 5103.

20. **Subcontractor Work Limits.** The prime contractor must perform at least 30% of the Work on the Project, calculated as a percentage of the base bid price, with its own forces, except for any Work identified as "Specialty Work" in the Contract Documents. The total bid amount for any such Specialty Work, as shown on the Bid Schedule, may be deducted from the base bid price before computing the 30% self-performance requirement. The remaining Work may be performed by qualified Subcontractor(s).

21. **Bidder's Questionnaire.** A completed, signed Bidder's Questionnaire using the form provided with the Contract Documents and including all required attachments must be submitted within 48 hours following a request by City. A bid that does not fully comply with this requirement may be rejected as nonresponsive. A bidder who submits a Bidder's Questionnaire which is subsequently determined to contain false or misleading information, or material omissions, may be disqualified as non-responsible.

21. **For Reference Only.** The following documents are provided "For Reference Only," as defined in Section 3.4 of the General Conditions:

- Santa Rosa U.S. Highway 101 Bicycle and Pedestrian Overcrossing Initial Study with Mitigated Negative Declaration – January 2021
- CEQA Exemption - NEPA Categorical Exclusion Determination Form
- Letter to Caltrans – Approval to administer construction
- DN: 2025001417 - Hornstein Property Temporary Construction Easement
- DN: 2024052095 - Santa Rosa Junior College Foundation and Utility Easement
- DN: 2024052096 - Santa Rosa Junior College Foundation Easement
- DN: 2024052097 - Santa Rosa Junior College Aerial Easement
- DN: 2024052098 - Santa Rosa Junior College Temporary Construction Easement A
- DN: 2024052099 - Santa Rosa Junior College Temporary Construction Easement B
- EA 04-2G340 Construction Cooperative Agreement
- EA 04-2G340 Environmental Commitments Record
- Caltrans Encroachment Permit_04-25-N-OP-1816
- SRJC Student Housing Record Plans
- Dick's Sporting Goods Record Plans
- PG and E – Armory Elliott Edwards Overhead to Underground Design Plans
- PG and E – LK7 – 47147562 WRO Main Relocation Armory Dr & Elliott Avenue, Santa Rosa Design Plans
- Soil and Groundwater Investigation Report, *dated June 2023*
- Foundation Report Edwards Avenue Pedestrian Overcrossing (Bridge No. 20-0307), *dated October 3, 2024*
- Transportation Management Plan, *dated September 26, 2024*
- Tree Report Highway 101 Bicycle & Pedestrian Bridge, *dated January 18, 2019*
- Historical Records-Armory Drive
- Historical Records-Cleveland Avenue
- Historical Records-Elliott Avenue
- Historical Records-Edwards Avenue
- PG and E – Edwards Avenue and Cleveland Avenue Gas Service Relocation Design Sketch

22. Federal Subcontracting Requirements. This Project is funded in whole or in part by the federal government. The successful bidder must comply with all applicable federal requirements as further specified in the Contract Documents, and when procuring Subcontractors, will consider small businesses, minority businesses, women's business enterprises, veteran-owned businesses, and labor surplus area firms, as set forth in 2 CFR § 200.321, when possible and subject to the limitations of law. Consideration means:

22.1 Solicitation Lists. These business types are included on solicitation lists.

22.2 Soliciting Potential Sources. These business types are solicited whenever they are deemed eligible as potential sources.

22.3 Maximizing Participation. Dividing procurement transactions into separate procurements to permit maximum participation by these business types.

22.4 Establishing Delivery Schedules. Establishing delivery schedules that encourage participation by these business types.

22.5 Organizational Assistance. Utilizing organizations such as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.

22.6 Lower-Tier Subcontracts. Requiring Subcontractors to apply this Section to lower-tier subcontracts, if any.

22.7 Plant Establishment Period of 3 Years or More. This Project has plant establishment period of 750 working days or more. The requirements of Section 5-1.39C(2) of the Technical Specifications will apply to the Project.

END OF INSTRUCTIONS TO BIDDERS

Bid Proposal

Route 101 Bicycle and Pedestrian Overcrossing

_____ ("Bidder") hereby submits this Bid Proposal to the City of Santa Rosa ("City") for the above-referenced project ("Project") in response to the Notice Inviting Bids and in accordance with the Contract Documents referenced in the Notice.

1. **Base Bid.** Bidder proposes to perform and fully complete the Work for the Project as specified in the Contract Documents, within the time required for full completion of the Work, including all labor, materials, supplies, and equipment and all other direct or indirect costs including, but not limited to, taxes, insurance and all overhead, for the following price ("Base Bid"):
   $_____.

2. **Addenda.** Bidder agrees that it has confirmed receipt of or access to, and reviewed, all addenda issued for this bid, as evidenced by its acknowledgement of each addendum on the City's PlanetBids portal. Bidder waives any claims it might have against the City based on its failure to receive, access, or review any addenda for any reason.

3. **Bidder's Certifications and Warranties.** By signing and submitting this Bid Proposal, Bidder certifies and warrants the following:

   3.1 Examination of Contract Documents. Bidder has thoroughly examined the Contract Documents and represents that, to the best of Bidder's knowledge, there are no errors, omissions, or discrepancies in the Contract Documents, subject to the limitations of Public Contract Code § 1104.

   3.2 Examination of Worksite. Bidder has had the opportunity to examine the Worksite and local conditions at the Project location.

   3.3 Bidder Responsibility. Bidder is a responsible bidder, with the necessary ability, capacity, experience, skill, qualifications, workforce, equipment, and resources to perform or cause the Work to be performed in accordance with the Contract Documents and within the Contract Time.

   3.4 Responsibility for Bid. Bidder has carefully reviewed this Bid Proposal and is solely responsible for any errors or omissions contained in its completed bid. All statements and information provided in this Bid Proposal and enclosures are true and correct to the best of Bidder's knowledge.

   3.5 Nondiscrimination. In preparing this bid, the Bidder has not engaged in discrimination against any prospective or present employee or Subcontractor on grounds of race, color, ancestry, national origin, ethnicity, religion, sex, sexual orientation, age, disability, or marital status.

   3.6 Iran Contracting Act. If the Contract Price exceeds $1,000,000, Bidder is not identified on a list created under the Iran Contracting Act, Public Contract Code § 2200 et seq. (the "Act"), as a person engaging in investment activities in Iran, as defined in the Act, or is otherwise expressly exempt under the Act.

   3.7 Agreement to be Bound by CWA. If the Project is subject to the City's CWA, Bidder will submit an executed Appendix A, Contractor Agreement to be Bound, using the form provided with the Contract Documents, within three Working Days following a request from City. (See Section 17 of the Instructions to Bidders.)

3.8 Form FHWA-1273. For a federal-aid contract, form FHWA-1273 is included with the Contract form in the documents sent to the successful bidder for execution. Comply with its provisions.

4. Award of Contract. By signing and submitting this Bid Proposal, Bidder agrees that, if City issues the Notice of Award to Bidder, then within ten days following issuance of the Notice of Award, Bidder will do all of the following:

4.1 Execute Contract. Enter into the Contract with City in accordance with the terms of this Bid Proposal, by signing and submitting to City the Contract prepared by City using the form included with the Contract Documents;

4.2 Submit Required Bonds. Submit to City a payment bond and a performance bond, each for 100% of the Contract Price, using the bond forms provided and in accordance with the requirements of the Contract Documents;

4.3 Insurance Requirements. Submit to City the insurance certificate(s) and endorsement(s) as required by the Contract Documents; and

4.4 Certificates of Reported Compliance. Submit to City valid Certificates of Reported Compliance for its fleet and its listed Subcontractors, if applicable, if the Project involves the use of vehicles subject to the Off-Road Regulation.

5. Bid Security. As a guarantee that, if awarded the Contract, Bidder will perform its obligations under Section 4 above, Bidder is enclosing bid security in the amount of ten percent of its maximum bid amount in one of the following forms (check one):

____ A cashier's check or certified check payable to City and issued by _____ [Bank name] in the amount of $_____.

____ A bid bond, using the Bid Bond form included with the Contract Documents, payable to City and executed by a surety licensed to do business in the State of California.

This Bid Proposal is hereby submitted on _____, 20__.

s/ _____ _____
Name and Title

s/ _____ _____
[See Section 3 of Instructions to Bidders] Name and Title

_____ _____
Company Name License #, Expiration Date, and Classification

_____ _____
Address DIR Registration #

_____ _____
City, State, Zip Phone

_____ _____
Contact Name Contact Email

END OF BID PROPOSAL

Bid Schedule

BIDDER NAME: _____

This Bid Schedule must be completed legibly and included with the sealed Bid Proposal. Pricing must be provided for each Bid Item as indicated. If this Bid Schedule requests pricing for Alternates, pricing must be provided for each Alternate Item as indicated. Items marked "(SW)" are Specialty Work that must be performed by a qualified Subcontractor. The lump sum or unit cost for each item must be inclusive of all costs, whether direct or indirect, including profit and overhead.

AL = Allowance CF = Cubic Feet CY = Cubic Yard EA = Each LB = Pounds
LF = Linear Foot LS = Lump Sum SF = Square Feet TON = Ton (2000 lbs)
SY= Square Yard

BASE BID

BID ITEM NO.	ITEM CODE	Item Description	EST. QTY.	UNIT	UNIT COST	EXTENDED TOTAL AMOUNT
1	**050000A**	Construction Staking	1	LS	$	$
2	070030	Lead Compliance	1	LS	$	$
3	100100	Develop Water Supply	1	LS	$	$
4	120090	Construction Area Signs	1	LS	$	$
5	120100	Traffic Control System	1	LS	$	$
6	120103	Stationary Impact Attenuator Vehicle (Day)	60	EA	$	$
7	120120	Type III Barricade	18	EA	$	$
8	120149	Temporary Pavement Marking (Paint)	160	SF	$	$
9	120159	Temporary Traffic Stripe (Paint)	14,700	LF	$	$
10	120165	Channelizer (Surface Mounted)	61	EA	$	$
11	120205	Portable Flashing Beacons	6	EA	$	$
12	120207	Portable Radar Speed Feedback Sign System	360	EA	$	$
13	120300	Temporary Pavement Marker	270	EA	$	$
14	120320	Temporary Barrier System	1,760	LF	$	$
15	**120321A**	Temporary Barrier System (City)	3,230	LF	$	$
16	124000	Temporary Pedestrian Access Route	1	LS	$	$
17	128651	Portable Changeable Message Sign (Ea)	5	EA	$	$
18	129105	Temporary Crash Cushion TL-3	16	EA	$	$

BID ITEM NO.	ITEM CODE	Item Description	EST. QTY.	UNIT	UNIT COST	EXTENDED TOTAL AMOUNT
19	129152	Temporary Radar Speed Feedback Sign System	2	EA	$	$
20	130100	Job Site Management	1	LS	$	$
21	130300	Prepare Storm Water Pollution Prevention Plan	1	LS	$	$
22	130320	Storm Water Sampling & Analysis Day	51	EA	$	$
23	130330	Storm Water Annual Report	2	EA	$	$
24	130620	Temporary Drainage Inlet Protection	21	EA	$	$
25	130640	Temporary Fiber Roll	1,680	LF	$	$
26	**130710A**	Modified Temporary Construction Entrance (Type 2)	5	EA	$	$
27	130730	Street Sweeping	1	LS	$	$
28	130900	Temporary Concrete Washout	1	LS	$	$
29	141103	Remove Yellow Thermo Traffic Stripe (Haz Waste)	2,230	LF	$	$
30	146002	Contractor-Supplied Biologist	1	LS	$	$
31	148005	Noise Monitoring	1	LS	$	$
32	153250A	Remove Gas Line	130	LF	$	$
33	160111A	Tree Protection (Temp. High Visibility Chain Link Fence)	940	LF	$	$
34	170103	Clearing And Grubbing	1	LS	$	$
35	190101	Roadway Excavation	710	CY	$	$
36	192003	Structure Excavation (Bridge)*	22	CY	$	$
37	192020	Structure Excavation (Type D)*	2,751	CY	$	$
38	192502	Sand Bedding	63	CY	$	$
39	193003	Structure Backfill (Bridge) *	464	CY	$	$
40	193013	Structure Backfill (Retaining Wall) *	943	CY	$	$
41	200052	Prune Existing Plants	1	EA	$	$
42	**200112A**	2' Decorative Boulders	10	EA	$	$
43	**200112B**	3' Decorative Boulders	10	EA	$	$
44	**200112C**	4' Decorative Boulders	10	EA	$	$

BID ITEM NO.	ITEM CODE	Item Description	EST. QTY.	UNIT	UNIT COST	EXTENDED TOTAL AMOUNT
45	**200112D**	Stepping Stones	11	EA	$	$
46	203100	Soil Testing	5	EA	$	$
47	204011	Plant (Group K)	55	EA	$	$
48	204035	Plant (Group A)	1,180	EA	$	$
49	204036	Plant (Group B)	370	EA	$	$
50	204096	Maintain Existing Planted Areas	1	LS	$	$
51	**204100A**	Plant Establishment Work (3 Year)	1	LS	$	$
52	**205036A**	Wood Mulch (Tree Trimmings)	220	CY	$	$
53	**205063A**	Cast Iron Tree Grate	5	EA	$	$
54	205065A	Wire Rope Trellis System	810	SF	$	$
55	206301A	Temporary Irrigation Sys (Water Truck)	1	LS	$	$
56	206400	Check And Test Existing Irrigation Facilities	1	LS	$	$
57	206402	Operate Existing Irrigation Facilities	1	LS	$	$
58	206560	Control And Neutral Conductors	6,250	LF	$	$
59	**206569A**	1" Remote Control Valve (Master Valve)	2	EA	$	$
60	206631	1" Wye Strainer Assembly	2	EA	$	$
61	206751	12 Station Irrigation Controller (Wall Mounted)	2	EA	$	$
62	207052	1" Copper Pipe (Supply Line) *	15	LF	$	$
63	208220	1/2" Drip Irrigation Tubing*	9,006	LF	$	$
64	**208223A**	1/2" Drip Irrigation Tubing (Purple, Recycled Water) *	5,242	LF	$	$
65	**208224A**	Drip Transition	35	EA	$	$
66	**208225A**	Drip Flush Valve (Custom)	37	EA	$	$
67	208423	1" Backflow Preventer Assembly	2	EA	$	$
68	208440	Backflow Preventer Enclosure	2	EA	$	$
69	208441	Backflow Preventer Blanket	2	EA	$	$

BID ITEM NO.	ITEM CODE	Item Description	EST. QTY.	UNIT	UNIT COST	EXTENDED TOTAL AMOUNT
70	208442	Flow Sensor	2	EA	$	$
71	208450	Drip Valve Assembly	20	EA	$	$
72	**208451A**	Drip Valve Assembly (Purple, Recycled Water)	10	EA	$	$
73	208572	1" Gate Valve	49	EA	$	$
74	208595	1" Plastic Pipe (Schedule 40)(Supply Line) *	1,035	LF	$	$
75	**208595A**	1" Plastic Pipe (Schedule 40)(Supply Line)(Purple, Recycled Water) *	264	LF	$	$
76	208598	2" Plastic Pipe (Schedule 40)(Supply Line) *	2,337	LF	$	$
77	**208598A**	2" Plastic Pipe (Schedule 40)(Supply Line)(Purple, Recycled Water) *	1,163	LF	$	$
78	**208641A**	1" Pressure Regulating Valve	2	EA	$	$
79	**208650A**	Quick Coupling Valve (W/Swing Joint & Key & Hose Swivel)	9	EA	$	$
80	**208650B**	Quick Coupling Valve (W/Swing Joint & Key & Hose Swivel) Purple, Recycled Water	6	EA	$	$
81	**208691A**	PVC Pipe Conduit (Sleeve)(6" Class 315) *	15	LF	$	$
82	**208822A**	Collapsible Bollard	3	EA	$	$
83	210610	Compost	170	CY	$	$
84	260203	Class 2 Aggregate Base	67	CY	$	$
85	390132	Hot Mix Asphalt (Type A)	840	TON	$	$
86	398200	Cold Plane Asphalt Concrete Pavement	1,840	SY	$	$
87	414201	Joint Seal (Silicone)	760	LF	$	$
88	414242	Isolation Joint Seal (Preforemed Compression)	760	LF	$	$
89	490609	60" Cast-In-Drilled-Hole Concrete Piling	1,979	LF	$	$
90	490616	84" Cast-In-Drilled-Hole Concrete Piling	430	LF	$	$
91	**500002A**	Prestressing (Backstay Anchors)	1	LS	$	$
92	510051	Structural Concrete, Bridge Footing*	932	CY	$	$
93	510053	Structural Concrete, Bridge*	332	CY	$	$

BID ITEM NO.	ITEM CODE	Item Description	EST. QTY.	UNIT	UNIT COST	EXTENDED TOTAL AMOUNT
94	510054	Structural Concrete, Bridge (Polymer Fiber) *	423	CY	$	$
95	510060	Structural Concrete, Retaining Wall*	796	CY	$	$
96	**511056A**	Concrete Surface Texture A*	2,510	SF	$	$
97	**511057A**	Concrete Surface Texture B*	1,748	SF	$	$
98	518051	PTFE Spherical Bearing	4	EA	$	$
99	519088	Joint Seal (MR 1")	15	LF	$	$
100	519091	Joint Seal (MR 1 1/2")	15	LF	$	$
101	**510531A**	Retaining Wall/Barrier At Bent 8 (Minor Structure) *	123	LF	$	$
102	**510532A**	Concrete Seat Walls (Minor Structure) *	102	CY	$	$
103	520102	Bar Reinforcing Steel (Bridge) *	869,000	LB	$	$
104	520103	Bar Reinforcing Steel (Retaining Wall) *	99,420	LB	$	$
105	520120	Headed Bar Reinforcement*	176	EA	$	$
106	**550205A**	Furnish Structural Steel (Superstructure)*	680,561	LB	$	$
107	**550206A**	Furnish Structural Steel (Pylon) *	162,000	LB	$	$
108	**550207A**	Erect Structural Steel (Superstructure) *	1	LS	$	$
109	**550208A**	Erect Structural Steel (Pylon)*	1	LS	$	$
110	**550209A**	Stay Cable Assemblies*	6,230	LF	$	$
111	**550210A**	Expansion Joint Assemblies*	29	LF	$	$
112	**550211A**	Tuned Mass Damper *	1	LS	$	$
113	590115	Clean And Paint Structural Steel	1	LS	$	$
114	600001	Public Safety Plan	1	LS	$	$
115	600037	Prepare Concrete Bridge Deck Surface	10,680	SF	$	$
116	**600038A**	Prepare Steel Bridge Deck Surface	5,330	SF	$	$
117	600041	Furnish Polyester Concrete Overlay	817	CF	$	$
118	**600042A**	Furnished Polyester Concrete Overlay (Integrally Colored)	702	CF	$	$

BID ITEM NO.	ITEM CODE	Item Description	EST. QTY.	UNIT	UNIT COST	EXTENDED TOTAL AMOUNT
119	600043	Place Polyester Concrete Overlay*	10,557	SF	$	$
120	**600044A**	Furnish Polyester Concrete Overlay (Zinc)	427	CF	$	$
121	**600046A**	Furnish Polyester Concrete Overlay (Zinc)(Integrally Colored)	367	CF	$	$
122	**600048A**	Place Polyester Concrete Overlay (Zinc)	5,516	SF	$	$
123	600166	Misc. Metal (Restrainer-Cable Type) *	691	LB	$	$
124	610300	Concrete Backfill (Pipe Trench)*	56	CY	$	$
125	620110A	Imported Biofiltration Soil	130	CY	$	$
126	680902	6" Perforated Plastic Pipe Underdrain	280	LF	$	$
127	682042	Class 2 Permeable Material (Blanket) *	65	CY	$	$
128	**700618A**	Storm Drain Label	4	EA	$	$
129	710102	Abandon Culvert	160	LF	$	$
130	710110	Abandon Inlet	1	EA	$	$
131	710132	Remove Culvert	160	LF	$	$
132	710150	Remove Inlet	3	EA	$	$
133	710262	Cap Inlet	1	EA	$	$
134	710370	Sand Backfill	20	CY	$	$
135	720110	Small Rock Slope Protection (0.35) *	0	CY	$	$
136	730070	Detectable Warning Surface	64	SF	$	$
137	731502	Concrete Pavement (Pavement Treatment)	2,470	SF	$	$
138	731510	Minor Concrete (Curb, Gutter, Sidewalk And Driveway)	180	CY	$	$
139	731623	Minor Concrete (Curb Ramp)	5	CY	$	$
140	**731628A**	Concrete Paving System (Field)(Pavement Treatment 1)	1,370	SF	$	$
141	**731629A**	Concrete Paving System (Edge)(Pavement Treatment 2)	230	SF	$	$
142	731710	Remove Concrete Curb	35	LF	$	$
143	731820	Remove Concrete Sidewalk And Driveway	90	CY	$	$
144	731840	Remove Concrete (Curb And Gutter)	920	LF	$	$

BID ITEM NO.	ITEM CODE	Item Description	EST. QTY.	UNIT	UNIT COST	EXTENDED TOTAL AMOUNT
145	733000	Pre/Post Construction Surveys	5	EA	$	$
146	750501	Misc. Metal (Bridge) *	3,722	LB	$	$
147	750505	Bridge Deck Drainage System*	5,038	LB	$	$
148	770090	Lighting (City Street)	1	LS	$	$
149	**770201A**	6" Sewer Lateral	1	EA	$	$
150	**770205A**	Sanitary Sewer Testing And Inspection	1	LS	$	$
151	**770206A**	Remove Sanitary Sewer	140	EA	$	$
152	**770207A**	Remove Sewer Manhole	1	EA	$	$
153	**770208A**	Remove Water Line	83	LF	$	$
154	**770209A**	Remove Fire Hydrant	1	EA	$	$
155	**770210A**	Abandon Sewer Pipe	210	LF	$	$
156	**770301A**	Install Fire Hydrant System	1	EA	$	$
157	**770302A**	Remove Fire Service	1	EA	$	$
158	**770303A**	Install Fire Service	1	EA	$	$
159	**770304A**	1" Water Service	1	EA	$	$
160	**770305A**	6" Water Line	56	LF	$	$
161	**770306A**	8" Combination Water Service	1	EA	$	$
162	**770401A**	City of Sata Rosa Storm Drain Manhold	7	EA	$	$
163	**770402A**	City of Sata Rosa Type I Catch Basin	1	EA	$	$
164	**770402B**	City of Sata Rosa Type II Catch Basin	4	EA	$	$
165	**770403A**	City of Sata Rosa 3" Sidewalk Drain	8	LF	$	$
166	**770403B**	City of Sata Rosa 3" X 12-1/2" Cast Iron Sidewalk Drain	25	LF	$	$
167	**770404A**	City of Sata Rosa Side Opening Field Drain	1	EA	$	$
168	**770405A**	6" Area Drain	3	EA	$	$
169	**770405B**	12" X 12" Area Drain	1	EA	$	$
170	**770406A**	Convert Drainage Inlet To Storm Drain Manhole	1	EA	$	$

BID ITEM NO.	ITEM CODE	Item Description	EST. QTY.	UNIT	UNIT COST	EXTENDED TOTAL AMOUNT
171	**770407A**	6" High Density Polyethylene Pipe (Type S)	160	LF	$	$
172	**770408A**	12" Reinforced Concrete Pipe	68	LF	$	$
173	**770409A**	15" Reinforced Concrete Pipe	10	LF	$	$
174	**770410A**	18" Reinforced Concrete Pipe	6	LF	$	$
175	**770411A**	27" Reinforced Concrete Pipe	30	LF	$	$
176	**770412A**	30" Reinforced Concrete Pipe	230	LF	$	$
177	**770413A**	Storm Drain Video Inspection	1	LS	$	$
178	800360	Chain Link Fence (Type Cl-6)	40	LF	$	$
179	**800401A**	Guard With Fencing (Tall Stanchions)	230	LF	$	$
180	**800402A**	Guard With Fencing (Forestays)	380	LF	$	$
181	803050	Remove Chain Link Fence	45	LF	$	$
182	810120	Remove Pavement Marker	760	EA	$	$
183	810130	Remove Delineator	12	EA	$	$
184	810190	Guard Railing Delineator	16	EA	$	$
185	**810161A**	Delineator (Special - K-71)	7	EA	$	$
186	810230	Pavement Marker (Retroreflective)	530	EA	$	$
187	**820840A**	Roadside Sign (One Post)(2" I.D. Galvanized Steel Post)	15	EA	$	$
188	820134	Object Marker (Type P)	1	EA	$	$
189	820250	Remove Roadside Sign	6	EA	$	$
190	820750	Furnish Single Sheet Aluminum Sign (0.063"-Unframed)	160	SF	$	$
191	832005	Midwest Guardrail System	200	LF	$	$
192	832070	Vegetation Control (Minor Concrete)	120	SY	$	$
193	**839528A**	Guard	770	LF	$	$
194	**839529A**	Guard With Handrail	672	LF	$	$
195	**839530A**	Guard With Expansion	56	LF	$	$
196	839580	End Anchor Assembly (Type SFT-M)	1	EA	$	$

BID ITEM NO.	ITEM CODE	Item Description	EST. QTY.	UNIT	UNIT COST	EXTENDED TOTAL AMOUNT
197	**839584A**	Alternative In-Line Terminal TI-3	1	EA	$	$
198	**840501A**	4" Thermoplastic Traffic Stripe	2,390	LF	$	$
199	840505	6" Thermoplastic Traffic Stripe	1,110	LF	$	$
200	840506	8” Thermoplastic Traffic Stripe	460	LF	$	$
201	840515	Thermoplastic Pavement Marking	890	SF	$	$
202	840516	Thermoplastic Pavement Marking (Enhanced Wet Night Visibility)	470	SF	$	$
203	840555	12" Thermoplastic Traffic Stripe (Enhanced Wet Night Visibility)	1,880	LF	$	$
204	840615	6" Thermoplastic Traffic Stripe (Enhanced Wet Night Visibility) (Broken 18-12)	2,180	LF	$	$
205	840655	Paint Traffic Stripe (1-Coat)	4,740	LF	$	$
206	**840615A**	8" Thermoplastic Traffic Stripe (Enhanced Wet Night Visibility) (Broken 18-12)	890	LF	$	$
207	846007	6" Thermoplastic Traffic Stripe (Enhanced Wet Night Visibility)	3,910	LF	$	$
208	846009	8" Thermoplastic Traffic Stripe (Enhanced Wet Night Visibility)	1,060	LF	$	$
209	846010	8" Thermoplastic Traffic Stripe (Enhanced Wet Night Visibility) (Broken 12-3)	760	LF	$	$
210	846030	Remove Thermoplastic Traffic Stripe	8,550	LF	$	$
211	846035	Remove Thermoplastic Pavement Marking	610	SF	$	$
212	**871301A**	Bike Ped Counter	1	LS	$	$
213	872001	Temporary Lighting Systems	1	LS	$	$
214	**999990**	Mobilization (7.5%)	1	LS	$	$

***** Final Pay Quantity

TOTAL BASE BID: Items 1 through 214 inclusive: $_____

Note: The amount entered as the “Total Base Bid” should be identical to the Base Bid amount entered in Section 1 of the Bid Proposal form.

END OF BID SCHEDULE

Subcontractor List

For each Subcontractor that will perform a portion of the Work in an amount in excess of one-half of 1% of the Bidder's total bid price,[1] including additive alternates (if any), the bidder must list a description of the Work, the name of the Subcontractor, its California contractor license number, the location of its place of business, its DIR registration number, and the portion of the Work that the Subcontractor is performing based on a percentage of the total bid price, including additive alternates (if any).

DESCRIPTION OF WORK	SUBCONTRACTOR NAME	CALIFORNIA CONTRACTOR LICENSE NO.	LOCATION OF BUSINESS	DIR REG. NO.	PERCENT OF WORK

END OF SUBCONTRACTOR LIST

[1] For street or highway construction, this requirement applies to any subcontract of $10,000 or more.

Noncollusion Declaration

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the _____ [title] of _____ [business name], the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

This declaration is intended to comply with California Public Contract Code § 7106 and Title 23 U.S.C § 112.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____ [date], at _____ [city], _____ [state].

s/_____

_____
Name [print]

END OF NONCOLLUSION DECLARATION

Bid Bond

_____ ("Bidder") has submitted a bid, dated _____, 20_____ ("Bid"), to the City of Santa Rosa ("City") for work on the Route 101 Pedestrian and Bicycle Overcrossing ("Project"). Under this duly executed bid bond ("Bid Bond"), Bidder as Principal and _____, its surety ("Surety"), are bound to City as obligee in the penal sum of ten percent of the maximum amount of the Bid (the "Bond Sum"). Bidder and Surety bind themselves and their respective heirs, executors, administrators, successors and assigns, jointly and severally, as follows:

1. **General.** If Bidder is awarded the Contract for the Project, Bidder will enter into the Contract with City in accordance with the terms of the Bid.

2. **Submittals.** Within ten days following issuance of the Notice of Award to Bidder, Bidder must submit to City the following:

   2.1 **Contract.** The executed Contract, using the form provided by City in the Project contract documents ("Contract Documents");

   2.2 **Payment Bond.** A payment bond for 100% of the maximum Contract Price, executed by a surety licensed to do business in the State of California using the Payment Bond form included with the Contract Documents;

   2.3 **Performance Bond.** A performance bond for 100% of the maximum Contract Price, executed by a surety licensed to do business in the State of California using the Performance Bond form included with the Contract Documents;

   2.4 **Insurance.** The insurance certificate(s) and endorsement(s) required by the Contract Documents;

   2.5 **Certificates of Reported Compliance.** Valid Certificates of Reported Compliance for its fleet and its listed Subcontractors, if applicable, in accordance with the In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR § 2449 et seq.) ("Off-Road Regulation"), if the Project involves the use of vehicles subject to the Off-Road Regulation; and

   2.6 **Other Submittals.** Any other documents required by the Instructions to Bidders or Notice of Award.

3. **Enforcement.** If Bidder fails to execute the Contract or to submit the bonds, insurance certificates, and valid Certificates of Reported Compliance as required by the Contract Documents, Surety guarantees that Bidder forfeits the Bond Sum to City. Any notice to Surety may be given in the manner specified in the Contract and delivered or transmitted to Surety as follows:

   Attn: _____
   Address: _____
   City/State/Zip: _____
   Phone: _____
   Fax: _____
   Email: _____

4. **Duration and Waiver.** If Bidder fulfills its obligations under Section 2, above, then this obligation will be null and void; otherwise, it will remain in full force and effect for 90 days

following the bid opening or until this Bid Bond is returned to Bidder, whichever occurs first. Surety waives the provisions of Civil Code §§ 2819 and 2845.

This Bid Bond is entered into and effective on _____, 20_____.

SURETY:

_____
Business Name

s/_____ _____
Date

_____
Name, Title

(Attach Acknowledgment with Notary Seal and Power of Attorney)

BIDDER:

_____
Business Name

s/_____ _____
Date

_____
Name, Title

END OF BID BOND

Bidder's Questionnaire

ROUTE 101 BICYCLE AND PEDESTRIAN OVERCROSSING

Within 48 hours following a request by City, a bidder must submit to City a completed, signed Bidder's Questionnaire using this form and all required attachments, including clearly labeled additional sheets as needed. City may request the Questionnaire from one or more of the apparent low bidders following the bid opening, and may use the completed Questionnaire as part of its investigation to evaluate a bidder's qualifications for this Project. The Questionnaire must be filled out completely, accurately, and legibly. Any errors, omissions, or misrepresentations in completion of the Questionnaire may be grounds for rejection of the bid or termination of a Contract awarded pursuant to the bid.

Part A: General Information

Bidder Business Name: _____ ("Bidder")

Check One: ___ Corporation (State of incorporation: _____)
___ Partnership
___ Sole Proprietorship
___ Joint Venture of: _____
___ Other:_____

Main Office Address and Phone: _____

_____

Local Office Address and Phone: _____

_____

Website Address: _____

Owner of Business: _____

Contact Name and Title:_____

Contact Phone and Email: _____

Bidder's California Contractor's License Number(s): _____

Bidder's DIR Registration Number: _____

Part B: Bidder Experience

1. How many years has Bidder been in business under its present business name? ____ years

2. Has Bidder completed projects similar in type and size to this Project as a general contractor?
_____ Yes _____ No

3. Has Bidder ever been disqualified from a bid on grounds that it is not responsible, or otherwise disqualified or debarred from bidding under state or federal law?
_____ Yes _____ No

If yes, provide additional information on a separate sheet regarding the disqualification or debarment, including the name and address of the agency or owner of the project, the type and size of the project, the reasons that Bidder was disqualified or debarred, and the month and year in which the disqualification or debarment occurred.

4. Has Bidder ever been terminated for cause, alleged default, or legal violation from a construction project, either as a general contractor or as a subcontractor?
_____ Yes _____ No

If yes, provide additional information on a separate sheet regarding the termination, including the name and address of the agency or owner of the subject project, the type and size of the project, whether Bidder was under contract as a general contractor or a subcontractor, the reasons that Bidder was terminated, and the month and year in which the termination occurred.

5. Provide information about Bidder's past projects performed as general contractor as follows:

5.1 Six most recently completed public works projects within the last three years;

5.2 Three largest completed projects within the last three years; and

5.3 Any project which is similar to this Project including scope and character of the work.

6. Use separate sheets to provide all of the following information for <u>each</u> project identified in response to the above three categories:

6.1 Project name, location, and description;
6.2 Owner (name, address, email, and phone number);
6.3 Prime contractor, if applicable (name, address, email, and phone number);
6.4 Architect or engineer (name, email, and phone number);
6.5 Project and/or construction manager (name, email, and phone number);
6.6 Scope of work performed (as general contractor or as subcontractor);
6.7 Initial contract price and final contract price (including change orders);
6.8 Original scheduled completion date and actual date of completion;
6.9 Time extensions granted (number of days);
6.10 Number and amount of stop notices or mechanic's liens filed;
6.11 Amount of any liquidated damages assessed against Bidder; and
6.12 Nature and resolution of any project-related claim, lawsuit, mediation, or arbitration involving Bidder.

Part C: Safety

1. Provide Bidder's Experience Modification Rate (EMR) for the last three years:

Year	EMR

2. Complete the following, based on information provided in Bidder's CalOSHA Form 300 or Form 300A, Annual Summary of Work-Related Illnesses and Injuries, from the most recent past calendar year:

2.1 Number of lost workday cases: ____
2.2 Number of medical treatment cases: ____
2.3 Number of deaths: ____

3. Has Bidder ever been cited, fined, or prosecuted by any local, state, or federal agency, including OSHA, CalOSHA, or EPA, for violation of any law, regulation, or requirements pertaining to health and safety?

_____ Yes _____ No

If yes, provide additional information on a separate sheet regarding each such citation, fine, or prosecution, including the name and address of the agency or owner of the project, the type and size of the project, the reasons for and nature of the citation, fine, or prosecution, and the month and year in which the incident giving rise to the citation, fine, or prosecution occurred.

4. Name, title, and email for person responsible for Bidder's safety program:

_____ _____

Name Title Email

Part D: Verification

In signing this document, I, the undersigned, declare that I am duly authorized to sign and submit this Bidder's Questionnaire on behalf of the named Bidder, and that all responses and information set forth in this Bidder's Questionnaire and accompanying attachments are, to the best of my knowledge, true, accurate and complete as of the date of submission. **I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.**

Signature: _____ Date: _____

By: _____

Name and Title

END OF BIDDER'S QUESTIONNAIRE

Appendix A

City of Santa Rosa Community Workforce Agreement
Contractor Agreement To Be Bound

The undersigned, as a Contractor or Subcontractor ("Contractor") for the Route 101 Bicycle and Pedestrian Overcrossing Project, (hereinafter the "Covered Project"), for and in consideration of the award to it of a contract to perform work on said Covered Project, and in further consideration of the mutual promises made in the "City of Santa Rosa Community Workforce 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, together with any and all amendments and supplements now existing or which are later made thereto.

(2) Agrees to be bound by the legally established local trust agreements as set forth in Article 17 of this Agreement.

(3) 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 the 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.

The obligation to be a party to and bound by the Agreement shall extend to all work for the Covered Project undertaken by the Contractor.

This letter shall constitute a subscription agreement, to the extent of the terms of the letter.

CONTRACTOR/SUBCONTRACTOR: _____

California Contractor State License No. or Motor Carrier (CA) Permit No.:_____

Name of Authorized Person (print): _____

Signature of Authorized Person: _____

Title of Authorized Person: _____

Telephone Number of Authorized Person:_____

Address of Authorized Person: _____

State Public Works Registration Number: _____

Contract

This public works contract ("Contract") is entered into by and between the City of Santa Rosa ("City") and _____ ("Contractor"), for work on the Route 101 Bicycle and Pedestrian Overcrossing ("Project").

The parties agree as follows:

1. **Award of Contract.** In response to the Notice Inviting Bids, Contractor has submitted a Bid Proposal to perform the Work to construct the Project. On _____, 20___, City authorized award of this Contract to Contractor for the amount set forth in Section 4, below.

2. **Contract Documents.** The Contract Documents incorporated into this Contract include and are comprised of all of the documents listed below. The definitions provided in Article 1 of the General Conditions apply to all of the Contract Documents, including this Contract.

   2.1 Notice Inviting Bids;
   2.2 Instructions to Bidders;
   2.3 Addenda, if any;
   2.4 Bid Proposal and attachments thereto;
   2.5 Contract;
   2.6 Payment and Performance Bonds;
   2.7 General Conditions;
   2.8 Special Conditions;
   2.9 Project Plans and Specifications;
   2.10 Change Orders, if any;
   2.11 Notice of Award;
   2.12 Notice to Proceed;
   2.13 City Standards and City Specifications, as applicable;
   2.14 City's CWA, if applicable;
   2.15 Caltrans Standard Specifications (excluding Division I) and Caltrans Standard Plans, as applicable; and
   2.16 The following: No other documents

3. **Contractor's Obligations.** Contractor will perform all of the Work required for the Project, as specified in the Contract Documents. Contractor must provide, furnish, and supply all things necessary and incidental for the timely performance and completion of the Work, including all necessary labor, materials, supplies, tools, equipment, transportation, onsite facilities, and utilities, unless otherwise specified in the Contract Documents. Contractor must use its best efforts to diligently prosecute and complete the Work in a professional and expeditious manner and to meet or exceed the performance standards required by the Contract Documents.

4. **Payment.** As full and complete compensation for Contractor's timely performance and completion of the Work in strict accordance with the terms and conditions of the Contract Documents, City will pay Contractor $_____ ("Contract Price") for all of Contractor's direct and indirect costs to perform the Work, including all labor, materials, supplies, equipment, taxes, insurance, bonds and all overhead costs, in accordance with the payment provisions in the General Conditions.

5. **Time for Completion.** Contractor will fully complete the Work for the Project, meeting all requirements for Final Completion, within 380 Working Days from the start date set forth in the Notice to Proceed ("Contract Time"). By signing below, Contractor expressly waives any claim for delayed early completion.

6. **Liquidated Damages.** As further specified in Section 5.4 of the General Conditions, if Contractor fails to complete the Work within the Contract Time, City will assess liquidated damages in the amount of $9,500.00 per day for each day of unexcused delay in achieving Final Completion, and such liquidated damages may be deducted from City's payments due or to become due to Contractor under this Contract.

7. **Labor Compliance.**

   7.1 General. This Contract is subject to all applicable requirements of Chapter 1 of Part 7 of Division 2 of the Labor Code, including requirements pertaining to wages, working hours and workers' compensation insurance, as further specified in Article 9 of the General Conditions.

   7.2 Prevailing Wages. This Project is subject to the prevailing wage requirements applicable to the locality in which the Work is to be performed for each craft, classification or type of worker needed to perform the Work, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes. Copies of these prevailing rates are available online at http://www.dir.ca.gov/DLSR.

   7.3 DIR Registration. City may not enter into the Contract with a bidder without proof that the bidder and its Subcontractors are registered with the California Department of Industrial Relations to perform public work pursuant to Labor Code § 1725.5, subject to limited legal exceptions.

   7.4 Disadvantaged Business Entity Requirements. This Contract is subject to the requirements of the Disadvantaged Business Enterprise Program and Disadvantaged Business Enterprise in Airport Concessions Program Implementation Modifications, Interim Final Rule, 49 CFR Parts 23 and 26. Pursuant to the requirements of the Interim Final Rule, the Disadvantaged Business Entity ("DBE") goal for this Contract is zero percent (0%). The City reserves the right to issue a change order altering the DBE goal or requirements if directed by the California Department of Transportation or the Federal Department of Transportation.

8. **Workers' Compensation Certification.** Pursuant to Labor Code § 1861, by signing this Contract, Contractor certifies as follows: "I am aware of the provisions of Labor Code § 3700 which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the Work on this Contract."

9. **Conflicts of Interest.** Contractor, its employees, Subcontractors, and agents may not have, maintain, or acquire a conflict of interest in relation to this Contract in violation of any City ordinance or requirement, or in violation of any California law, including Government Code § 1090 et seq., or the Political Reform Act, as set forth in Government Code § 81000 et seq. and its accompanying regulations. Any violation of this Section constitutes a material breach of the Contract.

10. **Independent Contractor.** Contractor is an independent contractor under this Contract and will have control of the Work and the means and methods by which it is performed. Contractor and its Subcontractors are not employees of City and are not entitled to participate in any health, retirement, or any other employee benefits from City.

11. Notice. Any notice, billing, or payment required by or pursuant to the Contract Documents must be made in writing, signed, dated, and sent to the other party by personal delivery, U.S. Mail, a reliable overnight delivery service, or by email as a PDF file. Notice is deemed effective upon delivery, except that service by U.S. Mail is deemed effective on the second working day after deposit for delivery. Notice for each party must be given as follows:

City:

Transportation & Public Works
69 Stony Circle
Santa Rosa, CA 95404
707-543-3915
Attn: Jose Mederos
jmederos@srcity.org

Copy to: Kimberly Hopwood
khopwood@srcity.org

Contractor:

Name:_____
Address:_____
City/State/Zip:_____
Phone:_____
Attn:_____
Email:_____
Copy to:_____

12. General Provisions.

12.1 Assignment and Successors. Contractor may not assign its rights or obligations under this Contract, in part or in whole, without City's written consent. This Contract is binding on Contractor's and City's lawful heirs, successors and permitted assigns.

12.2 Third Party Beneficiaries. There are no intended third party beneficiaries to this Contract.

12.3 Governing Law and Venue. This Contract will be governed by California law and venue will be in the Sonoma County Superior Court, and no other place. Contractor waives any right it may have pursuant to Code of Civil Procedure § 394, to file a motion to transfer any action arising from or relating to this Contract to a venue outside of Sonoma County, California.

12.4 Amendment. No amendment or modification of this Contract will be binding unless it is in a writing duly authorized and signed by the parties to this Contract.

12.5 Integration. This Contract and the Contract Documents incorporated herein, including authorized amendments or Change Orders thereto, constitute the final, complete, and exclusive terms of the agreement between City and Contractor.

12.6 Severability. If any provision of the Contract Documents is determined to be illegal, invalid, or unenforceable, in whole or in part, the remaining provisions of the Contract Documents will remain in full force and effect.

12.7 Iran Contracting Act. If the Contract Price exceeds $1,000,000, Contractor certifies, by signing below, that it is not identified on a list created under the Iran Contracting Act, Public Contract Code § 2200 et seq. (the "Act"), as a person engaging in investment activities in Iran, as defined in the Act, or is otherwise expressly exempt under the Act.

12.8 Authorization. Each individual signing below warrants that he or she is authorized to do so by the party that he or she represents, and that this Contract is legally binding on that party. If Contractor is a corporation, signatures from two officers of the corporation are required pursuant to California Corporations Code § 313 or as otherwise authorized by law.

12.9 Electronic Signatures. In accordance with Government Code § 16.5 and Civil Code § 1633.1 et seq., the parties agree that this Contract may be transmitted and executed electronically and that electronic signatures will have the same force and effect as the use of manual signatures.

[Signatures are on the following page.]

The parties agree to this Contract as witnessed by the signatures below:

CITY:

s/_____

_____
Name, Title

Date: _____

Approved as to form:

s/_____

_____
Name, Title

Date: _____

Attest:

s/_____

_____
Name, Title

Date: _____

CONTRACTOR: _____
Business Name

s/_____

Seal:

_____
Name, Title

Date: _____

Second Signature (See Section 12.8):

s/_____

_____
Name, Title

Date: _____

_____
Contractor's California License Number(s) and Expiration Date(s)

END OF CONTRACT

Payment Bond

The City of Santa Rosa ("City") and _____ ("Contractor") have entered into a contract ("Contract") for work on the Route 101 Bicycle and Pedestrian Overcrossing ("Project"). The Contract is incorporated by reference into this Payment Bond ("Bond").

1. **General.** Under this Bond, Contractor as principal and _____, its surety ("Surety"), are bound to City and the California Department of Transportation ("Caltrans") as obligees in an amount not less than $_____, under California Civil Code § 9550 et seq., to ensure payment to authorized claimants. This Bond is binding on the respective successors, assigns, owners, heirs, or executors of Surety and Contractor.

2. **Surety's Obligation.** If Contractor or any of its Subcontractors fails to pay a person authorized in California Civil Code § 9100 to assert a claim against a payment bond, any amounts due under the Unemployment Insurance Code with respect to work or labor performed under the Contract, or any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of Contractor and its Subcontractors under California Unemployment Insurance Code § 13020 with respect to the work and labor, then Surety will pay the obligation.

3. **Beneficiaries.** This Bond inures to the benefit of any of the persons named in California Civil Code § 9100, so as to give a right of action to those persons or their assigns in any suit brought upon this Bond. Contractor must promptly provide a copy of this Bond upon request by any person with legal rights under this Bond.

4. **Duration.** If Contractor promptly makes payment of all sums for all labor, materials, and equipment furnished for use in the performance of the Work required by the Contract, in conformance with the time requirements set forth in the Contract and as required by California law, Surety's obligations under this Bond will be null and void. Otherwise, Surety's obligations will remain in full force and effect.

5. **Waivers.** Surety waives any requirement to be notified of alterations to the Contract or extensions of time for performance of the Work under the Contract. Surety waives the provisions of Civil Code §§ 2819 and 2845. City waives the requirement of a new bond for any supplemental contract under Civil Code § 9550. Any notice to Surety may be given in the manner specified in the Contract and sent to Surety as follows:

   Attn: _____
   Address: _____
   City/State/Zip: _____
   Phone: _____
   Email: _____

6. **Law and Venue.** This Bond will be governed by California law, and venue for any dispute pursuant to this Bond will be in the Sonoma County Superior Court, and no other place. Surety will be responsible for City's and CalTrans's attorneys' fees and costs in any action to enforce the provisions of this Bond.

[Signatures are on the following page.]

7. **Effective Date; Execution.** This Bond is entered into and is effective on _____, 20__.

SURETY:

_____
Business Name

s/_____ _____
Date

_____
Name, Title

(Attach Acknowledgment with Notary Seal and Power of Attorney)

CONTRACTOR:

_____
Business Name

s/_____ _____
Date

_____
Name, Title

APPROVED BY CITY:

s/ _____ _____
Date

_____
Name, Title

END OF PAYMENT BOND

Performance Bond

The City of Santa Rosa ("City") and _____ ("Contractor") have entered into a contract ("Contract") for work on the Route 101 Bicycle and Pedestrian Overcrossing ("Project"). The Contract is incorporated by reference into this Performance Bond ("Bond").

1. **General.** Under this Bond, Contractor as principal and _____, its surety ("Surety"), are bound to City and the California Department of Transportation ("CalTrans") as obligees for an amount not less than $_____ to ensure Contractor's faithful performance of its obligations under the Contract. This Bond is binding on the respective successors, assigns, owners, heirs, or executors of Surety and Contractor.

2. **Surety's Obligations.** Surety's obligations are co-extensive with Contractor's obligations under the Contract. If Contractor fully performs its obligations under the Contract, including its warranty obligations under the Contract, Surety's obligations under this Bond will become null and void. Otherwise, Surety's obligations will remain in full force and effect.

3. **Waiver.** Surety waives any requirement to be notified of and further consents to any alterations to the Contract made under the applicable provisions of the Contract Documents, including changes to the scope of Work or extensions of time for performance of Work under the Contract. Surety waives the provisions of Civil Code §§ 2819 and 2845.

4. **Application of Contract Balance.** Upon making a demand on this Bond for completion of the Work prior to acceptance of the Project, City will make the Contract Balance available to Surety for completion of the Work under the Contract. For purposes of this provision, the Contract Balance is defined as the total amount payable by City to Contractor as the Contract Price minus amounts already paid to Contractor, and minus any liquidated damages, credits, or backcharges to which City is entitled under the terms of the Contract.

5. **Contractor Default.** Upon written notification from City of Contractor's termination for default under Article 13 of the Contract General Conditions, time being of the essence, Surety must act within the time specified in Article 13 to remedy the default through one of the following courses of action:

   5.1 Arrange for completion of the Work under the Contract by Contractor, with City's consent, but only if Contractor is in default solely due to its financial inability to complete the Work;

   5.2 Arrange for completion of the Work under the Contract by a qualified contractor acceptable to City, and secured by performance and payment bonds issued by an admitted surety as required by the Contract Documents, at Surety's expense; or

   5.3 Waive its right to complete the Work under the Contract and reimburse City the amount of City's costs to have the remaining Work completed.

6. **Surety Default.** If Surety defaults on its obligations under the Bond, City and CalTrans will be entitled to recover all costs City and CalTrans it incur due to Surety's default, including legal, design professional, or delay costs.

7. **Notice.** Any notice to Surety may be given in the manner specified in the Contract and sent to Surety as follows:

Attn: _____
Address: _____
City/State/Zip: _____
Phone: _____
Fax: _____
Email: _____

8. **Law and Venue.** This Bond will be governed by California law, and venue for any dispute pursuant to this Bond will be in the Sonoma County Superior Court, and no other place. Surety will be responsible for City's attorneys' fees and costs in any action to enforce the provisions of this Bond.

9. **Effective Date; Execution.** This Bond is entered into and effective on _____, 20___.

SURETY:

_____
Business Name

s/_____ _____
Date

_____
Name, Title

(Attach Acknowledgment with Notary Seal and Power of Attorney)

CONTRACTOR:

_____
Business Name

s/_____ _____
Date

_____
Name, Title

APPROVED BY CITY:

s/ _____ _____
Date

_____
Name, Title

END OF PERFORMANCE BOND

General Conditions

Article 1 - Definitions

Definitions. The following definitions apply to all of the Contract Documents unless otherwise indicated, e.g., additional definitions that apply solely to the Specifications or other technical documents. Defined terms and titles of documents are capitalized in the Contract Documents, with the exception of the following (in any tense or form): “day,” “furnish,” “including,” “install,” “work day,” or “working day.”

Allowance means a specific amount that must be included in the Bid Proposal for a specified purpose.

Article, as used in these General Conditions, means a numbered Article of the General Conditions, unless otherwise indicated by the context.

Awarding Authority means the City Council or its authorized delegee(s) unless the Contract is awarded by the Water Department, in which case it means the Board of Public Utilities.

Change Order means a written document duly approved and executed by City, which changes the scope of Work, the Contract Price, or the Contract Time.

City means the City of Santa Rosa, acting through its City Council, officers, employees, City Engineer, and any other authorized representatives.

City Engineer means the City Engineer for City and his or her authorized delegee(s).

City Specifications means the City’s Construction Specifications for Public Improvements, which may be accessed on the City’s website at https://www.srcity.org/2321/Design-Construction-Standards.

City Standards means the City’s Design and Construction Standards, which may be accessed on the City’s website at https://www.srcity.org/2321/Design-Construction-Standards.

Claim means a separate demand by Contractor for a change in the Contract Time or Contract Price, that has previously been submitted to City in accordance with the requirements of the Contract Documents, and which has been rejected by City, in whole or in part; a written demand by Contractor disputing a unilateral Change Order or a portion thereof; or a written demand by Contractor objecting to the amount of Final Payment.

Contract means the signed agreement between City and Contractor for performing the Work required for the Project, and all documents expressly incorporated therein.

Contract Documents means, collectively, all of the documents listed as such in Section 2 of the Contract, including the Notice Inviting Bids; the Instructions to Bidders; addenda, if any; the Bid Proposal and attachments thereto; the Contract; the Notice of Award and Notice to Proceed; the payment and performance bonds; the General Conditions; the Special Conditions; the Project Plans and Specifications; any Change Orders; and any other documents which are clearly and unambiguously made part of the Contract Documents. The Contract Documents do not include documents provided “For Reference Only,” or documents that are intended solely to provide information regarding existing conditions.

Contract Price means the total compensation to be paid to Contractor for performance of the Work, as set forth in the Contract and as may be amended by Change Order or adjusted for an

Allowance. The Contract Price is not subject to adjustment due to inflation or due to the increased cost of labor, material, supplies, or equipment following submission of the Bid Proposal.

Contract Time means the time specified for complete performance of the Work, as set forth in the Contract and as may be amended by Change Order.

Contractor (or **You**) means the individual, partnership, corporation, or joint venture that has signed the Contract with City to perform the Work.

CWA means the Community Workforce Agreement for the City.

Day means a calendar day unless otherwise specified.

Design Professional means the licensed individual(s) or firm(s) retained by City to provide architectural, engineering, or other design professional services for the Project. If no Design Professional has been retained for this Project, any reference to Design Professional is deemed to refer to the Engineer.

DIR means the California Department of Industrial Relations.

Drawings has the same meaning as Plans.

Engineer means the City Engineer for the City of Santa Rosa and his or her authorized delegees.

Excusable Delay is defined in Section 5.3(B), Excusable Delay.

Extra Work means new or unforeseen work added to the Project, as determined by the Engineer in his or her sole discretion, including Work that was not part of or incidental to the scope of the Work when the Contractor's bid was submitted; Work that is substantially different from the Work as described in the Contract Documents at bid time; or Work that results from a substantially differing and unforeseeable condition.

Final Completion means Contractor has fully completed all of the Work required by the Contract Documents to the City's satisfaction, including all punch list items and any required commissioning or training, and has provided the City with all required submittals, including the instructions and manuals, product warranties, and as-built drawings.

Final Payment means payment to Contractor of the unpaid Contract Price, including release of undisputed retention, less amounts withheld or deducted pursuant to the Contract Documents.

Furnish means to purchase and deliver for the Project.

Government Code Claim means a claim submitted pursuant to California Government Code § 900 et seq.

Hazardous Materials means any substance or material identified now or in the future as hazardous under any Laws, or any other substance or material that may be considered hazardous or otherwise subject to Laws governing handling, disposal, or cleanup.

Including, whether or not capitalized, means "including, but not limited to," unless the context clearly requires otherwise.

Inspector means the individual(s) or firm(s) retained or employed by City to inspect the workmanship, materials, and manner of construction of the Project and its components to ensure compliance with the Contract Documents and all Laws.

Install means to fix in place for materials, and to fix in place and connect for equipment.

Laws means all applicable local, state, and federal laws, regulations, rules, codes, ordinances, permits, orders, and the like enacted or imposed by or under the auspices of any governmental entity with jurisdiction over any of the Work or any performance of the Work, including health and safety requirements.

Materials Lab means City's Materials Engineering Laboratory, which may perform quality assurance functions for a Project relating to asphalt and concrete, including inspection and/or testing of workmanship, materials, and the manner of construction.

Non-Excusable Delay is defined in Section 5.3(D), Non-Excusable Delay.

Plans means the City-provided plans, drawings, details, or graphical depictions of the Project requirements, but does not include Shop Drawings.

Project means the public works project referenced in the Contract, as modified by any Project alternates elected by City, if any.

Project Manager means the individual designated by City to oversee and manage the Project on City's behalf and may include his or her authorized delegee(s) when the Project Manager is unavailable. If no Project Manager has been designated for this Project, any reference to Project Manager is deemed to refer to the Engineer.

Recoverable Costs is defined in Section 5.3(F), Recoverable Costs.

Request for Information or **RFI** means Contractor's written request for information about the Contract Documents, the Work or the Project, submitted to City in the manner and format specified by City.

Section, when capitalized in these General Conditions, means a numbered section or subsection of the General Conditions, unless the context clearly indicates otherwise.

Shop Drawings means drawings, plan details or other graphical depictions prepared by or on behalf of Contractor, and subject to City acceptance, which are intended to provide details for fabrication, installation, and the like, of items required by or shown in the Plans or Specifications.

Specialty Work means Work that must be performed by a specialized Subcontractor with the specified license or other special certification, and that the Contractor is not qualified to self-perform.

Specifications means the technical, text specifications describing the Project requirements, which are prepared for and incorporated into the Contract by or on behalf of City, and does not include the Contract, General Conditions or Special Conditions.

Subcontractor means an individual, partnership, corporation, or joint venture retained by Contractor directly or indirectly through a subcontract to perform a specific portion of the Work. The term Subcontractor applies to subcontractors of all tiers, unless otherwise indicated by the context. A third party such as a utility performing related work on the Project is not a Subcontractor, even if Contractor must coordinate its Work with the third party.

Technical Specifications has the same meaning as Specifications.

Water Department means the City of Santa Rosa Water Department.

Work means all of the construction and services necessary for or incidental to completing the Project in conformance with the requirements of the Contract Documents.

Work Day or **Working Day**, whether or not capitalized, means a weekday when the City is open for business, and does not include the following holidays observed by the City:

(A) New Year's Day, January 1;
(B) Martin Luther King Jr. Birthday, the third Monday in January;
(C) President's Day, the third Monday in February;
(D) Cesar Chavez Day, March 31;
(E) Memorial Day, the last Monday in May;
(F) Juneteenth, June 19;
(G) Independence Day, July 4;
(H) Labor Day, the first Monday in September;
(I) Veterans Day, November 11;
(J) Thanksgiving Day, the fourth Thursday in November;
(K) The day after Thanksgiving Day; and
(L) Christmas Day, December 25.

Worksite means the place or places where the Work is performed, which includes, but may extend beyond the Project site, including separate locations for staging, storage, or fabrication.

Article 2 - Roles and Responsibilities

2.1 City.

(A) ***City Council.*** The City Council has final authority in all matters affecting the Project, except to the extent it has delegated authority to the Engineer.

(B) ***Engineer.*** The Engineer, acting within the authority conferred by the City Council, is responsible for administration of the Project on behalf of City, including authority to provide directions to the Design Professional and to Contractor to ensure proper and timely completion of the Project. The Engineer's decisions are final and conclusive within the scope of his or her authority, including interpretation of the Contract Documents.

(C) ***Project Manager.*** The Project Manager assigned to the Project will be the primary point of contact for the Contractor and will serve as City's representative for daily administration of the Project on behalf of City. Unless otherwise specified, all of Contractor's communications to City (in any form) will go to or through the Project Manager. City reserves the right to reassign the Project Manager role at any time or to delegate duties to additional City representatives, without prior notice to or consent of Contractor.

(D) ***Design Professional.*** The Design Professional is responsible for the overall design of the Project and, to the extent authorized by City, may act on City's behalf to ensure performance of the Work in compliance with the Plans and Specifications, including any design changes authorized by Change Order. The Design Professional's duties may include review of Contractor's submittals, visits to any Worksite, inspecting the Work, evaluating test and inspection results, and participation in Project-related meetings, including any pre-construction conference, weekly meetings, and coordination meetings. The Design Professional's interpretation of the Plans or Specifications is final and conclusive.

2.2 Contractor.

(A) ***General.*** Contractor must provide all labor, materials, supplies, equipment, services, and incidentals necessary to perform and timely complete the Work in strict accordance with the Contract Documents, and in an economical and efficient manner in the best interests of City, and with minimal inconvenience to the public.

(B) ***Responsibility for the Work and Risk of Loss.*** Contractor is responsible for supervising and directing all aspects of the Work to facilitate the efficient and timely completion of the Work. Contractor is solely responsible for and required to exercise full control over the Work, including the construction means, methods, techniques, sequences, procedures, safety precautions and programs, and coordination of all portions of the Work with that of all other contractors and Subcontractors, except to the extent that the Contract Documents provide other specific instructions. Contractor's responsibilities extend to any plan, method or sequence suggested but not required by City or specified in the Contract Documents. From the date of commencement of the Work until either the date on which City formally accepts the Project or the effective date of termination of the Contract, whichever is later, Contractor bears all risks of injury or damage to the Work and the materials and equipment delivered to any Worksite, by any cause including fire, earthquake, wind, weather, vandalism, or theft, subject to the limitations of Laws, including Public Contract Code § 7105.

(C) ***Project Administration.*** Contractor must provide sufficient and competent administration, staff, and skilled workforce necessary to perform and timely complete the Work in accordance with the Contract Documents. Before starting the Work, Contractor must designate in writing and provide complete contact information, including telephone numbers and email address, for the officer or employee in Contractor's organization who is to serve as Contractor's primary representative for the Project, and who has authority to act on Contractor's behalf. A Subcontractor may not serve as Contractor's primary representative.

(D) ***On-Site Superintendent.*** Contractor must, at all times during performance of the Work, provide a qualified and competent full-time superintendent acceptable to City, and assistants as necessary, who must be physically present at the Project site while any aspect of the Work is being performed. The superintendent must have full authority to act and communicate on behalf of Contractor, and Contractor will be bound by the superintendent's communications to City. City's approval of the superintendent is required before the Work commences. If City is not satisfied with the superintendent's performance, City may request a qualified replacement of the superintendent. Failure to comply may result in temporary suspension of the Work, at Contractor's sole expense and with no extension of Contract Time, until an approved superintendent is physically present to supervise the Work. Contractor must provide written notice to City, as soon as practicable, before replacing the superintendent.

(E) ***Standards.*** Contractor must, at all times, ensure that the Work is performed in an efficient, skillful manner following best practices and in full compliance with the Contract Documents, Laws, and applicable manufacturer's recommendations. Contractor has a material and ongoing obligation to provide true and complete information, to the best of its knowledge, with respect to all records, documents, or communications pertaining to the Project, including oral or written reports, statements, certifications, Change Order requests, or Claims.

(F) ***Meetings.*** Contractor, its project manager, superintendent and any primary Subcontractors requested by City, must attend and participate in a pre-construction conference, weekly Project progress meetings, and coordination meetings, as set forth herein.

(1) *Pre-Construction Conference.* City will designate a date and time for a pre-construction conference with Contractor following Contract execution. Project administration procedures and coordination between City and Contractor will be discussed. Contractor must present City with the following information or documents at the conference, unless otherwise specified by City, for City's review and acceptance before the Work commences:

a. Name, 24-hour contact information, and qualifications of the proposed on-site superintendent;

b. List of all key Project personnel and their complete contact information, including email addresses and telephone numbers during regular hours and after hours;

c. Staging plans that identify the sequence of the Work, including any phases and alternative sequences or phases, with the goal of minimizing the impacts on residents, businesses and other operations in the Project vicinity;

d. If required, traffic control plans associated with the staging plans that are signed and stamped by a licensed traffic engineer;

e. Draft baseline schedule for the Work as required under Section 5.2, to be finalized within ten days after City issues the Notice to Proceed or as otherwise specified by City;

f. Breakdown of lump sum bid items, to be used for determining the value of Work completed for future progress payments to Contractor;

g. Schedule with list of Project submittals that require City review, and list of the proposed material suppliers;

h. Plan for coordination with affected utility owner(s) and compliance with any related permit requirements;

i. Videotape and photographs recording the conditions throughout the pre-construction Project site, showing the existing improvements and current condition of the curbs, gutters, sidewalks, signs, landscaping, streetlights, structures near the Project such as building faces, canopies, shades and fences, and any other features within the Project area limits;

j. If requested by City, Contractor's cash flow projections; and

k. Any other documents specified by City.

(2) *Progress Meetings.* Contractor, its project manager, superintendent and any primary Subcontractors requested by City, must participate in weekly Project progress meetings scheduled with City.

(3) *Coordination Meetings.* If applicable, Contractor may also be required to participate in coordination meetings with other parties relating to other work being performed on or near the Project site or in relation to the Project, including work or activities performed by City, other contractors, or other utility owners.

(G) ***Construction Records.*** Contractor will maintain up-to-date, thorough, legible, and dated daily job reports, which document all significant activity on the Project for each day that Work is performed on the Project. The daily report for each day must include the number of workers at the Project site; primary Work activities; major deliveries; problems encountered, including injuries, if any; weather and site conditions; and delays, if any. Contractor will take date and time-stamped photographs to document general progress of the Project, including site conditions prior to construction activities, before and after photographs at offset trench laterals, existing improvements and utilities, damage and restoration. Contractor will maintain copies of all subcontracts, Project-related correspondence with Subcontractors, and records of meetings with Subcontractors. Upon request by the City, Contractor will permit review of and/or provide copies of any of these construction records.

(H) ***Responsible Party.*** Contractor is solely responsible to City for the acts or omissions of any Subcontractors, or any other party or parties performing portions of the Work or providing equipment, materials or services for or on behalf of Contractor or the Subcontractors. Upon City's written request, Contractor must promptly and permanently remove from the Project, at no cost to City, any employee or Subcontractor or employee of a Subcontractor who the Engineer has determined to be incompetent, intemperate or disorderly, or who has failed or refused to perform the Work as required under the Contract Documents.

(I) ***Correction of Defects.*** Contractor must promptly correct, at Contractor's sole expense, any Work that is determined by City to be deficient or defective in any way, including workmanship, materials, parts, or equipment. Workmanship, materials, parts, or equipment that do not conform to the requirements under the Contract Documents, as determined by City, will be considered defective and subject to rejection. Contractor must also promptly correct, at Contractor's sole expense, any Work performed beyond the lines and grades shown on the Plans or established by City, and any Extra Work performed without City's prior written approval. If requested by City in City's notice to correct, Contractor must submit a Work plan for correcting defective Work in advance of Contractor taking corrective action. If Contractor fails to correct or to take reasonable steps toward correcting defective Work within five days following notice from City, or within the time specified in City's notice to correct, City may elect to have the defective Work corrected by its own forces or by a third party, in which case the cost of correction will be deducted from the Contract Price. If City elects to correct defective Work due to Contractor's failure or refusal to do so, City or its agents will have the right to take possession of and use any equipment, supplies, or materials available at the Project site or any Worksite on City property, in order to effectuate the correction, at no extra cost to City. Contractor's warranty obligations under Section 11.2, Warranty, will not be waived nor limited by City's actions to correct defective Work under these circumstances. Alternatively, City may elect to retain defective Work, and deduct the difference in value, as determined by the Engineer, from payments otherwise due to Contractor. This paragraph also applies to any defective Work performed by Contractor during the one-year warranty period under Section 11.2.

(J) ***Contractor's Records.*** Contractor must maintain all of its records relating to the Project in any form, including paper documents, photos, videos, electronic records, approved samples, and the construction records required pursuant to paragraph (G), above. Project records subject to this provision include complete Project cost records, copies of the insurance policies and endorsements required by the Contract Documents, and records relating to preparation of Contractor's bid, including estimates, take-offs, and price quotes or bids.

(1) Contractor's cost records must include all supporting documentation, including original receipts, invoices, and payroll records, evidencing its direct

costs to perform the Work, including, but not limited to, costs for labor, materials, and equipment. Each cost record should include, at a minimum, a description of the expenditure with references to the applicable requirements of the Contract Documents, the amount actually paid, the date of payment, and whether the expenditure is part of the original Contract Price, related to an executed Change Order, or otherwise categorized by Contractor as Extra Work. Contractor's failure to comply with this provision as to any claimed cost operates as a waiver of any rights to recover the claimed cost.

(2) Contractor must continue to maintain its Project-related records in an organized manner for a period of five years after City's acceptance of the Project or following Contract termination, whichever occurs first. Subject to prior notice to Contractor, City is entitled to inspect or audit any of Contractor's records relating to the Project during Contractor's normal business hours. Contractor's records may also be subject to examination and audit by the California State Auditor, pursuant to Government Code § 8546.7. The record-keeping requirements set forth in this subsection 2.2(J) will survive expiration or termination of the Contract.

(K) ***Copies of Project Documents.*** Contractor and its Subcontractors must keep copies, at the Project site, of all Work-related documents, including the Contract, permit(s), Plans, Specifications, addenda, Contract amendments, Change Orders, RFIs and RFI responses, Shop Drawings, as-built drawings, schedules, daily records, testing and inspection reports or results, and any related written interpretations. These documents must be available to City for reference at all times during construction of the Project.

(L) ***Quality Control.*** Contractor is responsible for developing, implementing, and maintaining a quality control plan that includes sampling, testing, and inspecting the Work to control material quality and to ensure that the Work satisfies the quality characteristics in the Contract Documents. Contractor must submit copies of the quality control plan to City, within two Working Days after the pre-construction conference, and make one copy available at each Worksite.

(1) *Records*. Contractor must prepare and maintain quality control records, including the names and qualifications of samplers, testers, and inspectors; testing laboratories' identification and certifications; testing equipment calibrations and certifications; inspection reports; sampling and testing records organized by date and type of material; test results with comparison of quality characteristic requirements; test results in relation to action and any suspension limits; and records of corrective actions and suspensions. Contractor will submit any quality control test data and test results to the Engineer within two Working Days following test completion. Contractor must immediately notify the Engineer of any noncompliant Work.

(2) *Quality Control Manager*. Unless otherwise specified in the Special Conditions or Specifications, before starting Work, Contractor will designate in writing, and provide complete contact information for, the quality control manager for the Project who will be responsible for receiving, reviewing, and approving all correspondence and submittals prior to submission to the City; signing and implementing Contractor's quality control plan; and maintaining quality control records. The quality control manager must either be an employee of Contractor, or a Subcontractor retained solely to provide quality control services for the Project. The quality control manager must not be employed or compensated by a Subcontractor who will provide other Work for the Project.

(3) *Test Modifications*. The following specific tests are modified as follows: For California Test 216 (Relative Compaction), a mechanical compactor (Ploog Engineering Co. Model M 100 or equal) with a 10-pound hammer and split compaction molds must be used in lieu of the specified manual compaction equipment. For California Test 231 (Nuclear Gage Determination of In-Place Density), in-place density and relative compaction may be determined on the basis of individual test sites in lieu of the area concept at the discretion of the Engineer.

2.3 Subcontractors.

(A) ***General.*** All Work which is not performed by Contractor with its own forces must be performed by Subcontractors. City reserves the right to approve or reject any and all Subcontractors proposed to perform the Work, for reasons including the Subcontractor's poor reputation, lack of relevant experience, financial instability, and lack of technical ability or adequate trained workforce. Each Subcontractor must obtain a City business tax certificate before performing any Work.

(B) ***Contractual Obligations.*** Contractor must require each Subcontractor to comply with the provisions of the Contract Documents as they apply to the Subcontractor's portion(s) of the Work, including the generally applicable terms of the Contract Documents, and to likewise bind their subcontractors. Contractor will provide that the rights that each Subcontractor may have against any manufacturer or supplier for breach of warranty or guarantee relating to items provided by the Subcontractor for the Project, will be assigned to City. Nothing in these Contract Documents creates a contractual relationship between a Subcontractor and City, but City is deemed to be a third-party beneficiary of the contract between Contractor and each Subcontractor.

(C) ***Termination.*** If the Contract is terminated, each Subcontractor's agreement must be assigned by Contractor to City, subject to the prior rights of any surety, but only if and to the extent that City accepts, in writing, the assignment by written notification, and assumes all rights and obligations of Contractor pursuant to each such subcontract agreement.

(D) ***Substitution of Subcontractor.*** If Contractor requests substitution of a listed Subcontractor under Public Contract Code § 4107, Contractor is solely responsible for all costs City incurs in responding to the request, including legal fees and costs to conduct a hearing, and any increased subcontract cost to perform the Work that was to be performed by the listed Subcontractor. If City determines that a Subcontractor is unacceptable to City based on the Subcontractor's failure to satisfactorily perform its Work, or for any of the grounds for substitution listed in Public Contract Code § 4107(a), City may request removal of the Subcontractor from the Project. Upon receipt of a written request from City to remove a Subcontractor pursuant to this paragraph, Contractor will immediately remove the Subcontractor from the Project and, at no further cost to City, will either (1) self-perform the remaining Work to the extent that Contractor is duly licensed and qualified to do so, or (2) substitute a Subcontractor that is acceptable to City, in compliance with Public Contract Code § 4107, as applicable.

2.4 Coordination of Work.

(A) ***Concurrent Work.*** City reserves the right to perform, have performed, or permit performance of other work on or adjacent to the Project site while the Work is being performed for the Project. Contractor is responsible for coordinating its Work with other work being performed on or adjacent to the Project site, including by any City work forces or utility companies or agencies, and must avoid hindering, delaying, or interfering with the work of other contractors, individuals, or entities, and must ensure safe and

reasonable site access and use as required or authorized by City. To the full extent permitted by law, Contractor must hold harmless and indemnify City against any and all claims arising from or related to Contractor's avoidable, negligent, or willful hindrance of, delay to, or interference with the work of any City work forces, utility company or agency, or another contractor or subcontractor.

(B) ***Coordination.*** If Contractor's Work will connect or interface with work performed by others, Contractor is responsible for independently measuring and visually inspecting such work to ensure a correct connection and interface. Contractor is responsible for any failure by Contractor or its Subcontractors to confirm measurements before proceeding with connecting Work. Before proceeding with any portion of the Work affected by the construction or operations of others, Contractor must give the Project Manager prompt written notification of any defects Contractor discovers which will prevent the proper execution of the Work. Failure to give notice of any known or reasonably discoverable defects will be deemed acknowledgement by Contractor that the work of others is not defective and will not prevent the proper execution of the Work. Contractor must also promptly notify City if work performed by others, including work or activities performed by City's own forces, is operating to hinder, delay, or interfere with Contractor's timely performance of the Work. City reserves the right to backcharge Contractor for any additional costs incurred due to Contractor's failure to comply with the requirements in this Section 2.4.

2.5 Submittals. Unless otherwise specified, Contractor must submit to the Engineer for review and acceptance, all schedules, Shop Drawings, samples, product data, and similar submittals required by the Contract Documents, or upon request by the Engineer. Unless otherwise specified, all submittals, including Requests for Information, are subject to the general provisions of this Section, as well as specific submittal requirements that may be included elsewhere in the Contract Documents, including the Special Conditions or Specifications. The Engineer may require submission of a submittal schedule at or before a pre-construction conference, as may be specified in the Notice to Proceed.

(A) ***General.*** Contractor is responsible for ensuring that its submittals are accurate and conform to the Contract Documents.

(B) ***Time and Manner of Submission.*** Contractor must ensure that its submittals are prepared and delivered in a manner consistent with the current City-accepted schedule for the Work and within the applicable time specified in the Contract Documents, or if no time is specified, in such time and sequence so as not to delay the performance of the Work or completion of the Project. Contractor must provide submittals in electronic format, unless otherwise specified by the Engineer.

(C) ***Required Contents.*** Each submittal must be uniquely numbered and include the Project name and contract number, Contractor's name and address, the name and address of any Subcontractor or supplier involved with the submittal, the date, and references to applicable Specification section(s) and/or drawing and detail number(s). Submittal resubmissions must include a revision designation.

(D) ***Required Corrections.*** If corrections are required, Contractor must promptly make and submit any required corrections as specified in full conformance with the requirements of this Section, or other requirements that apply to that submittal. Except as required for corrections, Contractor will not make changes to a submittal upon resubmission. City reserves the right to reject a partial resubmission of a submittal.

(E) ***Effect of Review and Acceptance.*** Review and acceptance of a submittal by City will not relieve Contractor from complying with the requirements of the Contract

Documents. Contractor is responsible for any errors in any submittal, and review or acceptance of a submittal by City is not an assumption of risk or liability by City.

(F) ***Enforcement.*** Any Work performed or any material furnished, installed, fabricated or used without City's prior acceptance of a required submittal is performed or provided at Contractor's risk, and Contractor may be required to bear the costs incident thereto, including the cost of removing and replacing such Work, repairs to other affected portions of the Work or material, and the cost of additional time or services required of City, including costs for the Design Professional, Project Manager, Inspector, and Materials Lab.

(G) ***Excessive RFIs.*** A RFI will be considered excessive or unnecessary if City determines that the explanation or response to the RFI is clearly and unambiguously discernable from the Contract Documents. City's costs to review and respond to excessive or unnecessary RFIs may be deducted from payments otherwise due to Contractor.

2.6 Shop Drawings. When Shop Drawings are required by the Specifications or requested by the Engineer, they must be prepared according to best practices at Contractor's expense. The Shop Drawings must be of a size and scale to clearly show all necessary details. Unless otherwise specified by City, Shop Drawings must be provided to the Engineer for review and acceptance at least 30 days before the Work will be performed. If City requires changes, the corrected Shop Drawings must be resubmitted to the Engineer for review within the time specified by the Engineer. For all Project components requiring Shop Drawings, Contractor will not furnish materials or perform any Work until the Shop Drawings for those components are accepted by City. Contractor is responsible for any errors or omissions in the Shop Drawings, shop fits and field corrections; any deviations from the Contract Documents; and for the results obtained by the use of Shop Drawings. Acceptance of Shop Drawings by City does not relieve Contractor of Contractor's responsibility.

2.7 Material List. Unless otherwise specified by City, Contractor must submit to the Engineer, at or before the pre-construction conference, a list of all materials proposed for use in the Work and any supporting documentation and samples required by the Contract Documents and source of supply. For a material listed on the "Engineer's List of Approved Items," located in the Sewer and Water sections of the City Standards, Contractor must provide the name of the manufacturer and model and part number for each material proposed for the Work, unless the item has been replaced for the Project, as specifically set forth in the Contract Documents. For all other materials, Contractor must provide the name of the manufacturer, model and part number, and supporting documentation and samples that will enable the Engineer to evaluate the material.

2.8 Access to Work. Contractor must afford prompt and safe access to any Worksite by City and its employees, agents, or consultants authorized by City; and upon request by City, Contractor must promptly arrange for City representatives to visit or inspect manufacturing sites or fabrication facilities for items to be incorporated into the Work.

2.9 Personnel. Contractor and its Subcontractors must employ only competent and skillful personnel to perform the Work. Contractor and its Subcontractor's supervisors, security or safety personnel, and employees who have unescorted access to the Project site must possess proficiency in English sufficient to read, understand, receive, and implement oral or written communications or instructions relating to their respective job functions, including safety and security requirements. Upon written notification from the Engineer, Contractor and its Subcontractors must immediately discharge any personnel who are incompetent, disorderly, disruptive, threatening, abusive, or profane, or otherwise refuse or fail to comply with the requirements of the Contract Documents or Laws, including

Laws pertaining to health and safety. Any such discharged personnel may not be re-employed or permitted on the Project in any capacity without City's prior written consent.

Article 3 - Contract Documents

3.1 Interpretation of Contract Documents.

(A) ***Plans and Specifications.*** The Plans and Specifications included in the Contract Documents are complementary. If Work is shown on one but not on the other, Contractor must perform the Work as though fully described on both, consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results. The Plans and Specifications are deemed to include and require everything necessary and reasonably incidental to completion of the Work, whether or not particularly mentioned or shown. Contractor must perform all Work and services and supply all things reasonably related to and inferable from the Contract Documents. In the event of a conflict between the Plans and Specifications, the Specifications will control, unless the drawing(s) at issue are dated later than the Specification(s) at issue. Detailed drawings take precedence over general drawings, and large-scale drawings take precedence over smaller scale drawings. Any arrangement or division of the Plans and Specifications into sections is for convenience and is not intended to limit the Work required by separate trades. A conclusion presented in the Plans or Specifications is only a recommendation. Actual locations and depths must be determined by Contractor's field investigation. Contractor may request access to underlying or background information in City's possession that is necessary for Contractor to form its own conclusions.

(B) ***Duty to Notify and Seek Direction.*** If Contractor becomes aware of a changed condition in the Project, or of any ambiguity, conflict, inconsistency, discrepancy, omission, or error in the Contract Documents, including the Plans or Specifications, Contractor must promptly submit a Request for Information to the Engineer and wait for a response from City before proceeding further with the related Work. The RFI must notify City of the issue and request clarification, interpretation or direction. The Engineer's clarification, interpretation or direction will be final and binding on the Contractor. If Contractor proceeds with the related Work before obtaining the City's response, Contractor will be responsible for any resulting costs, including the cost of correcting any incorrect or defective Work that results. Timely submission of a clear and complete RFI is essential to avoiding delay. Delay resulting from Contractor's failure to submit a timely and complete RFI to the Engineer is Non-Excusable Delay. If Contractor believes that City's response to an RFI justifies a change to the Contract Price or Contract Time, Contractor must perform the Work as directed, but may submit a timely Change Order request in accordance with the Contract Documents. (See Articles 5 and 6.)

(C) ***Figures and Dimensions.*** Figures control over scaled dimensions.

(D) ***Technical or Trade Terms.*** Any terms that have well-known technical or trade meanings will be interpreted in accordance with those meanings, unless otherwise specifically defined in the Contract Documents.

(E) ***Measurements.*** Contractor must verify all relevant measurements in the Contract Documents and at the Project site before ordering any material or performing any Work, and will be responsible for the correctness of those measurements or for costs that could have been avoided by independently verifying measurements.

(F) ***Compliance with Laws.*** The Contract Documents are intended to comply with Laws and will be interpreted to comply with Laws.

3.2 Order of Precedence. Information included in one Contract Document but not in another will not be considered a conflict or inconsistency. Unless otherwise specified in the Special Conditions, in case of any conflict or inconsistency among the Contract Documents, the following order of precedence will apply, beginning from highest to lowest, with the most recent version taking precedent over an earlier version:

(A) Change Orders;
(B) Addenda;
(C) Contract;
(D) Notice to Proceed;
(E) Attachment B – Federal Contract Requirements;
(F) Special Conditions;
(G) General Conditions;
(H) Payment and Performance Bonds;
(I) Specifications;
(J) Plans;
(K) Notice of Award;
(L) Notice Inviting Bids;
(M) Attachment A – Federal Bidding Requirements;
(N) Instructions to Bidders;
(O) Community Workforce Agreement, if applicable;
(P) Contractor's Bid Proposal and attachments;
(Q) City Standards and City Specifications, as applicable; and
(R) Any generic documents prepared by and on behalf of a third party, that were not prepared specifically for this Project, such as the Caltrans Standard Specifications, Caltrans Special Provisions, or Caltrans Standard Plans.

3.3 Caltrans Standard Specifications and Standard Plans. Any reference to or incorporation of the Standard Specifications of the State of California, Department of Transportation ("Caltrans"), including "Standard Specifications," "Caltrans Specifications," "State Specifications," or "CSS," means the 2024 edition of Caltrans' Standard Specifications, unless otherwise specified ("Caltrans Standard Specifications"). Any reference to or incorporation of Caltrans' Standard Plans means the most current edition of Caltrans' Standard Plans, unless otherwise specified ("Caltrans Standard Plans"), including the most current amendments or revisions as of the date that Contractor's bid was submitted for this Project. The following provisions apply to use of or reference to the Caltrans Standard Specifications, Special Provisions, or Caltrans Standard Plans:

(A) ***Limitations.*** The "Division I General Provisions" of the Caltrans Standard Specifications, i.e., sections 1 through 9, do not apply to these Contract Documents with the exception of any specific provisions, if any, which are expressly stated to apply to these Contract Documents. Unless otherwise specified in the Specifications, the remaining Divisions of the Caltrans Standard Specifications, i.e., Division II through Division XII, are applicable to the extent relevant to the Work and are subject to any modifications set forth in the Specifications. A specific reference in the Specifications to a section from the Caltrans Standard Specifications will not be construed as excluding other applicable sections from the Caltrans Standard Specifications.

(B) ***Conflicts or Inconsistencies.*** If there is a conflict or inconsistency between any provision in the Caltrans Standard Specifications or Special Provisions and a provision of these Contract Documents, as determined by City, the provision in the Contract Documents will govern.

(C) ***Meanings.*** Terms used in the Caltrans Standard Specifications or Special Provisions are to be interpreted as follows:

(1) Any reference to the “Engineer” or “Director” is deemed to mean the City Engineer.

(2) Any reference to the “Special Provisions” is deemed to mean the Special Conditions, unless the Caltrans Special Provisions are expressly included in the Contract Documents listed in Section 2 of the Contract.

(3) Any reference to the “Department” or “State” is deemed to mean City.

(4) Any reference to “Laboratory” is deemed to mean the Materials Lab, or such other laboratory as may be authorized by the City.

3.4 Caltrans Insurance Requirements.

(A) ***Additional Insurance Requirements.*** In addition to the requirements set forth in Section 4.3 of the General Conditions, Contractor must carry liability insurance in accordance with Section 7-1.06 of the Caltrans Standard Specifications. Section 7-1.06 of the Caltrans Standard Specifications applies to this Contract and is incorporated herein by reference. Notwithstanding the order of precedence in Section 3.2 of the General Conditions, in the event of a conflict between the insurance requirements in Section 4.3 of the General Conditions, Section 3 of the Special Conditions, and Section 7-1.06 of the Caltrans Standard Specifications, the provision that affords the greatest protection to City will control.

(B) ***Additional Insured Endorsement.*** The endorsement required by subsection 4.3(D)(1) of the General Conditions is modified to add the following as named Additional Insureds: the State of California, including its officers, directors, agents (excluding agents who are design professionals), and employees.

3.4 For Reference Only. Contractor is responsible for the careful review of any document, study, or report provided by City or appended to the Contract Documents solely for informational purposes and identified as “For Reference Only.” Nothing in any document, study, or report so appended and identified is intended to supplement, alter, or void any provision of the Contract Documents. Contractor is advised that the City or its representatives may be guided by information or recommendations included in such reference documents, particularly when making determinations as to the acceptability of proposed materials, methods, or changes in the Work. Any record drawings or similar final or accepted drawings or maps that are not part of the Contract Documents are deemed to be For Reference Only. The provisions of the Contract Documents are not modified by any perceived or actual conflict with provisions in any document that is provided For Reference Only.

3.5 Current Versions. Unless otherwise specified by the City, any reference to standard specifications, technical specifications, or any City or state codes or regulations means the latest specification, code, or regulation in effect on the date that bids were due.

3.6 Conformed Copies. If City prepares a conformed set of the Contract Documents following award of the Contract, it will provide Contractor with two hard copy (paper) sets and one copy of the electronic file in PDF format. It is Contractor’s responsibility to ensure that all Subcontractors, including fabricators, are provided with the conformed set of the Contract Documents at Contractor’s sole expense.

3.7 Ownership. No portion of the Contract Documents may be used for any purpose other than construction of the Project, without prior written consent from City. Contractor is deemed to have conveyed the copyright in any designs, drawings, specifications, Shop

Drawings, or other documents (in paper or electronic form) developed by Contractor for the Project, and City will retain all rights to such works, including the right to possession.

Article 4 - Bonds, Indemnity, and Insurance

4.1 Payment and Performance Bonds. Within ten days following issuance of the Notice of Award, Contractor is required to provide a payment bond and a performance bond, each in the penal sum of not less than 100% of the Contract Price, and each executed by Contractor and its surety using the bond forms included with the Contract Documents.

(A) ***Surety.*** Each bond must be issued and executed by a surety admitted in California. If an issuing surety cancels the bond or becomes insolvent, within seven days following written notice from City, Contractor must substitute a surety acceptable to City. If Contractor fails to substitute an acceptable surety within the specified time, City may, at its sole discretion, withhold payment from Contractor until the surety is replaced to City's satisfaction, or terminate the Contract for default.

(B) ***Supplemental Bonds for Increase in Contract Price.*** If the Contract Price increases during construction by five percent or more over the original Contract Price, Contractor must provide supplemental or replacement bonds within ten days of written notice from City pursuant to this Section, covering 100% of the increased Contract Price and using the bond forms included with the Contract Documents.

4.2 Indemnity. To the fullest extent permitted by law, Contractor must indemnify, defend, and hold harmless City, its Council, officers, officials, employees, agents, volunteers, and consultants; and Caltrans, its officers, officials, employees, agents, volunteers, and consultants (individually, an "Indemnitee," and collectively the "Indemnitees") from and against any and all liability, loss, damage, claims, causes of action, demands, charges, fines, costs, and expenses (including, without limitation, attorney fees, expert witness fees, paralegal fees, fees and costs of litigation or arbitration, and fees and expenses incurred in enforcing this Section) (collectively, "Liability") of every nature arising out of or in connection with the acts or omissions of Contractor, its employees, Subcontractors, representatives, or agents, in bidding or performing the Work or in failing to comply with any obligation of Contractor under the Contract, except such Liability caused by the active negligence, sole negligence, or willful misconduct of an Indemnitee. This indemnity requirement applies to any Liability arising from alleged defects in the content or manner of submission of Contractor's bid for the Contract. Contractor's failure or refusal to timely accept a tender of defense pursuant to this Contract will be deemed a material breach of the Contract. City will timely notify Contractor upon the City's receipt of any third-party claim relating to the Contract, as required by Public Contract Code § 9201. Contractor waives any right to express or implied indemnity against any Indemnitee. Contractor's indemnity obligations under this Contract will survive the expiration or any early termination of the Contract.

4.3 Insurance. No later than ten days following issuance of the Notice of Award, Contractor must procure and provide proof of the insurance coverage required by this Section in the form of certificates and endorsements acceptable to City. The required insurance must cover the activities of Contractor and its Subcontractors relating to or arising from the performance of the Work. The required insurance must remain in full force and effect at all times during the period covered by the Contract through the date of City's acceptance of the Project, except as specified for commercial general liability insurance in subsection (A)(1), below, which requires a longer duration. All required insurance must be issued by a company licensed to do business in the State of California, and each such insurer must have an A.M. Best's financial strength rating of "A-" or better and a financial size rating of "VII" or better. The City may, but has no obligation to, review insurance policies submitted

by Contractor. The City's failure to demand evidence of full compliance with the insurance requirements set forth in this Contract or the City's failure to identify any insurance deficiency will not relieve Contractor from, nor be construed or deemed a waiver of, its obligation to maintain the required insurance in accordance with this Section. If Contractor fails to provide any of the required coverage in full compliance with the requirements of the Contract Documents, City may, at its sole discretion, purchase such coverage at Contractor's expense and deduct the cost from payments due to Contractor, or terminate the Contract for default. The procurement of the required insurance, or Contractor's failure to procure and maintain the required insurance, will not be construed to limit Contractor's liability under this Contract. The procurement of the required insurance will not be construed to fulfill Contractor's indemnification obligations under this Contract.

(A) ***Policies and Limits.*** The following insurance policies and limits are required for this Contract, unless otherwise specified in the Special Conditions:

(1) *Commercial General Liability ("CGL") Insurance:* The CGL insurance policy must be issued on an occurrence basis, written on a comprehensive general liability form with coverage at least as broad as ISO CG 00 01, and must include coverage for liability arising from Contractor's or its Subcontractor's acts or omissions in the performance of the Work, including contractor's protective coverage, contractual liability, products liability, completed operations, and broad form property damage, with limits of at least $5,000,000 per occurrence and at least $5,000,000 general aggregate. If insurance applies separately to a project/location, aggregate may be equal to per occurrence amount. The CGL insurance coverage may be arranged under a single policy for the full limits required or by a combination of underlying policies with the balance provided by excess or umbrella policies, provided each such policy complies with the requirements set forth in this Section, including required endorsements. The products liability and completed operations coverage must continue for a period of three years following City's acceptance of the Project.

(2) *Automobile Liability Insurance:* The automobile liability insurance policy must provide coverage of at least $3,000,000 combined single-limit per accident for bodily injury, death, or property damage, including hired, owned, and non-owned auto liability. Coverage must be at least as broad as ISO Form Number CA 00 01 covering any auto (Code 1).

(3) *Workers' Compensation Insurance and Employer's Liability:* The workers' compensation and employer's liability insurance policy must comply with the requirements of the California Labor Code, providing coverage of at least $1,000,000 or as otherwise required by statute, per accident for bodily injury or disease. If Contractor is self-insured, Contractor must provide its Certificate of Permission to Self-Insure, duly authorized by the DIR.

(4) *Pollution Liability Insurance:* The pollution liability insurance policy must provide coverage of at least $1,000,000 per occurrence and $2,000,000 aggregate for all loss arising out of claims for bodily injury, death, property damage, or environmental damage caused by pollution conditions resulting from the Work. If the Work involves lead-based paint or asbestos identification and/or remediation, the pollution liability insurance policy must not contain lead-based paint or asbestos exclusions. If the Work involves mold identification, the pollution liability policy must not contain a mold exclusion and the definition of "pollution" in the policy must include microbial matter, including mold.

(5) *Builder's Risk Insurance:* The builder's risk insurance policy must be issued on an occurrence basis, for all-risk or "all perils" coverage on a 100% completed value basis on the insurable portion of the Project for the benefit of City, without co-insurance provisions. Contractor must name City as loss payee.

(B) ***Notice.*** Each certificate of insurance must state that the coverage afforded by the policy or policies will not be reduced, cancelled or allowed to expire without at least 30 days prior written notice to City, unless due to non-payment of premiums, in which case ten days prior written notice must be made to City.

(C) ***Waiver of Subrogation.*** Each required policy must include an endorsement providing that the carrier will waive any right of subrogation it may have against City.

(D) ***Required Endorsements.*** The CGL policy, automobile liability policy, pollution liability policy, and builder's risk policy must include the following specific endorsements:

(1) The City of Santa Rosa, including its Council, officials, officers, employees, agents, volunteers and consultants (collectively, "Additional Insured") must be named as an additional insured for all liability arising out of the operations by or on behalf of the named insured, and the policy must protect the Additional Insured against any and all liability for personal injury, death or property damage or destruction arising directly or indirectly in the performance of the Contract. Coverage for an Additional Insured will not be limited to the Additional Insured's vicarious liability. The additional insured endorsement must be provided using ISO forms at least as broad as CG 20 10 04 13 or 20 38 04 13 (ongoing operations) and CG 20 37 04 13 (completed operations), or equivalent form(s) approved by the City.

(2) The inclusion of more than one insured will not operate to impair the rights of one insured against another, and the coverages afforded will apply as though separate policies have been issued to each insured.

(3) The insurance provided by Contractor is primary and no insurance held or owned by any Additional Insured may be called upon to contribute to a loss. This endorsement must be provided using ISO form CG 20 01 04 13 or an equivalent form approved by the City.

(4) This policy does not exclude explosion, collapse, underground excavation hazard, or removal of lateral support.

(E) ***Contractor's Responsibilities.*** This Section 4.3 establishes the minimum requirements for Contractor's insurance coverage in relation to this Project, but is not intended to limit Contractor's ability to procure additional or greater coverage. Contractor is responsible for its own risk assessment and needs and is encouraged to consult its insurance provider to determine what coverage it may wish to carry beyond the minimum requirements of this Section. Contractor is solely responsible for the cost of its insurance coverage, including premium payments, deductibles, or self-insured retentions, and no Additional Insured will be responsible or liable for any of the cost of Contractor's insurance coverage. Contractor's insurance coverage applies to the full extent of the policies, and nothing contained herein will be construed to limit the application of such coverage.

(F) ***Deductibles and Self-Insured Retentions*.** Any deductibles or self-insured retentions that apply to the required insurance (collectively, "deductibles") in excess of $10,000 are subject to approval by the City's Risk Manager, acting in his or her sole discretion, and must be declared by Contractor when it submits its certificates of

insurance and endorsements pursuant to this Section 4.3. If the City's Risk Manager determines that the deductibles are unacceptably high, at City's option, Contractor must either reduce or eliminate the deductibles as they apply to City and all required Additional Insured; or must provide a financial guarantee, to City's satisfaction, guaranteeing payment of losses and related investigation, claim administration, and legal expenses.

(G) ***Subcontractors.*** Contractor must ensure that each Subcontractor is required to maintain the same insurance coverage required under this Section 4.3, with respect to its performance of Work on the Project, including those requirements related to the Additional Insureds and waiver of subrogation, but excluding pollution liability or builder's risk insurance unless otherwise specified in the Special Conditions. A Subcontractor may be eligible for reduced insurance coverage or limits, but only to the extent approved in writing in advance by the City's Risk Manager. Contractor must confirm that each Subcontractor has complied with these insurance requirements before the Subcontractor is permitted to begin Work on the Project. Upon request by the City, Contractor must provide certificates and endorsements submitted by each Subcontractor to prove compliance with this requirement. The insurance requirements for Subcontractors do not replace or limit the Contractor's insurance obligations.

Article 5 - Contract Time

5.1 Time is of the Essence. Time is of the essence in Contractor's performance and completion of the Work, and Contractor must diligently prosecute the Work and complete it within the Contract Time.

(A) ***General.*** Contractor must commence the Work on the date indicated in the Notice to Proceed and must fully complete the Work in strict compliance with all requirements of the Contract Documents and within the Contract Time. Contractor may not begin performing the Work before the date specified in the Notice to Proceed.

(B) ***Authorization.*** Contractor is not entitled to compensation or credit for any Work performed before the date specified in the Notice to Proceed, with the exception of any schedules, submittals, or other requirements, if any, that must be provided or performed before issuance of the Notice to Proceed.

(C) ***Rate of Progress.*** Contractor and its Subcontractors must, at all times, provide workers, materials, and equipment sufficient to maintain the rate of progress necessary to ensure full completion of the Work within the Contract Time. Contractor will diligently prosecute the Work to minimize the public's exposure to construction activities. If City determines that Contractor is failing to prosecute the Work at a sufficient rate of progress, City may, in its sole discretion, direct Contractor to provide additional workers, materials, or equipment, or to work additional hours or days without additional cost to City, in order to achieve a rate of progress satisfactory to City. If Contractor fails to comply with City's directive in this regard, City may, at Contractor's expense, separately contract for additional workers, materials, or equipment or use City's own forces to achieve the necessary rate of progress. Alternatively, City may terminate the Contract based on Contractor's default.

5.2 Schedule Requirements. Contractor must prepare all schedules using standard, commercial scheduling software acceptable to the Engineer, and must provide the schedules in electronic and paper form as requested by the Engineer. Contractor must provide the Engineer with a license for use of Contractor's scheduling software, unless otherwise specified by the Engineer. In addition to the general scheduling requirements set forth below, Contractor must also comply with any scheduling requirements included in the Special Conditions or in the Technical Specifications.

(A) ***Baseline (As-Planned) Schedule.*** Within ten calendar days following City's issuance of the Notice to Proceed (or as otherwise specified in the Notice to Proceed), Contractor must submit to City for review and acceptance a baseline (as-planned) schedule using critical path methodology showing in detail how Contractor plans to perform and fully complete the Work within the Contract Time, including labor, equipment, materials, and fabricated items. The baseline schedule must show the order of the major items of Work and the dates of start and completion of each item, including when the materials and equipment will be procured. The schedule must also include the work of all trades, reflecting anticipated labor or crew hours and equipment loading for the construction activities, and must be sufficiently comprehensive and detailed to enable progress to be monitored on a day-by-day basis. For each activity, the baseline schedule must be dated, provided in the format specified in the Contract Documents or as required by City, and must include, at a minimum, a description of the activity, the start and completion dates of the activity, and the duration of the activity.

(1) *Specialized Materials Ordering*. Within five calendar days following issuance of the Notice to Proceed, Contractor must order any specialized material or equipment for the Work that is not readily available from material suppliers. Contractor must also retain documentation of the purchase order date(s).
(2) *High Dollar or Long Duration Projects*. In addition to the requirements set forth above, if the Contract Price is $5,000,000 or more or if the Contract Time is 100 Working Days or more, Contractor's baseline (as-planned) schedule must include the following: the start and completion dates for submittal development, submittal review, milestones and constraints, equipment and plant setup, interfaces with outside entities, erection and removal of falsework and shoring, test periods, major traffic stage change, and final cleanup; logical links between time-scaled Work activities; controlling activities; at least 50 but no more than 500 activities, unless otherwise specified or authorized by the Engineer; alphanumeric activity identification and activity description system for labeling Work activities; identification code for each activity for responsibility, stage, Work shifts, location, and bid items; activity durations of at least one Working Day and no more than 20 Working Days for each activity, unless otherwise authorized by the Engineer; and float as the predecessor activity to Final Completion. Each activity description must indicate its associated scope or location of Work.

(B) ***City's Review of Schedules.*** City will review and may note exceptions to the baseline schedule, and to the progress schedules submitted as required below, to assure completion of the Work within the Contract Time. Contractor is solely responsible for resolving any exceptions noted in a schedule and, within seven days, must correct the schedule to address the exceptions. City's review or acceptance of Contractor's schedules will not operate to waive or limit Contractor's duty to complete the Project within the Contract Time, nor to waive or limit City's right to assess liquidated damages for Contractor's unexcused failure to do so.

(C) ***Progress Schedules.*** After City accepts the final baseline schedule with no exceptions, Contractor must submit an updated progress schedule and three-week look-ahead schedule, in the format specified by City, for review and acceptance with each application for a progress payment, or when otherwise specified by City, until completion of the Work. The updated progress schedule must: show how the actual progress of the Work as constructed to date compares to the baseline schedule; reflect any proposed changes in the construction schedule or method of operations, including to achieve Project milestones within the Contract Time; and identify any actual or potential impacts to the critical path. Contractor must also submit periodic reports to City of any changes in the projected material or equipment delivery dates for the Project.

(1) *Float*. The progress schedule must show early and late completion dates for each task. The number of days between those dates will be designated as the "float." Any float belongs to the Project and may be allocated by the Engineer to best serve timely completion of the Project.

(2) *Failure to Submit Schedule*. Reliable, up-to-date schedules are essential to efficient and cost-effective administration of the Project and timely completion. If Contractor fails to submit a schedule within the time periods specified in this Section or submits a schedule to which City has noted exceptions that are not corrected, City may withhold up to five percent from payment(s) otherwise due to Contractor until the exceptions are resolved, the schedule is corrected and resubmitted, and City has accepted the schedule. In addition, Contractor's failure to comply with the schedule requirements in this Section 5.2 will be deemed a material default and a waiver of any claims for Excusable Delay or loss of productivity arising during any period when Contractor is out of compliance, subject only to the limits of Public Contract Code § 7102.

(D) ***Recovery Schedule.*** If City determines that the Work is more than one week behind schedule, within seven days following written notice of such determination, Contractor must submit a recovery schedule, showing how Contractor intends to perform and complete the Work within the Contract Time, based on actual progress to date.

(E) ***Effect of Acceptance.*** Contractor and its Subcontractors must perform the Work in accordance with the most current City-accepted schedule unless otherwise directed or approved by City. If Contractor wants to perform non-critical Work activities that are out of sequence with the current City-accepted schedule, Contractor must notify and request approval from the Engineer in advance of performance of any such activities. Performance of any such Work must not impact the critical path Work activities. City's acceptance of a schedule does not operate to extend the time for completion of the Work or any component of the Work and will not affect City's right to assess liquidated damages for Contractor's unexcused delay in completing the Work within the Contract Time.

(F) ***Posting.*** Contractor must at all times prominently post a copy of the most current City-accepted progress or recovery schedule in its on-site office.

(G) ***Reservation of Rights.*** City reserves the right to direct the sequence in which the Work must be performed or to make changes in the sequence of the Work in order to facilitate the performance of work by City or others, to facilitate City's use of its property, or to minimize the public's exposure to construction activities. The Contract Time or Contract Price may be adjusted to the extent such changes in sequence actually increase or decrease Contractor's time or cost to perform the Work.

(H) ***Authorized Working Days and Times.*** Contractor is limited to working Monday through Friday, excluding holidays observed by City, with noise generating activities limited to 7:00 a.m. to 7:00 p.m. and vehicular traffic impacts limited to 8:30 a.m. to 4:30 p.m., except as provided in the Special Conditions or as authorized in writing by City. City reserves the right to charge Contractor for additional costs incurred by City due to Work performed on days or during hours not expressly authorized in the Contract Documents, including reimbursement of costs incurred for inspection, testing, and construction management services.

5.3 Delay and Extensions of Contract Time.

(A) ***Notice of Delay.*** If Contractor becomes aware of any actual or potential delay affecting the critical path, Contractor must promptly notify the Engineer in writing,

regardless of the nature or cause of the delay, so that City has a reasonable opportunity to mitigate or avoid the delay.

(B) ***Excusable Delay.*** The Contract Time may be extended if Contractor encounters "Excusable Delay," which is an unavoidable delay in completing the Work within the Contract Time due to causes completely beyond Contractor's control, and which Contractor could not have avoided or mitigated through reasonable care, planning, foresight, or diligence, provided that Contractor is otherwise fully performing its obligations under the Contract Documents. Grounds for Excusable Delay may include fire, natural disasters including earthquake or unusually severe weather, acts of terror or vandalism, epidemic, unforeseeable adverse government actions, unforeseeable actions of third parties, encountering unforeseeable hazardous materials, unforeseeable site conditions, or suspension for convenience under Article 13. The Contract Time will not be extended based on circumstances which will not unavoidably delay completing the Work within the Contract Time based on critical path analysis.

(C) ***Weather Delays.*** A "Weather Delay Day" is a Working Day during which Contractor and its forces, including Subcontractors, are unable to perform more than 40% of the critical path Work scheduled for that day due to adverse weather conditions which impair the ability to safely or effectively perform the scheduled critical path Work that day. Adverse weather conditions may include rain, saturated soil, and Project site clean-up required due to adverse weather. Determination of what constitutes critical path Work scheduled for that day will be based on the most current, City-approved schedule. Contractor will be entitled to a non-compensable extension of the Contract Time for each Weather Delay Day in excess of the normal Weather Delay Days within a given month as determined by reliable records, including monthly rainfall averages, for the preceding ten years (or as otherwise specified in the Special Conditions or Specifications).

(1) Contractor must fully comply with the applicable procedures in Articles 5 and 6 of the General Conditions regarding requests to modify the Contract Time.

(2) Contractor will not be entitled to an extension of time for a Weather Delay Day to the extent Contractor is responsible for concurrent delay on that day.

(3) Contractor must take reasonable steps to mitigate the consequences of Weather Delay Days, including prudent workforce management and protecting the Work, Project Site, materials, and equipment.

(D) ***Non-Excusable Delay.*** Delay which Contractor could have avoided or mitigated through reasonable care, planning, foresight, or diligence is "Non-Excusable Delay." Contractor is not entitled to an extension of Contract Time or any compensation for Non-Excusable Delay, or for Excusable Delay that is concurrent with Non-Excusable Delay. Non-Excusable Delay includes delay caused by:

(1) weather conditions which are normal for the location of the Project, as determined by reliable records, including monthly rainfall averages, for the preceding ten years;

(2) Contractor's failure to order equipment and materials sufficiently in advance of the time needed for completion of the Work within the Contract Time;

(3) Contractor's failure to provide adequate notification to utility companies or agencies for connections or services necessary for completion of the Work within the Contract Time;

(4) foreseeable conditions which Contractor could have ascertained from reasonably diligent inspection of the Project site or review of the Contract Documents or other information provided or available to Contractor;

(5) Contractor's failure, refusal, or financial inability to perform the Work within the Contract Time, including insufficient funds to pay its Subcontractors or suppliers;

(6) performance or non-performance by Contractor's Subcontractors or suppliers;

(7) the time required to respond to excessive RFIs (see Section 2.5(G));

(8) delayed submission of required submittals, or the time required for correction and resubmission of defective submittals;

(9) time required for repair of, re-testing, or re-inspection of defective Work;

(10) enforcement of Laws by City, or outside agencies with jurisdiction over the Work; or

(11) City's exercise or enforcement of any of its rights or Contractor's duties pursuant to the Contract Documents, including correction of defective Work, extra inspections or testing due to non-compliance with Contract requirements, safety compliance, environmental compliance, or rejection and return of defective or deficient submittals.

(E) ***Compensable Delay.*** Pursuant to Public Contract Code § 7102, in addition to entitlement to an extension of Contract Time, Contractor is entitled to compensation for costs incurred due to delay caused solely by City, when that delay is unreasonable under the circumstances involved and not within the contemplation of the parties ("Compensable Delay"). Contractor is not entitled to an extension of Contract Time or recovery of costs for Compensable Delay that is concurrent with Non-Excusable Delay. Delay due to Weather Delay Days in excess of normal for a given month, as set forth in Section 5.3(C), is not Compensable Delay, and will only entitle Contractor to an extension of time commensurate with the time lost due to such delay.

(F) ***Recoverable Costs.*** Contractor is not entitled to compensation for Excusable Delay unless it is Compensable Delay, as defined above. Contractor is entitled to recover only the actual, direct, reasonable, and substantiated costs ("Recoverable Costs") for each working day that the Compensable Delay prevents Contractor from proceeding with more than 50% of the critical path Work scheduled for that day, based on the most recent progress schedule accepted by City. Recoverable Costs will not include home office overhead or lost profit.

(G) ***Request for Extension of Contract Time or Recoverable Costs.*** A request for an extension of Contract Time or any associated Recoverable Costs must be submitted in writing to City within 14 calendar days of the date the delay is first encountered, even if the duration of the delay is not yet known at that time, or any entitlement to the Contract Time extension or to the Recoverable Costs will be deemed waived. In addition to complying with the requirements of this Article 5, the request must be submitted in compliance with the Change Order request procedures in Article 6 below. Strict compliance with these requirements is necessary to ensure that any delay or consequences of delay may be mitigated as soon as possible, and to facilitate cost-efficient administration of the Project and timely performance of the Work. Any request for an extension of Contract Time or Recoverable Costs that does not strictly comply with all of the requirements of Article 5 and Article 6 will be deemed waived.

(1) *Required Contents.* The request must include a detailed description of the cause(s) of the delay and must also describe the measures that Contractor has taken to mitigate the delay and/or its effects, including efforts to mitigate the cost impact of the delay, such as by workforce management or by a change in sequencing. If the delay is still ongoing at the time the request is submitted, the request should also include Contractor's plan for continued mitigation of the delay or its effects.

(2) *Delay Days and Costs.* The request must specify the number of days of Excusable Delay claimed or provide a realistic estimate if the duration of the delay is not yet known. If Contractor believes it is entitled to Recoverable Costs for Compensable Delay, the request must specify the amount and basis for the Recoverable Costs that are claimed or provide a realistic estimate if the amount is not yet known. Any estimate of delay duration or cost must be updated in writing and submitted with all required supporting documentation as soon as the actual time and cost is known. The maximum extension of Contract Time will be the number of days, if any, by which an Excusable Delay or a Compensable Delay exceeds any concurrent Non-Excusable Delay. Contractor is entitled to an extension of Contract Time, or compensation for Recoverable Costs, only if, and only to the extent that, such delay will unavoidably delay Final Completion.

(3) *Supporting Documentation.* The request must also include any and all supporting documentation necessary to evidence the delay and its actual impacts, including scheduling and cost impacts with a time impact analysis using critical path methodology and demonstrating the unavoidable delay to Final Completion. The time impact analysis must be submitted in a form or format acceptable to City.

(4) *Burden of Proof.* Contractor has the burden of proving that: the delay was an Excusable Delay or Compensable Delay, as defined above; Contractor has fully complied with its scheduling obligations in Section 5.2, Schedule Requirements; Contractor has made reasonable efforts to mitigate the delay and its schedule and cost impacts; the delay will unavoidably result in delaying Final Completion; and any Recoverable Costs claimed by Contractor were actually incurred and were reasonable under the circumstances.

(5) *Legal Compliance.* Nothing in this Section 5.3 is intended to require the waiver, alteration, or limitation of the applicability of Public Contract Code § 7102.

(6) *No Waiver.* Any grant of an extension of Contract Time, or compensation for Recoverable Costs due to Compensable Delay, will not operate as a waiver of City's right to assess liquidated damages for Non-Excusable Delay.

(7) *Dispute Resolution.* In the event of a dispute over entitlement to an extension of Contract Time or compensation for Recoverable Costs, Contractor may not stop Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work. Contractor's sole recourse for an unresolved dispute based on City's rejection of a Change Order request for an extension of Contract Time or compensation for Recoverable Costs is to comply with the dispute resolution provisions set forth in Article 12 below.

5.4 Liquidated Damages. It is expressly understood that if Final Completion is not achieved within the Contract Time, City will suffer damages from the delay that are difficult to determine and accurately specify. Pursuant to Public Contract Code § 7203, if Contractor

fails to achieve Final Completion within the Contract Time due to Contractor's Non-Excusable Delay, City will charge Contractor in the amount specified in the Contract for each calendar day that Final Completion is delayed beyond the Contract Time, as liquidated damages and not as a penalty. Any waiver of accrued liquidated damages, in whole or in part, is subject to approval of the City Council or its authorized delegee.

(A) ***Liquidated Damages.*** Liquidated damages will not be assessed for any Excusable Delay or Compensable Delay, as set forth above.

(B) ***Milestones.*** Liquidated damages may also be separately assessed for failure to meet milestones specified elsewhere in the Contract Documents.

(C) ***Setoff.*** City is entitled to deduct the amount of liquidated damages assessed against any payments otherwise due to Contractor, including progress payments, Final Payment, or unreleased retention. If there are insufficient Contract funds remaining to cover the full amount of liquidated damages assessed, City is entitled to recover the balance from Contractor or its performance bond surety.

(D) ***Occupancy or Use.*** Occupancy or use of the Project in whole or in part prior to Final Completion does not constitute City's acceptance of the Project and will not operate as a waiver of City's right to assess liquidated damages for Contractor's Non-Excusable Delay in achieving Final Completion.

(E) ***Other Remedies.*** City's right to liquidated damages under this Section applies only to damages arising from Contractor's Non-Excusable Delay or failure to complete the Work within the Contract Time. City retains its right to pursue all other remedies under the Contract for other types of damage, including damage to property or persons, costs or diminution in value from defective materials or workmanship, costs to repair or complete the Work, or other liability caused by Contractor.

Article 6 - Contract Modification

6.1 Contract Modification. Subject to the limited exception set forth in subsection (D) below, any change in the Work or the Contract Documents, including the Contract Price or Contract Time, will not be a valid and binding change to the Contract unless it is formalized in a Change Order, including a "no-cost" Change Order or a unilateral Change Order. Changes in the Work pursuant to this Article 6 will not operate to release, limit, or abridge Contractor's warranty obligations pursuant to Article 11 or any obligations of Contractor's bond sureties.

(A) ***City-Directed Changes.*** City may direct changes in the scope or sequence of Work or the requirements of the Contract Documents, without invalidating the Contract. Such changes may include Extra Work as set forth in subsection (C) below, or deletion or modification of portions of the Work. Contractor must promptly comply with City-directed changes in the Work in accordance with the original Contract Documents, even if Contractor and City have not yet reached agreement as to adjustments to the Contract Price or Contract Time for the change in the Work or for the Extra Work. Contractor is not entitled to extra compensation for cost savings resulting from "value engineering" pursuant to Public Contract Code § 7101, except to the extent authorized in advance by City in writing, and subject to any applicable procedural requirements for submitting a proposal for value engineering cost savings.

(B) ***Disputes.*** In the event of a dispute over entitlement to or the amount of a change in Contract Time or a change in Contract Price related to a City-directed change in the Work, Contractor must perform the Work as directed and may not delay its Work or

cease Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work, including the Work in dispute. Likewise, in the event that City and Contractor dispute whether a portion or portions of the Work are already required by the Contract Documents or constitute Extra Work, or otherwise dispute the interpretation of any portion(s) of the Contract Documents, Contractor must perform the Work as directed and may not delay its Work or cease Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work, including the Work in dispute, as directed by City. If Contractor refuses to perform the Work in dispute, City may, acting in its sole discretion, elect to delete the Work from the Contract and reduce the Contract Price accordingly, and self-perform the Work or direct that the Work be performed by others. Alternatively, City may elect to terminate the Contract for convenience or for cause. Contractor's sole recourse for an unresolved dispute related to changes in the Work or performance of any Extra Work is to comply with the dispute resolution provisions set forth in Article 12, below.

(C) ***Extra Work.*** City may direct Contractor to perform Extra Work related to the Project. Contractor must promptly perform any Extra Work as directed or authorized by City in accordance with the original Contract Documents, even if Contractor and City have not yet reached agreement on adjustments to the Contract Price or Contract Time for such Extra Work. If Contractor believes it is necessary to perform Extra Work due to changed conditions, Contractor must notify the Engineer in writing, within one Working Day following the date the Contractor first encounters the circumstances giving rise to Contractor's contention that Extra Work is necessary. Contractor's written notice must specifically identify the Extra Work and the reason(s) the Contractor believes it is Extra Work. This notification requirement does not constitute a Change Order request pursuant to Section 6.2, below. Contractor must maintain detailed daily records that itemize the cost of each element of Extra Work, and sufficiently distinguish the direct cost of the Extra Work from the cost of other Work performed. For each day that Contractor performs Extra Work, or Work that Contractor contends is Extra Work, Contractor must submit, by no later than close of business on that same Working Day, a daily report of the Extra Work performed that day, signed by the City and Contractor, identifying the labor, materials, and equipment used in the Extra Work ("Extra Work Report"). The Engineer may make any adjustments to Contractor's Extra Work Report(s) based on the Engineer's records of the Work. The Extra Work Report enables the parties to document and track the Extra Work, or Work that the Contractor contends is Extra Work. City's signature on the Extra Work Report is intended solely to document City's receipt of the Extra Work Report; it does not constitute any acknowledgement, acceptance, or approval of the Extra Work by City. To request compensation for Extra Work, Contractor must comply with the requirements in Section 6.2, below, including submission of the Extra Work Reports and a breakdown of the costs related to the Extra Work, together with copies of certified payroll, invoices, and other documentation substantiating the costs. Failure to submit the Extra Work Report by close of business on the same Working Day as the Extra Work is deemed a full and complete waiver for any change in the Contract Price or Contract Time for any Extra Work performed that day.

(D) ***Minor Changes and RFIs.*** Minor field changes, including RFI replies from City, that do not affect the Contract Price or Contract Time and that are approved by the Engineer acting within his or her scope of authority, do not require a Change Order. By executing an RFI reply from City, Contractor agrees that it will perform the Work as clarified therein, with no change to the Contract Price or Contract Time.

(E) ***Remedy for Non-Compliance.*** Contractor's failure to promptly comply with a City-directed change is deemed a material breach of the Contract, and in addition to all other remedies available to it, City may, at its sole discretion, hire another contractor or

use its own forces to complete the disputed Work at Contractor's sole expense, and may deduct the cost from the Contract Price.

6.2 Contractor Change Order Requests. Contractor must submit a request or proposal for a change in the Work, compensation for Extra Work, or a change in the Contract Price or Contract Time as a written Change Order request or proposal.

(A) ***Time for Submission.*** Any request for a change in the Contract Price or the Contract Time must be submitted in writing to the Engineer within 14 calendar days of the date that Contractor first encounters the circumstances, information or conditions giving rise to the Change Order request, even if the total amount of the requested change in the Contract Price or impact on the Contract Time is not yet known at that time. If City requests that Contractor propose the terms of a Change Order, unless otherwise specified in City's request, Contractor must provide the Engineer with a written proposal for the change in the Contract Price or Contract Time within five working days of receiving City's request, in a form satisfactory to the Engineer.

(B) ***Required Contents.*** Any Change Order request or proposal submitted by Contractor must include a complete breakdown of actual or estimated costs and credits, and must itemize labor, materials, equipment, taxes, insurance, subcontract amounts, and, if applicable, Extra Work Reports. Any estimated cost must be updated in writing as soon as the actual amount is known.

(C) ***Required Documentation.*** All claimed costs must be fully documented, and any related request for an extension of time or delay-related costs must be included at that time and in compliance with the requirements of Article 5 of the General Conditions. Upon request, Contractor must permit City to inspect its original and unaltered bidding records, subcontract agreements, subcontract change orders, purchase orders, invoices, or receipts associated with the claimed costs.

(D) ***Required Form.*** Contractor must use City's form(s) for submitting all Change Order requests or proposals, unless otherwise specified by City.

(E) ***Certification.*** All Change Order requests must be signed by Contractor and must include the following certification:

> "The undersigned Contractor certifies under penalty of perjury that its statements and representations in this Change Order request are true and correct. Contractor warrants that this Change Order request is comprehensive and complete as to the Work or changes referenced herein, and agrees that any known or foreseeable costs, expenses, or time extension requests not included herein, are deemed waived."

6.3 Adjustments to Contract Price. The amount of any increase or decrease in the Contract Price will be determined based on one of the following methods listed below, in the order listed with unit pricing taking precedence over the other methods. Markup applies only to City-authorized time and material Work and does not apply to any other payments to Contractor. For Work items or components that are deleted in their entirety, Contractor will only be entitled to compensation for those direct, actual, and documented costs (including restocking fees), reasonably incurred before Contractor was notified of the City's intent to delete the Work, with no markup for overhead, profit, or other indirect costs.

(A) ***Unit Pricing.*** Amounts previously provided by Contractor in the form of unit prices, either in a bid schedule or in a post-award schedule of values pursuant to Section 8.1, Schedule of Values, will apply to determine the price for the affected Work, to the

extent applicable unit prices have been provided for that type of Work. No additional markup for overhead, profit, or other indirect costs will be added to the calculation.

(B) ***Lump Sum.*** A mutually agreed upon, all-inclusive lump sum price for the affected Work with no additional markup for overhead, profit, or other indirect costs.

(C) ***Time and Materials.*** On a time and materials basis, if and only to the extent compensation on a time and materials basis is expressly authorized by City in advance of Contractor's performance of the Work and subject to any not-to-exceed limit. Time and materials compensation for increased costs or Extra Work (but not decreased costs or deleted Work) will include allowed markup for overhead, profit, and other indirect costs, calculated as the total of the following sums, the cumulative total of which may not exceed the maximum markup rate of 15%:

(1) All direct labor costs provided by the Contractor, excluding superintendence, project management, or administrative costs, plus 15% markup;

(2) All direct material costs provided by the Contractor, including sales tax, plus 15% markup;

(3) All direct plant and equipment rental costs provided by the Contractor, plus 15% markup;

(4) All direct additional subcontract costs plus 10% markup for Work performed by Subcontractors; and

(5) Increased bond and insurance premium costs computed at 1.5% of the total of the previous four sums.

6.4 Unilateral Change Order. If the parties dispute the terms of a proposed Change Order, including disputes over the amount of compensation or extension of time that Contractor has requested, the value of deleted or changed Work, what constitutes Extra Work, or quantities used, City may elect to issue a unilateral Change Order, directing performance of the Work, and authorizing a change in the Contract Price or Contract Time for the adjustment to compensation or time that the City believes is merited. Contractor's sole recourse to dispute the terms of a unilateral Change Order is to submit a timely Claim pursuant to Article 12, below.

6.5 Non-Compliance Deemed Waiver. Contractor waives its entitlement to any increase in the Contract Price or Contract Time if Contractor fails to fully comply with the provisions of this Article. Contractor will not be paid for unauthorized Extra Work.

Article 7 - General Construction Provisions

7.1 Permits, Fees, Licenses, Certificates, and Taxes.

(A) ***Fees, Licenses, Certificates, and Permits.*** Contractor must obtain and pay for all fees, licenses, and certificates required to perform the Work, including a City business tax certificate. Contractor must obtain all permits required to perform the Work. Contractor is not responsible for the fees associated with obtaining permits unless otherwise specified in the Special Conditions or Specifications. Contractor must cooperate with and provide notifications to all government agencies with jurisdiction over the Project, as may be required. Contractor must provide City with copies of all records of permits and permit applications, payment of required fees, and any licenses and certificates required for the Work.

(B) ***Taxes.*** Contractor must pay for all taxes on labor, material, and equipment, except Federal Excise Tax to the extent that City is exempt from Federal Excise Tax.

7.2 Temporary Facilities. Contractor must provide, at Contractor's sole expense, any and all temporary facilities for the Project, including an onsite staging area for materials and equipment, a field office, sanitary facilities, utilities, storage, scaffolds, barricades, walkways, and any other temporary structure required to safely perform the Work along with any incidental utility services. The location of all temporary facilities must be approved by the City prior to installation. Temporary facilities must be safe and adequate for the intended use and installed and maintained in accordance with Laws and the Contract Documents. Contractor must fence and screen the Project site and, if applicable, any separate Worksites, including the staging area, and its operation must minimize inconvenience to neighboring properties. Additional provisions pertaining to temporary facilities are set forth in this Article 7 and may also be included in the Specifications or Special Conditions.

(A) ***Utilities.*** Contractor must install and maintain the power, water, sewer, and all other utilities required for the Project site and performance of the Work, including the piping, wiring, internet and Wi-Fi connections, and any related equipment necessary to maintain the temporary facilities. Contractor may obtain water from the City's water system or from a source other than City's water system, if approved in advance by the Engineer. Before obtaining water from the City's water system, Contractor must obtain a Water Use Permit from the Water Department and rent a hydrant or bridge meter. Contractor is responsible for the cost of all water and all related deposits, permits, and fees. Contractor is prohibited from operating gate valves or fire hydrants on the City's water system. The acquisition of water from the City's water system through un-metered hydrants or other facilities is a violation of Laws. Citations and fines may be levied for violation of these and other utility regulations and may be deducted from payment otherwise due Contractor.

(B) ***Removal and Repair.*** Contractor must promptly remove all such temporary facilities when they are no longer needed or upon completion of the Work, whichever comes first. Contractor must promptly repair any damage to City's property or to other property caused by the installation, use, or removal of the temporary facilities, and must promptly restore the property to its original or intended condition.

7.3 Noninterference and Site Management. Contractor must avoid interfering with City's use of its property at or adjacent to the Project site, including use of roadways, entrances, parking areas, walkways, and structures. Contractor must also minimize disruption of access to private property in the Project vicinity. Contractor must coordinate with affected property owners, tenants, and businesses, and maintain some vehicle and pedestrian access to their residences or properties at all times. Temporary access ramps, fencing or other measures must be provided as needed. Before blocking access to a private driveway or parking lot, Contractor must provide effective notice to the affected parties at least 48 hours in advance of the pending closure and allow them to remove vehicles. Private driveways, residences and parking lots must have access to a roadway during non-Work hours. Property owners, tenants, and businesses must have full access to their driveways during non-Work hours. The Engineer may, at any time, direct or approve of opening completed sections of surfacing, pavement, or structure roadway surface for public use.

(A) ***Offsite Acquisition.*** Unless otherwise provided by City, Contractor must acquire, use, and dispose of, at its sole expense, any Worksites, licenses, easements, and temporary facilities necessary to access and perform the Work.

(B) ***Offsite Staging Area and Field Office*.** If additional space beyond the Project site is needed, such as for the staging area or the field office, Contractor may need to make arrangements with the nearby property owner(s) to secure the space and obtain a temporary use permit, in accordance with City Code § 20-52.040. Before using or occupying any property owned by a third party, Contractor must provide City with a copy of the necessary license agreement, easement, or other written authorization from the property owner, together with a written release from the property owner holding City harmless from any related liability, in a form acceptable to the City Attorney.

(C) ***Traffic Management.*** Contractor must provide traffic management and traffic controls as specified in the Contract Documents, as required by Laws, and as otherwise required to ensure public and worker safety, and to avoid interference with public or private operations or the normal flow of vehicular, bicycle, and pedestrian traffic.

(D) ***Railroad Property*.** Sonoma-Marin Area Rail Transit ("SMART") maintains railroad property within the City. Contractor will not interfere with railroad operations or perform Work on or adjacent to railroad property unless Contractor has obtained an encroachment permit from SMART. Contractor is responsible for obtaining an encroachment permit from SMART if necessary for the Work or for Contractor's traffic control. Contractor will not be entitled to an extension of time or additional compensation to obtain the SMART permit. For any excavation on or affecting railroad property, Contractor must submit Work plans to the City and SMART, if requested by SMART, showing the system to be used to protect the railroad facilities. Contractor will prevent material, equipment, and debris from falling onto railroad property.

(E) ***Third Party Material Sourcing and Disposal.*** If Contractor intends to procure materials from or dispose of materials on any property owned by a third party, before procuring material or disposing of material, Contractor must provide City with a copy of the agreement between Contractor and the third party authorizing the use of the property and absolving the City from responsibility in connection with the property. Contractor must obtain authorization from the third party to start sourcing or disposing of material on the property. As a condition precedent to Final Completion, Contractor must submit a document to the City, signed by the third party property owner, stating that the Contractor complied with its agreement with the third party.

7.4 Signs. No signs may be displayed on or about City's property, except signage which is required by Laws or by the Contract Documents, without City's prior written approval as to size, design, and location.

7.5 Project Site and Nearby Property Protections.

(A) ***General.*** Contractor is responsible at all times, on a 24-hour basis and at its sole cost, for protecting the Work, the Project site, and the materials and equipment to be incorporated into the Work, until the City has accepted the Project, excluding any exceptions to acceptance, if any. Except as specifically authorized by City, Contractor must confine its operations to the area of the Project site indicated in the Plans and Specifications. Contractor is liable for any damage caused by Contractor or its Subcontractors to the Work, City's property, the property of adjacent or nearby property owners and the work or personal property of other contractors working for City, including damage related to Contractor's failure to adequately secure the Work or any Worksite.

(1) Subject to City's approval, Contractor will provide and install safeguards to protect the Work; any Worksite, including the Project site; City's real or personal property and the real or personal property of adjacent or nearby property owners, including plant and tree protections.

(2) City wastewater systems may not be interrupted. If the Work disrupts existing sewer facilities, Contractor must immediately notify City and establish a plan, subject to City's approval, to convey the sewage in closed conduits back into the sanitary sewer system. Sewage must not be permitted to flow in trenches or be covered by backfill.

(3) Contractor must remove with due care, and store at City's request, any objects or material from the Project site that City will salvage or reuse at another location.

(4) If directed by Engineer, Contractor must promptly repair or replace any property damage, as specified by the Engineer. However, acting in its sole discretion, City may elect to have the property damage remedied otherwise, and may deduct the cost to repair or replace the damaged property from payment otherwise due to Contractor.

(5) Contractor will not permit any structure or infrastructure to be loaded in a manner that will damage or endanger the integrity of the structure or infrastructure.

(6) All valves, hydrants, and other appurtenances of the City's water system that are the property of City and removed by Contractor in the performance of the Work must be delivered to City's Municipal Services Center (55 Stony Point Road) as a condition precedent to Final Completion, unless Contractor has obtained specific written approval from the Water Department to dispose of the items.

(B) ***Securing Project Site.*** After completion of Work each day, Contractor must secure the Project site and, to the extent feasible, make the area reasonably accessible to the public unless City approves otherwise. All excess materials and equipment not protected by approved traffic control devices must be relocated to the staging area or demobilized. Trench spoils must be hauled off the Project site daily and open excavations must be protected with steel plates. Contractor and Subcontractor personnel may not occupy or use the Project site for any purpose during non-Work hours, except as may be provided in the Contract Documents or pursuant to prior written authorization from City.

(C) ***Unforeseen Conditions.*** If Contractor encounters facilities, utilities, or other unknown conditions not shown on or reasonably inferable from the Plans or apparent from inspection of the Project site, Contractor must immediately notify the City and promptly submit a Request for Information to obtain further directions from the Engineer. Contractor must avoid taking any action which could cause damage to the facilities or utilities pending further direction from the Engineer. The Engineer's written response will be final and binding on Contractor. If the Engineer's subsequent direction to Contractor affects Contractor's cost or time to perform the Work, Contractor may submit a Change Order request as set forth in Article 6 above.

(D) ***Support; Adjacent Properties.*** Contractor must provide, install, and maintain all shoring, bracing, and underpinning necessary to provide support to City's property and adjacent properties and improvements thereon. Contractor must provide notifications to adjacent property owners as may be required by Laws. See also, Section 7.15, Trenching of Five Feet or More.

(E) ***Notification of Property Damage.*** Contractor must immediately notify the City of damage to any real or personal property resulting from Work on the Project, including damage to City's water system. Contractor must immediately provide a written report to City of any such property damage in excess of $500 (based on estimated cost to repair or replace) within 24 hours of the occurrence. The written report must include: (1) the

location and nature of the damage, and the owner of the property, if known; (2) the name and address of each employee of Contractor or any Subcontractor involved in the damage; (3) a detailed description of the incident, including precise location, time, and names and contact information for known witnesses; and (4) a police or first responder report, if applicable. If Contractor is required to file an accident report with another government agency, Contractor will provide a copy of the report to City.

(F) ***Damage to City's Water System.*** Contractor must promptly repair and remediate, at its sole expense, any damage caused by Contractor to the City's water system, in a manner satisfactory to the Water Department. This includes damage to property and facilities resulting from Contractor's failure to make a written request for a markout or starting Work without providing the Water Department a reasonable opportunity to mark facilities; Contractor's destruction of markouts; Contractor's failure to perform hand digging or probing for utilities near markouts; and Contractor's failure to use reasonable caution, regardless of whether markouts are present or clear. Reasonable caution includes any efforts to avoid damaging existing facilities, such as when excavating in the vicinity of water mains. All repairs must be witnessed, inspected, and approved by the Water Department prior to backfilling the excavation. If backfilling occurs prior to inspection and approval, City may require re-excavation by Contractor, at Contractor's sole expense. Acting in its sole discretion, City may elect to have the damage remedied otherwise, including by its own forces, and may deduct the cost thereof from payment otherwise due to Contractor. If City elects to remedy damage to the water system with its own forces, the cost thereof will be in accordance with the emergency repair rate schedule of the Water Department.

7.6 Materials and Equipment.

(A) ***General.*** Unless otherwise specified, all materials and equipment required for the Work must be new, free from defects, and of the best grade for the intended purpose, and furnished in sufficient quantities to ensure the proper and expeditious performance of the Work. All materials, equipment, and tools furnished or installed by Contractor must meet or exceed applicable Occupational Safety and Health Administration ("OSHA") standards. Contractor must employ measures to preserve the specified quality and fitness of the materials and equipment. Unless otherwise specified, all materials and equipment required for the Work are deemed to include all components required for complete installation and intended operation and must be installed in accordance with the manufacturer's recommendations or instructions. Contractor is responsible for all shipping, handling, and storage costs associated with the materials and equipment required for the Work. Contractor is responsible for providing security and protecting the Work and all of the required materials, supplies, tools and equipment at Contractor's sole cost until City has formally accepted the Project as set forth in Section 11.1, Final Completion. Contractor will not assign, sell, mortgage, or hypothecate any materials or equipment for the Project, or remove any materials or equipment that have been installed or delivered.

(B) ***City-Provided.*** If the Work includes installation of materials or equipment to be provided by City, Contractor is solely responsible for the proper examination, handling, storage, and installation in accordance with the Contract Documents. Contractor must notify City of any defects discovered in City-provided materials or equipment, sufficiently in advance of scheduled use or installation to afford adequate time to procure replacement materials or equipment as needed. Contractor is solely responsible for any loss of or damage to such items which occurs while the items are in Contractor's custody and control, the cost of which may be offset from the Contract Price and deducted from any payment(s) due to Contractor.

(C) ***Intellectual Property Rights.*** Contractor must, at its sole expense, obtain any authorization or license required for use of patented or copyright-protected materials, equipment, devices, or processes that are incorporated into the Work. Upon request, Contractor must provide proof of any such authorization or license to City. Contractor's indemnity obligations in Article 4 apply to any claimed violation of intellectual property rights.

(D) ***Equipment Labeling and Information.*** Contractor must label each piece of equipment, except hand tools, with the following information, at a clearly visible location on each piece of equipment using a stencil or stamp: an identifying number; and for compacting equipment, its make, model number, and empty gross weight that is either the manufacturer's rated weight or the scale weight, or for meters and on the load-receiving element and indicators of each scale, the make, model, serial number, and manufacturer's rated capacity. Upon request, Contractor must submit the manufacturer's information that designates portable vehicle scale capacities.

(E) ***Measuring Devices.*** For proportioning materials, Contractor must use measuring devices, material plant controllers, and undersupports that comply with 4 CCR § 4000 et seq. and Business and Professions Code § 12001 et seq. Measuring devices must be tested and approved under California Test 109 in the Engineer's presence by any of the following: County Sealer of Weights and Measures; Scale Service Agency; or Official of the Division of Measurement Standards. The indicator over-travel must be at least one-third of the loading travel. The indicators must be enclosed against moisture and dust. Contractor must group the measuring system dials such that the smallest increment for each indicator can be read from the location at which proportioning is controlled.

7.7 Substitutions.

(A) ***"Or Equal."*** Any Specification designating a material, product, or thing (collectively, "item") or service by specific brand or trade name, followed by the words "or equal," is intended only to indicate the quality and type of item or service desired, and Contractor may request use of any equal item or service. Unless otherwise stated in the Specifications, any reference to a specific brand or trade name for an item or service that is used solely for the purpose of describing the type of item or service desired, will be deemed to be followed by the words "or equal." A substitution will only be approved if it is a true "equal" item or service in every aspect of design, function, and quality, as determined by City, including dimensions, weight, maintenance requirements, durability, fit with other elements, and schedule impacts.

(B) ***Request for Substitution.*** A post-award request for substitution of an item or service must be submitted in writing to the Engineer for approval at least four weeks in advance of Contractor's proposed order date and sufficiently in advance of the time needed to avoid delay of the Work. A request for substitution must contain a description of any proposed changes to the Work required to accommodate the substitution and drawings and details showing all such changes.

(C) ***Substantiation.*** Any available data substantiating the proposed substitute as an equal item or service must be submitted with the written request for substitution. Contractor's failure to timely provide all necessary substantiation, including any required test results as soon as they are available, is grounds for rejection of the proposed substitution, without further review.

(D) ***Burden of Proving Equality.*** Contractor has the burden of proving the equality of the proposed substitution at Contractor's sole cost. City has sole discretion to determine whether a proposed substitution is equal, and City's determination is final.

(E) ***Approval or Rejection.*** If the proposed substitution is approved, Contractor is solely responsible for any additional costs or time associated with the substituted item or service. If the proposed substitution is rejected, Contractor must, without delay, install the item or use the service as specified by City.

(F) ***Contractor's Obligations.*** City's approval of a proposed substitution will not relieve Contractor from any of its obligations under the Contract Documents. In the event Contractor makes an unauthorized substitution, Contractor will be solely responsible for all resulting cost impacts, including the cost of removal and replacement and the impact to other design elements.

7.8 Testing and Inspection.

(A) ***General.*** All materials, equipment, and workmanship used in the Work are subject to inspection and testing by City at all times and at all locations during construction and/or fabrication, including at any Worksite, shops, and yards. All manufacturers' application or installation instructions must be provided to the Engineer at least ten days prior to the first such application or installation. Contractor must, at all times, make the Work available for testing or inspection. City may record, including by photograph or video, all materials, equipment, and workmanship used in the Work. Neither City's inspection or testing of Work, nor its failure to do so, operate to waive or limit Contractor's duty to complete the Work in accordance with the Contract Documents.

(B) ***Scheduling and Notification.*** Contractor must cooperate with City in coordinating the inspections and testing. Contractor must submit samples of materials, at Contractor's expense, and schedule all tests required by the Contract Documents in time to avoid any delay to the progress of the Work. Contractor will coordinate directly with the Engineer when scheduling inspections or tests, unless otherwise specified in the Special Conditions or Specifications. Contractor must notify the Engineer no later than noon of the Working Day before any inspection or testing and must provide timely notice to the other necessary parties as specified in the Contract Documents. If Contractor schedules an inspection or test beyond regular Work hours, or on a Saturday, Sunday, or recognized City holiday, Contractor must notify the Engineer at least two Working Days in advance for approval. If approved, Contractor must reimburse City for the cost of the overtime inspection or testing. Such costs, including the City's hourly costs for required personnel, may be deducted from payments otherwise due to Contractor. Contractor will not coordinate directly with, or provide direction to, the Materials Lab.

(C) ***Responsibility for Costs.*** City will bear the initial cost of inspection and testing to be performed by independent consultants retained by City, subject to the following exceptions:

(1) Contractor will be responsible for the costs of any subsequent inspections or tests which are required to substantiate compliance with the Contract Documents, and any associated remediation costs.

(2) Contractor will be responsible for inspection costs, at City's hourly rates, for inspection time lost because the Work is not ready, or Contractor fails to appear for a scheduled inspection.

(3) If any portion of the Work that is subject to inspection or testing is covered or concealed by Contractor prior to the inspection or testing, Contractor will bear the cost of making that portion of the Work available for the inspection or testing required by the Contract Documents, and any associated repair or remediation costs.

(4) Contractor is responsible for properly shoring all compaction test sites deeper than five feet below grade, as required under Section 7.15 below.

(5) Any Work or material that is defective or fails to comply with the requirements of the Contract Documents must be promptly repaired, removed, replaced, or corrected by Contractor, at Contractor's sole expense, even if that Work or material was previously inspected or included in a progress payment.

(D) ***Contractor's Obligations.*** Contractor is solely responsible for any delay occasioned by remediation of defective or noncompliant Work or material. Inspection or testing of the Work does not in any way relieve Contractor of its obligations to perform the Work as specified. Contractor has an independent duty to test and inspect its Work and perform quality control activities to ensure that the Work and the materials, products, and equipment incorporated into the Work comply with the Contract Documents. City is not responsible for any testing performed by Contractor or a third-party retained by Contractor. Contractor will submit its testing methodology to City for review and acceptance. Any Work done without the inspection(s) or testing required by the Contract Documents will be subject to rejection by City.

(E) ***Distant Locations.*** If required off-site testing or inspection must be conducted at a location more than 100 miles from the Project site, Contractor is solely responsible for the additional travel costs required for testing and/or inspection at such locations.

(F) ***Final Inspection.*** The provisions of this Section 7.8 also apply to final inspection under Article 11, Completion and Warranty Provisions.

7.9 Project Site Conditions and Maintenance. Contractor must at all times, on a 24-hour basis and at its sole cost, maintain the Project site and staging and storage areas in clean, neat, and sanitary condition and in compliance with all Laws pertaining to safety, air quality, and dust control. Adequate toilets must be provided and properly maintained and serviced for all workers on the Project site, and located in a suitably secluded area, subject to City's prior approval. Contractor must also, on a daily basis and at its sole cost, remove and properly dispose of the debris and waste materials from the Project site.

(A) ***Air Emissions Control.*** Contractor must not discharge smoke or other air contaminants into the atmosphere in violation of any Laws. Contractor must comply with all Laws, including the California Air Resources Board's In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR § 2449 et seq.).

(B) ***Dust and Debris.*** Contractor must minimize and confine dust and debris resulting from the Work. Contractor must abate dust nuisance by cleaning, sweeping, and immediately sprinkling with water excavated areas of dirt or other materials prone to cause dust, and within one hour after the Engineer notifies Contractor that an airborne nuisance exists. The Engineer may direct that Contractor provide an approved water-spraying truck for this purpose. If water is used for dust control, Contractor will only use the minimum necessary. Contractor must take all necessary steps to keep wastewater out of streets, gutters, or storm drains. See Section 7.19, Environmental Control. If City determines that the dust control is not adequate, City may have the work done by others and deduct the cost from the Contract Price. Contractor will immediately remove any excess excavated material from the Project site and any dirt deposited on public streets.

(C) ***Clean up.*** Before discontinuing Work in an area, Contractor must clean the area and remove all debris and waste along with the construction equipment, tools, machinery, and surplus materials.

(1) Except as otherwise specified, all excess Project materials, and the materials removed from existing improvements on the Project site with no salvage value or intended reuse by City, will be Contractor's property.

(2) Hauling trucks and other vehicles leaving the Project site must be cleaned of exterior mud or dirt before traveling on City streets. Materials and loose debris must be delivered and loaded to prevent dropping materials or debris. Contractor must immediately remove spillage from hauling on any publicly traveled way. Streets affected by Work on the Project must be kept clean by street sweeping.

(D) ***Disposal.*** Contractor must dispose of all Project debris and waste materials in a safe and legal manner. Contractor may not burn or bury waste materials on the Project site. Contractor will not allow any dirt, refuse, excavated material, surplus concrete or mortar, or any associated washings, to be disposed of onto streets, into manholes or into the storm drain system.

(E) ***Completion.*** At the completion of the Work, Contractor must remove from the Project site all of its equipment, tools, surplus materials, waste materials and debris, presenting a clean and neat appearance. Before demobilizing from the Project site, Contractor must ensure that all surfaces are cleaned, sealed, waxed, or finished as applicable, and that all marks, stains, paint splatters, and the like have been properly removed from the completed Work and the surrounding areas. Contractor must ensure that all parts of the construction are properly joined with the previously existing and adjacent improvements and conditions. Contractor must provide all cutting, fitting and patching needed to accomplish that requirement. Contractor must also repair or replace, in accordance with City Standards, all existing improvements that are damaged or removed during the Work, both on and off the Project site, including curbs, sidewalks, driveways, fences, gates, signs, landscaping, drainage ditches, irrigation systems, utilities, street surfaces and structures. Repairs and replacements must be at least equal to the previously existing improvements, and the condition, finish and dimensions must match the previously existing improvements. Concrete surface treatment and score marks must match adjacent existing concrete improvements. Contractor must restore to original condition all property or items that are not designated for alteration under the Contract Documents and leave each Worksite clean and ready for occupancy or use by City.

(F) ***Non-Compliance.*** If Contractor fails to comply with its maintenance and cleanup obligations or any City clean up order, City may, acting in its sole discretion, elect to suspend the Work until the condition(s) is corrected with no increase in the Contract Time or Contract Price, or undertake appropriate cleanup measures without further notice and deduct the cost from any amounts due or to become due to Contractor.

7.10 Instructions and Manuals. Contractor must provide to City three copies each of all instructions and manuals required by the Contract Documents, unless otherwise specified. These must be complete as to drawings, details, parts lists, performance data, and other information that may be required for City to easily maintain and service the materials and equipment installed for this Project.

(A) ***Submittal Requirements.*** The instructions and manuals, along with any required guarantees, must be delivered to City for review prior to requesting final inspection pursuant to Section 11.1(A), unless otherwise specified.

(B) ***Training.*** Contractor or its Subcontractors must train City's personnel in the operation and maintenance of any complex equipment or systems as a condition precedent to Final Completion, if required in the Contract Documents.

7.11 As-built Drawings. Contractor and its Subcontractors must prepare and maintain at the Project site a detailed, complete and accurate as-built set of the Plans which will be used solely for the purpose of recording changes made in any portion of the original Plans in order to create accurate record drawings at the end of the Project.

(A) ***Duty to Update.*** The as-built drawings must be updated as changes occur, on a daily basis if necessary. City may withhold the estimated cost for City to have the as-built drawings prepared from payments otherwise due to Contractor, until the as-built drawings are brought up to date to the satisfaction of City. Actual locations to scale must be identified on the as-built drawings for all runs of mechanical and electrical work, including all site utilities installed underground, in walls, floors, or otherwise concealed. Deviations from the original Plans must be shown in detail. The exact location of all main runs, whether piping, conduit, ductwork or drain lines, must be shown by dimension and elevation. The location of all buried pipelines, appurtenances, or other improvements must be represented by coordinates and by the horizontal distance from visible above-ground improvements.

(B) ***Final Completion.*** Contractor must verify that all changes in the Work are depicted in the as-built drawings and must deliver the complete set of as-built drawings to the Engineer for review and acceptance as a condition precedent to Final Completion and Final Payment.

7.12 Existing Utilities.

(A) ***General.*** The Work may be performed in developed, urban areas with existing utilities, both above and below ground, including utilities identified in the Contract Documents or in other informational documents or records. Contractor must take due care to locate identified or reasonably identifiable utilities before proceeding with trenching, excavation, or any other activity that could damage or disrupt existing utilities. This may include excavation with small equipment, potholing, or hand excavation, and, if practical, using white paint or other suitable markings to delineate the area to be excavated. Except as otherwise provided herein, Contractor will be responsible for costs resulting from damage to identified or reasonably identifiable utilities due to Contractor's negligence or failure to comply with the Contract Documents, including the requirements in this Article 7.

(B) ***Unidentified Utilities.*** Pursuant to Government Code § 4215, if, during the performance of the Work, Contractor discovers utility facilities not identified by City in the Contract Documents, Contractor must immediately provide written notice to City and the utility. City assumes responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities located on the Project site if those utilities are not identified in the Contract Documents. Contractor will be compensated in accordance with the provisions of the Contract Documents for the costs of locating, repairing damage not due to Contractor's failure to exercise reasonable care, and removing or relocating utility facilities not indicated in the Plans or Specifications with reasonable accuracy, and for equipment on the Project necessarily idled during such work. Contractor will not be assessed liquidated damages for delay in completion of the Work, to the extent the delay was caused by City's failure to provide for removal or relocation of the utility facilities.

(C) ***Alteration or Relocation of Utilities.*** If Contractor wishes to alter or relocate utilities for Contractor's convenience, and not due to a conflict that requires alteration or relocation, Contractor will be solely responsible for the time and cost required for such alteration or relocation, which may not proceed except as specified by the prior written authorization of the utility owner. Any damage to utilities or improvements caused by Contractor must be repaired by Contractor at its sole expense and to the full satisfaction

of the utility owner and Engineer. Contractor will not be entitled to an extension of the Contract Time in connection with any such Work.

7.13 Notice of Excavation. Contractor must comply with all applicable requirements in Government Code § 4216 et seq., which are incorporated by reference herein, including, but not limited to, the requirement to notify Underground Service Alert ("USA") of a proposed excavation and provide USA all relevant data relating to the excavation, at least two Working Days before starting any excavation Work.

7.14 Trenching and Excavations of Four Feet or More. As required by Public Contract Code § 7104, if the Work includes digging trenches or other excavations that extend deeper than four feet below the surface, the provisions in this Section apply to the Work and the Project.

(A) ***Duty to Notify.*** Contractor must promptly, and before the following conditions are disturbed, provide written notice to City if Contractor finds any of the following conditions:

(1) Material that Contractor believes may be a hazardous waste, as defined in § 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 the provisions of existing Laws;

(2) Subsurface or latent physical conditions at the Project site differing from those indicated by information about the Project site made available to bidders prior to the deadline for submitting bids; or

(3) Unknown physical conditions at the Project site of any unusual nature, materially different from those ordinarily encountered and generally recognized as inherent in work of the character required by the Contract Documents.

(B) ***City Investigation.*** City will promptly investigate the conditions and if City finds that the conditions materially differ from those indicated, apparent, or reasonably inferred from information about the Project site made available to bidders, or involve hazardous waste, and cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work, City will issue a Change Order.

(C) ***Disputes.*** In the event that a dispute arises between City and Contractor regarding any of the conditions specified in subsection (B) above, or the terms of a Change Order issued by City, Contractor will not be excused from completing the Work within the Contract Time but must proceed with all Work to be performed under the Contract. Contractor will retain any and all rights provided either by the Contract or by Laws which pertain to the resolution of disputes between Contractor and City.

7.15 Trenching of Five Feet or More. As required by Labor Code § 6705, if the Contract Price exceeds $25,000 and the Work includes the excavation of any trench or trenches of five feet or more in depth, a detailed plan must be submitted to City for acceptance in advance of the excavation. The detailed plan must show the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation. If the plan varies from the shoring system standards or if the trench is expected to exceed 20 feet, the plan must be prepared by a California registered civil or structural engineer. Use of a shoring, sloping, or protective system less effective than that required by the Construction Safety Orders is prohibited.

7.16 New Utility Connections. Except as otherwise specified, City will pay connection charges and meter costs for new permanent utilities required by the Contract Documents, if any. Contractor must notify City sufficiently in advance of the time needed to request service from each utility provider so that connections and services are initiated in accordance with the Project schedule.

7.17 Lines and Grades. Contractor is required to use any benchmark provided by the Engineer. Unless otherwise specified in the Contract Documents, Contractor must provide all lines and grades required to execute the Work. Contractor must also provide, preserve, and replace if necessary, all construction stakes required for the Project unless otherwise specified in the Special Conditions. All stakes or marks must be set by a California licensed land surveyor or a California registered civil engineer. All survey monuments that may be disturbed or destroyed during performance of the Work must be tied-out by Contractor prior to the start of Work. Contractor must also file a Pre-Construction Corner Record, prepared by a California licensed land surveyor, with the County of Sonoma Surveyor's Office, prior to the start of Work. Contractor must notify the Engineer of any discrepancies found between Contractor's staking and grading and information provided by the Contract Documents. Contractor must replace any survey monuments that are disturbed, damaged, or destroyed during the Work and must file a Post-Construction Corner Record, prepared by a licensed land surveyor as required by law, with the County of Sonoma Surveyor's Office. Upon completion, all Work must conform to the lines, elevations, and grades shown in the Plans, including any changes directed by a Change Order.

7.18 Historic or Archeological Items.

(A) ***Contractor's Obligations.*** Contractor must ensure that all persons performing Work at the Project site are required to immediately notify the Project Manager, upon discovery of any potential historic or archeological items, including historic or prehistoric ruins, a burial ground, archaeological or vertebrate paleontological site, including fossilized footprints or other archeological, paleontological or historical feature on the Project site (collectively, "Historic or Archeological Items").

(B) ***Discovery; Cessation of Work.*** Upon discovery of any potential Historic or Archeological Items, Work must be stopped within an 85-foot radius of the find and may not resume until authorized in writing by City. If required by City, Contractor must assist in protecting or recovering the Historic or Archeological Items, with any such assistance to be compensated as Extra Work on a time and materials basis under Article 6, Contract Modification. At City's discretion, a suspension of Work required due to discovery of Historic or Archeological Items may be treated as Excusable Delay pursuant to Article 5, or as a suspension for convenience under Article 13.

7.19 Environmental Control. Contractor must not pollute any drainage course or its tributary inlets with fuels, oils, bitumens, acids, insecticides, herbicides or other harmful materials. Contractor must prevent the release of any hazardous material or hazardous waste into the soil or groundwater and prevent the unlawful discharge of pollutants into City's storm drain system and watercourses as required below. Contractor and its Subcontractors must at all times in the performance of the Work comply with all Laws concerning pollution of waterways.

(A) ***Stormwater Permit.*** Contractor must comply with all applicable conditions of the State Water Resources Control Board National Pollutant Discharge Elimination System General Permit for Waste Discharge Requirements for Discharges of Stormwater Runoff Associated with Construction Activity ("Stormwater Permit").

(B) ***Contractor's Obligations.*** If required for the Work, a copy of the Stormwater Permit is on file in City's principal administrative offices, and Contractor must comply with it without adjustment of the Contract Price or the Contract Time. Contractor must timely and completely submit required reports and monitoring information required by the conditions of the Stormwater Permit. Contractor also must comply with all other Laws governing discharge of stormwater, including applicable municipal stormwater management programs.

(C) ***Pest Management.*** Contractor must comply with the City-Wide Integrated Pest Management ("IPM") Policy, Policy Number 000-74, which is available at https://www.srcity.org/DocumentCenter/View/41774/Integrated-Pest-Management-Policy-030524. Contractor will not use pesticides or herbicides in the Work without City's prior written approval. Contractor may submit a written request for use of pesticides or herbicides to the Engineer. Contractor's written request must include the location proposed for use, the proposed date and time of application, product specifications, and all other information required by the IPM policy. City reserves the right, in its sole discretion, to approve or reject the use of pesticides or herbicides, for any reason.

7.20 Noise Control. Contractor must comply with all applicable noise control Laws. Noise control requirements apply to all equipment used for the Work or related to the Work, including trucks, transit mixers or transient equipment that may or may not be owned by Contractor.

7.21 Mined Materials. Pursuant to Public Contract Code § 20676, Contractor will not purchase any sand, gravel, or other minerals for the Work from an operation subject to the Surface Mining and Reclamation Act of 1975 (Public Resources Code § 2710 et seq.) unless Contractor certifies, under penalty of perjury, that the minerals are from a mining operation included on the AB 3098 List, which may be accessed online at: https://www.conservation.ca.gov/smgb/Pages/AB-3098-List.aspx.

7.22 Water Department Notification. If Contractor requires the services of the Water Department in connection with the Work, Contractor must request such services at least two Working Days in advance of the time the services are needed. If the requested services require Water Department forces for more than eight hours or an extensive number of City-provided parts, Contractor must request services at least seven calendar days in advance of the time the services are needed.

(A) ***Service Shut Down.*** Contractor must minimize disruption of utility service to the greatest extent practicable. Contractor must coordinate any shut down or disruption of utility service with the Engineer, Water Department, and affected utility customers. If it is necessary to shut down or disrupt utility service to any customer of the Water Department, Contractor must request the services of the Water Department an additional three Working Days in advance of the time such services are needed, for a total of five Working Days advance notification for a standard service request, to allow affected customers a minimum of three days' advance notice. If Contractor fails to keep field appointments, Contractor will be billed for scheduled Water Department crew standby time and for costs incurred by the Water Department for re-notification of customers.

(B) ***Water Department Scheduling.*** Water Department crews work a 9/80 schedule. This schedule may prohibit shutdowns for tie-ins on alternating Fridays. After-hours work or weekend work may be performed if authorized in advance by the Engineer. Requests by Contractor for after-hours or weekend work are to be avoided when possible. Contractor will be responsible for any overtime costs incurred by City for such work and the cost thereof may be deducted from payment otherwise due Contractor.

7.23 Public Safety and Traffic Control. Contractor must undertake all required and appropriate measures to ensure public safety during construction of the Project, in accordance with Laws, including, but not limited to, the Americans with Disabilities Act of 1990 (42 U.S.C. § 12101 et seq.). Contractor will ensure the safe passage of pedestrians around the Project site at all times. If Work is within a City-owned right-of-way, Contractor will ensure the safe passage of public traffic through the Project site at all times, consistent with the requirements of City Code Chapter 13-04. Contractor is solely responsible for the costs of all public safety and traffic control measures.

(A) ***Warning Devices.*** Contractor must furnish, install, and maintain, at its sole expense, all fences, barricades, signs, lights, and other devices necessary to prevent accidents, injuries, death, and property damage. All such devices must conform to the requirements of the current edition of the California Manual on Uniform Traffic Control Devices ("CA MUTCD") and the directions of the Engineer. Contractor's warning and safety devices will not obscure the visibility of or conflict with existing signs and traffic control devices. Contractor may be required to cover certain signs which regulate or direct public traffic to roadways that are not open to traffic, as directed by the Engineer.

(B) ***Flaggers.*** Contractor must also furnish, at Contractor's sole expense, trained flaggers as necessary to provide adequate warning to the public of construction conditions that may impact pedestrian or vehicular traffic.

(C) ***Project Signage.*** Unless otherwise specified in the Special Conditions, Contractor must install and maintain Project identification signs at each boundary of the Project site or as directed by the Engineer. Contractor must install the signs two weeks prior to the start of Work at the Project site, using sign panels furnished by City. To mount sign panels, Contractor must furnish and install 4" X 4" posts or mount by other appropriate methods as approved by the Engineer. Upon completion of the Project, Contractor will remove Project identification signs, in a timely manner, and return the City-furnished sign panels to the City Corporation Yard at 55 Stony Point Road.

(D) ***Road Closure Signage.*** If the Work requires road closures, Contractor must furnish and install advance notice signs for road closures at each boundary of the Project site. Panel construction and lettering are subject to advance approval of the Engineer. Contractor must install the signs two weeks prior to the start of Work at the Project site. The signs must remain in place for the duration of the road closure and must be removed by Contractor when no longer necessary for the Work.

(E) ***Emergency Response Agencies.*** Contractor is responsible for notifying emergency response agencies operating in the jurisdiction of the Worksite(s) of obstructions to roads resulting from Contractor's Work.

(F) ***Additional Devices.*** City reserves the right to require additional warning or safety devices for the Project at the Contractor's sole expense, but no actions by City to add to or improve signage or any other public safety requirements will waive or limit Contractor's duties under the Contract Documents.

(G) ***Compliance.*** If Contractor fails or refuses to comply with the requirements of this Section, the Engineer may take immediate action to protect the public, including, but not limited to, furnishing the required safety measures at Contractor's expense or suspending the Work, in addition to all other remedies available to City. Any such remedial costs incurred by City may be deducted from payment otherwise due to Contractor as specified in Section 8.3, Adjustment of Payment Application. If there are insufficient Contract funds remaining to cover the remedial costs, City is entitled to recover the balance from Contractor or its performance bond surety.

Article 8 - Payment

8.1 Schedule of Values. Prior to submitting its first application for payment, Contractor must prepare and submit to the Project Manager a schedule of values apportioned to the various divisions and phases of the Work, including mobilization and demobilization. If a Bid Schedule was submitted with Contractor's bid, the amounts in the schedule of values must be consistent with the Bid Schedule. Each line item contained in the schedule of values must be assigned a value such that the total of all items equals the Contract Price. The items must be sufficiently detailed to enable accurate evaluation of the percentage of completion claimed in each application for payment, and the assigned value consistent with any itemized or unit pricing submitted with Contractor's bid.

(A) ***Measurements for Unit Price Work.*** Materials and items of Work to be paid for on the basis of unit pricing will be measured according to the methods specified in the Contract Documents.

(B) ***Deleted or Reduced Work.*** Contractor will not be compensated for Work that City has deleted or reduced in scope, except for any labor, material, or equipment costs for such Work that Contractor reasonably incurred before Contractor learned that the Work could be deleted or reduced. Contractor will only be compensated for those actual, direct and documented costs incurred, and will not be entitled to any mark up for overhead or lost profits.

8.2 Progress Payments. Following the last day of each month, or as otherwise required by the Special Conditions or Specifications, Contractor will submit to the Project Manager a monthly application for payment for Work performed during the preceding month based on the estimated value of the Work performed during that preceding month.

(A) ***Application for Payment.*** Each application for payment must be itemized to include labor, materials, and equipment incorporated into the Work, and materials and equipment delivered to the Project site, as well as authorized and approved Change Orders. Each payment application must be supported by the unit prices submitted with Contractor's Bid Schedule and/or schedule of values and any other substantiating data required by the Contract Documents.

(B) ***Payment of Undisputed Amounts.*** City will pay the undisputed amount due within 30 days after Contractor has submitted a complete and accurate payment application, subject to Public Contract Code § 20104.50. City will deduct a percentage from each progress payment as retention, as set forth in Section 8.5, below, and may deduct or withhold additional amounts as set forth in Section 8.3, below.

8.3 Adjustment of Payment Application. City may adjust or reject the amount requested in a payment application, including application for Final Payment, in whole or in part, if the amount requested is disputed or unsubstantiated. Contractor will be notified in writing of the basis for the modification to the amount requested. City may also deduct or withhold from payment otherwise due based upon any of the circumstances and amounts listed below. Sums withheld from payment otherwise due will be released when the basis for that withholding has been remedied and no longer exists.

(A) For Contractor's unexcused failure to perform the Work as required by the Contract Documents, including correction or completion of punch list items, City may withhold or deduct an amount based on the City's estimated cost to correct or complete the Work.

(B) For loss or damage caused by Contractor or its Subcontractors arising out of or relating to performance of the Work or any failure to protect the Project site, City may deduct an amount based on the estimated cost to repair or replace.

(C) For Contractor's failure to pay its Subcontractors and suppliers when payment is due, City may withhold an amount equal to the total of past due payments and may opt to pay that amount separately via joint check pursuant to Section 8.6(B), Joint Checks.

(D) For Contractor's failure to timely correct rejected, nonconforming, or defective Work, City may withhold or deduct an amount based on the City's estimated cost to correct or complete the Work.

(E) For any unreleased stop notice, City may withhold 125% of the amount claimed.

(F) For Contractor's failure to submit any required schedule or schedule update in the manner specified or within the time specified in the Contract Documents, City may withhold an amount equal to five percent of the total amount requested until Contractor complies with its schedule submittal obligations.

(G) For Contractor's failure to maintain or submit as-built documents in the manner specified or within the time specified in the Contract Documents, City may withhold or deduct an amount based on the City's cost to prepare the as-builts.

(H) For Work performed without Shop Drawings that have been accepted by City, when accepted Shop Drawings are required before proceeding with the Work, City may deduct an amount based on the estimated cost to correct unsatisfactory Work or diminution in value.

(I) For fines, payments, or penalties assessed under the Labor Code, City may deduct from payments due to Contractor as required by Laws and as directed by the Division of Labor Standards Enforcement.

(J) For any other fines, payments, or penalties assessed against the City relating to Contractor's acts or omissions, including violations of Laws, City may withhold or deduct such amounts from payment otherwise due to Contractor.

(K) For any other costs or charges that may be withheld or deducted from payments to Contractor, as provided in the Contract Documents, including liquidated damages, City may withhold or deduct such amounts from payment otherwise due to Contractor.

8.4 Early Occupancy. Neither City's payment of progress payments nor its partial or full use or occupancy of the Project constitutes acceptance of any part of the Work.

8.5 Retention. City will retain five percent of the full amount due on each progress payment (i.e., the amount due before any withholding or deductions pursuant to Section 8.3, Adjustment of Payment Application), or the percentage stated in the Notice Inviting Bids, whichever is greater, as retention to ensure full and satisfactory performance of the Work. Contractor is not entitled to any reduction in the rate of withholding at any time, nor to release of any retention before 35 days following City's recordation of the Notice of Completion, subject to the terms of Public Contract Code § 7107.

(A) ***Substitution of Securities.*** As provided by Public Contract Code § 22300, Contractor may request in writing that it be allowed, at its sole expense, to substitute securities for the retention withheld by City. Any escrow agreement entered into pursuant to this provision must fully comply with Public Contract Code § 22300 and will be subject to approval as to form by City's legal counsel. If City exercises its right to draw upon such

securities in the event of default pursuant to section (7) of the statutory Escrow Agreement for Security Deposits in Lieu of Retention, pursuant to subdivision (g) of Public Contract Code § 22300 ("Escrow Agreement"), and if Contractor disputes that it is in default, its sole remedy is to comply with the dispute resolution procedures in Article 12 and the provisions therein. It is agreed that for purposes of this paragraph, an event of default includes City's rights pursuant to these Contract Documents to withhold or deduct sums from retention, including withholding or deduction for liquidated damages, incomplete or defective Work, stop payment notices, or back charges. It is further agreed that if any individual authorized to give or receive written notice on behalf of a party pursuant to section (10) of the Escrow Agreement are unavailable to give or receive notice on behalf of that party due to separation from employment, retirement, death, or other circumstances, the successor or delegee of the named individual is deemed to be the individual authorized to give or receive notice pursuant to section (10) of the Escrow Agreement.

(B) ***Release of Undisputed Retention.*** All undisputed retention, less any amounts that may be assessed as liquidated damages, retained for stop notices, or otherwise withheld pursuant to Section 8.3, Adjustment of Payment Application, will be released as Final Payment to Contractor no sooner than 35 days following recordation of the notice of completion, and no later than 60 days following acceptance of the Project by City's governing body or authorized designee pursuant to Section 11.1(C), Acceptance, or, if the Project has not been accepted, no later than 60 days after the Project is otherwise considered complete pursuant to Public Contract Code § 7107(c).

8.6 Payment to Subcontractors and Suppliers. Each month, Contractor must promptly pay each Subcontractor and supplier the value of the portion of labor, materials, and equipment incorporated into the Work or delivered to the Project site by the Subcontractor or supplier during the preceding month. Such payments must be made in accordance with the requirements of Laws pertaining to such payments, and those of the Contract Documents and applicable subcontract or supplier contract.

(A) ***Withholding for Stop Notice.*** Pursuant to Civil Code § 9358, City will withhold 125% of the amount claimed by an unreleased stop notice, a portion of which may be retained by City for the costs incurred in handling the stop notice claim, including attorneys' fees and costs, as authorized by law.

(B) ***Joint Checks.*** City reserves the right, acting in its sole discretion, to issue joint checks made payable to Contractor and a Subcontractor or supplier, if City determines this is necessary to ensure fair and timely payment for a Subcontractor or supplier who has provided services or goods for the Project. As a condition to release of payment by a joint check, the joint check payees may be required to execute a joint check agreement in a form provided or approved by the City Attorney's Office. The joint check payees will be jointly and severally responsible for the allocation and disbursement of funds paid by joint check. Payment by joint check will not be construed to create a contractual relationship between City and a Subcontractor or supplier of any tier beyond the scope of the joint check agreement.

8.7 Final Payment. Contractor's application for Final Payment must comply with the requirements for submitting an application for a progress payment as stated in Section 8.2, above. Corrections to previous progress payments, including adjustments to estimated quantities for unit priced items, may be included in the Final Payment. If Contractor fails to submit a timely application for Final Payment, City reserves the right to unilaterally process and issue Final Payment without an application from Contractor in order to close out the Project. For the purposes of determining the deadline for Claim submission pursuant to Article 12, the date of Final Payment is deemed to be the date that City acts to release undisputed retention as final payment to Contractor, or otherwise

provides written notice to Contractor of Final Payment or that no undisputed funds remain available for Final Payment due to offsetting withholdings or deductions pursuant to Section 8.3, Adjustment of Payment Application. If the amount due from Contractor to City exceeds the amount of Final Payment, City retains the right to recover the balance from Contractor or its sureties.

8.8 Release of Claims. City may, at any time, require that payment of the undisputed portion of any progress payment or Final Payment be contingent upon Contractor furnishing City with a written waiver and release of all claims against City arising from or related to the portion of Work covered by those undisputed amounts subject to the limitations of Public Contract Code § 7100. Any disputed amounts may be specifically excluded from the release.

8.9 Warranty of Title. Contractor warrants that title to all work, materials, or equipment incorporated into the Work and included in a request for payment will pass over to City free of any claims, liens, or encumbrances upon payment to Contractor.

Article 9 - Labor Provisions

9.1 Discrimination Prohibited. Discrimination against any prospective or present employee engaged in the Work on grounds of race, color, ancestry, national origin, ethnicity, religion, sex, sexual orientation, age, disability, or marital status is strictly prohibited. Contractor and its Subcontractors are required to comply with all applicable Laws prohibiting discrimination, including the California Fair Employment and Housing Act (Govt. Code § 12900 et seq.), Government Code § 11135, and Labor Code §§ 1735, 1777.5, 1777.6, and 3077.5.

9.2 Labor Code Requirements.

(A) ***Eight Hour Day.*** Pursuant to Labor Code § 1810, eight hours of labor constitute a legal day's work under this Contract.

(B) ***Penalty.*** Pursuant to Labor Code § 1813, Contractor will forfeit to City as a penalty, the sum of $25.00 for each day during which a worker employed by Contractor or any Subcontractor is required or permitted to work more than eight hours in any one calendar day or more than 40 hours per calendar week, except if such workers are paid overtime under Labor Code § 1815.

(C) ***Apprentices.*** Contractor is responsible for compliance with the requirements governing employment and payment of apprentices, as set forth in Labor Code § 1777.5, which is fully incorporated by reference.

(D) ***Notices.*** Pursuant to Labor Code § 1771.4, Contractor is required to post all job site notices prescribed by Laws.

9.3 Prevailing Wages. Each worker performing Work under this Contract that is covered under Labor Code §§ 1720, 1720.3, or 1720.9, including cleanup at the Project site, must be paid at a rate not less than the prevailing wage as defined in §§ 1771 and 1774 of the Labor Code. The prevailing wage rates are on file with the City and available online at http://www.dir.ca.gov/dlsr. Contractor must post a copy of the applicable prevailing rates at the Project site.

(A) ***Penalties.*** Pursuant to Labor Code § 1775, Contractor and any Subcontractor will forfeit to City as a penalty up to $200.00 for each calendar day, or portion thereof, for each worker paid less than the applicable prevailing wage rate. Contractor must also pay

each worker the difference between the applicable prevailing wage rate and the amount actually paid to that worker.

(B) ***Federal Requirements.*** If this Project is subject to federal prevailing wage requirements in addition to California prevailing wage requirements, Contractor and its Subcontractors are required to pay the higher of the currently applicable state or federal prevailing wage rates.

9.4 Payroll Records. Contractor must comply with the provisions of Labor Code §§ 1771.4, 1776, and 1812 and all implementing regulations, which are fully incorporated by this reference, including requirements for monthly electronic submission of payroll records to the DIR.

(A) ***Contractor and Subcontractor Obligations***. Contractor and each Subcontractor must keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed in connection with the Work. Each payroll record must contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:

(1) The information contained in the payroll record is true and correct; and

(2) Contractor or the Subcontractor has complied with the requirements of Labor Code §§ 1771, 1811, and 1815 for any Work performed by its employees on the Project.

(B) ***Certified Record.*** A certified copy of an employee's payroll record must be made available for inspection or furnished to the employee or his or her authorized representative on request, to City, to the Division of Labor Standards Enforcement, to the Division of Apprenticeship Standards of the DIR, and as further required by the Labor Code.

(C) ***Enforcement.*** Upon notice of noncompliance with Labor Code § 1776, Contractor or Subcontractor has ten days in which to comply with the requirements of this section. If Contractor or Subcontractor fails to do so within the ten-day period, Contractor or Subcontractor will forfeit a penalty of $100.00 per day, or portion thereof, for each worker for whom compliance is required, until strict compliance is achieved. Upon request by the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement, these penalties will be withheld from payments then due to Contractor.

9.5 Labor Compliance. Pursuant to Labor Code § 1771.4, the Contract for this Project is subject to compliance monitoring and enforcement by the DIR.

Article 10 - Safety Provisions

10.1 Safety Precautions and Programs. Contractor and its Subcontractors are fully responsible for safety precautions and programs, and for the safety of persons and property in the performance of the Work. Contractor and its Subcontractors must at all times comply with all applicable health and safety Laws and seek to avoid injury, loss, or damage to persons or property by taking reasonable steps to protect its employees and other persons at any Worksite, materials and equipment stored on or off site, and property at or adjacent to any Worksite.

(A) ***Reporting Requirements.*** Contractor must immediately notify the City of any death, serious injury or illness resulting from Work on the Project. Contractor must immediately provide a written report to City of each recordable accident or injury occurring at any Worksite within 24 hours of the occurrence. The written report must include: (1) the name and address of the injured or deceased person; (2) the name and address of each employee of Contractor or of any Subcontractor involved in the incident; (3) a detailed description of the incident, including precise location, time, and names and contact information for known witnesses; and (4) a police or first responder report, if applicable. If Contractor is required to file an accident report with a government agency, Contractor will provide a copy of the report to City.

(B) ***Legal Compliance.*** Contractor's safety program must comply with the applicable legal and regulatory requirements. Contractor must provide City with copies of all notices required by Laws.

(C) ***Contractor's Obligations.*** Any damage or loss caused by Contractor arising from the Work which is not insured under property insurance must be promptly remedied by Contractor.

(D) ***Remedies.*** If City determines, in its sole discretion, that any part of the Work or Project site is unsafe, City may, without assuming responsibility for Contractor's safety program, require Contractor or its Subcontractor to cease performance of the Work or to take corrective measures to City's satisfaction. If Contractor fails to promptly take the required corrective measures, City may perform them and deduct the cost from the Contract Price. Contractor agrees it is not entitled to submit a Claim for damages, for an increase in Contract Price, or for a change in Contract Time based on Contractor's compliance with City's request for corrective measures pursuant to this provision.

10.2 Hazardous Materials. Unless otherwise specified in the Contract Documents, this Contract does not include the removal, handling, or disturbance of any asbestos or other Hazardous Materials. If Contractor encounters materials on the Project site that Contractor reasonably believes to be asbestos or other Hazardous Materials, and the asbestos or other Hazardous Materials have not been rendered harmless, Contractor may continue Work in unaffected areas reasonably believed to be safe but must immediately cease work on the area affected and report the condition to City. No asbestos, asbestos-containing products or other Hazardous Materials may be used in performance of the Work.

10.3 Material Safety. Contractor is solely responsible for complying with § 5194 of Title 8 of the California Code of Regulations, including by providing information to Contractor's employees about any hazardous chemicals to which they may be exposed in the course of the Work. A hazard communication program and other forms of warning and training about such exposure must be used. Contractor must also maintain Safety Data Sheets ("SDS") at the Project site, as required by Laws, for materials or substances used or consumed in the performance of the Work. The SDS will be accessible and available to Contractor's employees, Subcontractors, and City.

(A) ***Contractor Obligations.*** Contractor is solely responsible for the proper delivery, handling, use, storage, removal, and disposal of all materials brought to the Project site and/or used in the performance of the Work. Contractor must notify the Engineer if a specified product or material cannot be used safely.

(B) ***Labeling.*** Contractor must ensure proper labeling on any material brought onto the Project site so that any persons working with or in the vicinity of the material may be informed as to the identity of the material, any potential hazards, and requirements for proper handling, protections, and disposal.

10.4 Hazardous Condition. Contractor is solely responsible for determining whether a hazardous condition exists or is created during the course of the Work, involving a risk of bodily harm to any person or risk of damage to any property. If a hazardous condition exists or is created, Contractor must take all precautions necessary to address the condition and ensure that the Work progresses safely under the circumstances. Hazardous conditions may result from, but are not limited to, use of specified materials or equipment, the Work location, the Project site condition, the method of construction, or the way any Work must be performed.

10.5 Emergencies. In an emergency affecting the safety or protection of persons, Work, or property at or adjacent to any Worksite, Contractor must take reasonable and prompt actions to prevent damage, injury, or loss, without prior authorization from the City if, under the circumstances, there is inadequate time to seek prior authorization from the City.

10.6 Confined Space Operations. If the Work requires a confined space entry, including, but not limited to, manhole or water storage tank entry, Contractor must obtain a confined space entry permit pursuant to Cal/OSHA regulations, as set forth in 8 CCR § 5156 et seq. For any confined space entry for construction operations regulated by 8 CCR § 1502, Contractor must comply with 8 CCR § 5158. For any other confined space operations, Contractor must comply with 8 CCR § 5157. With respect to entry to any City-maintained confined space, Contractor is responsible for obtaining any available information regarding hazards and operations for any City-maintained confined spaces, pursuant to 8 CCR § 5157. The City-maintained Confined Space Entry Manual is available for viewing at the Water Department or Transportation and Public Works Department office. Contractor must immediately notify the Engineer of any previously unidentified hazards confronted or created during confined space entry.

Article 11 - Completion and Warranty Provisions

11.1 Final Completion.

(A) ***Final Inspection and Punch List.*** When the Work required by this Contract is fully performed, Contractor must provide written notification to City requesting final inspection. The Engineer will schedule the date and time for final inspection, which must include Contractor's primary representative for this Project and its superintendent. Based on that inspection, City will prepare a punch list of any items that are incomplete, missing, defective, incorrectly installed, or otherwise not compliant with the Contract Documents. The punch list to Contractor will specify the time by which all of the punch list items must be completed or corrected. The punch list may include City's estimated cost to complete each punch list item if Contractor fails to do so within the specified time. The omission of any non-compliant item from a punch list will not relieve Contractor from fulfilling all requirements of the Contract Documents. Contractor's failure to complete any punch list item within the time specified in the punch list will not waive or abridge its warranty obligations for any such items that must be completed by the City or by a third party retained by the City due to Contractor's failure to timely complete any such outstanding item.

(B) ***Requirements for Final Completion.*** Final Completion will be achieved upon completion or correction of all punch list items, as verified by City's further inspection, and upon satisfaction of all other Contract requirements, including any commissioning required under the Contract Documents and submission of all final submittals, including instructions and manuals as required under Section 7.10, and complete, final as-built drawings as required under Section 7.11, all to City's satisfaction.

(C) ***Acceptance.*** The Project will be considered accepted upon the date of the Engineer's issuance of a written notice of acceptance. In order to avoid delay of Project close out, the City may elect, acting in its sole discretion, to accept the Project as complete subject to exceptions for punch list items that are not completed within the time specified in the punch list.

(D) ***Final Payment and Release of Retention.*** Final Payment and release of retention, less any sums withheld pursuant to the provisions of the Contract Documents, will not be made sooner than 35 days after recordation of the notice of completion. If Contractor fails to complete all of the punch list items within the specified time, City may withhold up to 150% of City's estimated cost to complete each of the remaining items from Final Payment and may use the withheld retention to pay for the costs to self-perform the outstanding items or to retain a third party to complete any such outstanding punch list item.

11.2 Warranty.

(A) ***General.*** Contractor warrants that all materials and equipment will be new unless otherwise specified, of good quality, in conformance with the Contract Documents, and free from defective workmanship and materials. Contractor further warrants that the Work will be free from material defects not intrinsic in the design or materials required in the Contract Documents. Contractor warrants that materials or items incorporated into the Work comply with the requirements and standards in the Contract Documents, including compliance with Laws, and that any Hazardous Materials encountered or used were handled as required by Laws. At City's request, Contractor must furnish satisfactory evidence of the quality and type of materials and equipment furnished. Contractor's warranty does not extend to damage caused by normal wear and tear, or improper use or maintenance.

(B) ***Warranty Period.*** Contractor's warranty must guarantee its Work for a period of one year from the date of Project acceptance pursuant to Section 11.1(C) (the "Warranty Period"), except when a longer guarantee is provided by a supplier or manufacturer or is required by the Specifications or Special Conditions. If the City accepts the Project as complete subject to exceptions for incomplete punch list item(s) and the Contractor thereafter completes the punch list item(s), the completed punch list item(s) will be subject to the warranty provisions in this Section 11.2 for a one-year period that begins upon City's acceptance of the completed punch list item(s). Contractor must obtain from its Subcontractors, suppliers and manufacturers any special or extended warranties required by the Contract Documents.

(C) ***Warranty Documents.*** As a condition precedent to Final Completion, Contractor must supply City with all warranty and guarantee documents relevant to equipment and materials incorporated into the Work and guaranteed by their suppliers or manufacturers.

(D) ***Subcontractors.*** The warranty obligations in the Contract Documents apply to Work performed by Contractor and its Subcontractors, and Contractor agrees to be co-guarantor of such Work.

(E) ***Contractor's Obligations.*** Upon written notice from City to Contractor of any defect in the Work discovered during the Warranty Period, Contractor or its responsible Subcontractor must promptly correct the defective Work at its own cost. Contractor's obligation to correct defects discovered during the Warranty Period will continue past the expiration of the Warranty Period as to any defects in Work for which Contractor was notified prior to expiration of the Warranty Period. Work performed during the Warranty

Period ("Warranty Work") will be subject to the warranty provisions in this Section 11.2 for a one-year period that begins upon completion of such Warranty Work to City's satisfaction.

(F) ***City's Remedies.*** If Contractor or its responsible Subcontractor fails to correct defective Work within ten days following notice by City, or sooner if required by the circumstances, City may correct the defects to conform with the Contract Documents at Contractor's sole expense. Contractor must reimburse City for its costs in accordance with subsection (H), below.

(G) ***Emergency Repairs.*** In cases of emergency where any delay in correcting defective Work could cause harm, loss or damage, City may immediately correct the defects to conform with the Contract Documents at Contractor's sole expense. Contractor or its surety must reimburse City for its costs in accordance with subsection (H), below.

(H) ***Reimbursement.*** Contractor must reimburse City for its costs to repair under subsections (F) or (G), above, within 30 days following City's submission of a demand for payment pursuant to this provision. If City is required to initiate legal action to compel Contractor's compliance with this provision, and City is the prevailing party in such action, Contractor and its surety are solely responsible for all of City's attorney's fees and legal costs expended to enforce Contractor's warranty obligations herein, in addition to any and all costs City incurs to correct the defective Work.

11.3 Use Prior to Final Completion. City reserves the right to occupy or make use of the Project, or any portions of the Project, prior to Final Completion if City has determined that the Project or portion of it is in a condition suitable for the proposed occupation or use, and that it is in its best interest to occupy or make use of the Project, or any portions of it, prior to Final Completion.

(A) ***Non-Waiver.*** Occupation or use of the Project, in whole or in part, prior to Final Completion will not operate as acceptance of the Work or any portion of it, nor will it operate as a waiver of any of City's rights or Contractor's duties pursuant to these Contract Documents, and will not affect nor bear on the determination of the time of substantial completion with respect to any statute of repose pertaining to the time for filing an action for construction defect.

(B) ***City's Responsibility.*** City will be responsible for the cost of maintenance and repairs due to normal wear and tear with respect to those portions of the Project that are being occupied or used before Final Completion. The Contract Price or the Contract Time may be adjusted pursuant to the applicable provisions of these Contract Documents if, and only to the extent that, any occupation or use under this Section actually adds to Contractor's cost or time to complete the Work within the Contract Time.

11.4 Substantial Completion. For purposes of determining "substantial completion" with respect to any statute of repose pertaining to the time for filing an action for construction defect, "substantial completion" is deemed to mean the last date that Contractor or any Subcontractor performs Work on the Project prior to City acceptance of the Project, except for warranty work performed under this Article.

Article 12 - Dispute Resolution

12.1 Claims. This Article applies to and provides the exclusive procedures for any Claim arising from or related to the Contract or performance of the Work.

(A) ***Limitations.*** A Claim may only include the portion of a previously rejected demand that remains in dispute between Contractor and City. With the exception of any dispute regarding the amount of money actually paid to Contractor as Final Payment, Contractor is not entitled to submit a Claim demanding a change in the Contract Time or the Contract Price, which has not previously been submitted to City in full compliance with Article 5 and Article 6, and subsequently rejected in whole or in part by City.

(B) ***Scope of Article.*** This Article is intended to provide the exclusive procedures for submission and resolution of Claims of any amount and applies in addition to the provisions of Public Contract Code § 9204 and § 20104 et seq., which are incorporated by reference herein.

(C) ***No Work Delay.*** Notwithstanding the submission of a Claim or any other dispute between the parties related to the Project or the Contract Documents, Contractor must perform the Work and may not delay or cease Work pending resolution of a Claim or other dispute but must continue to diligently prosecute the performance and timely completion of the Work, including the Work pertaining to the Claim or other dispute.

(D) ***Informal Resolution.*** Contractor will make a good faith effort to informally resolve a dispute before initiating a Claim, preferably by face-to-face meeting between authorized representatives of Contractor and City.

12.2 Claims Submission. The following requirements apply to any Claim subject to this Article:

(A) ***Substantiation.*** The Claim must be submitted to City in writing by registered or certified mail with return receipt requested and clearly identified as a “Claim” submitted pursuant to this Article 12. The Claim must include all of the documents necessary to substantiate the Claim including the Change Order request that was rejected in whole or in part, and a copy of City’s written rejection that is in dispute. The Claim must clearly identify and describe the dispute, including relevant references to applicable portions of the Contract Documents, and a chronology of relevant events. Any Claim for additional payment must include a complete, itemized breakdown of all known or estimated labor, materials, taxes, insurance, and subcontract, or other costs. Substantiating documentation such as payroll records, receipts, invoices, or the like, must be submitted in support of each component of claimed cost. Any Claim for an extension of time or delay costs must be substantiated with a schedule analysis and narrative depicting and explaining claimed time impacts.

(B) ***Claim Format and Content.*** A Claim must be submitted in the following format:

(1) Provide a cover letter, specifically identifying the submission as a “Claim” submitted under this Article 12 and specifying the requested remedy (e.g., amount of proposed change to Contract Price and/or change to Contract Time).

(2) Provide a summary of each Claim, including underlying facts and the basis for entitlement, and identify each specific demand at issue, including the specific Change Order request (by number and submittal date), and the date of City's rejection of that demand, in whole or in part.

(3) Provide a detailed explanation of each issue in dispute. For multiple issues included within a single Claim or for multiple Claims submitted concurrently, separately number and identify each individual issue or Claim, and include the following for <u>each</u> separate issue or Claim:

a. A succinct statement of the matter in dispute, including Contractor's position and the basis for that position;

b. Identify and attach all documents that substantiate the Claim, including relevant provisions of the Contract Documents, RFIs, calculations, and schedule analysis (see subsection (A), Substantiation, above);

c. A chronology of relevant events; and

d. Analysis and basis for claimed changes to Contract Price, Contract Time, or any other remedy requested.

(4) Provide a summary of issues and corresponding claimed damages. If, by the time of the Claim submission deadline (below), the precise amount of the requested change in the Contract Price or Contract Time is not yet known, Contractor must provide a good faith estimate, including the basis for that estimate, and must identify the date by which it is anticipated that the Claim will be updated to provide final amounts.

(5) Include the following certification, executed by Contractor's authorized representative:

"The undersigned Contractor certifies under penalty of perjury that its statements and representations in this Claim submittal are true and correct. Contractor warrants that this Claim submittal is comprehensive and complete as to the matters in dispute, and agrees that any costs, expenses, or delay not included herein are deemed waived."

(C) ***Submission Deadlines.***

(1) A Claim disputing rejection of a request for a change in the Contract Time or Contract Price must be submitted within 21 days following the date that City notified Contractor in writing that a request for a change in the Contract Time or Contract Price, duly submitted in compliance with Article 5 and Article 6, has been rejected in whole or in part. A Claim disputing the terms of a unilateral Change Order must be submitted within 21 days following the date of issuance of the unilateral Change Order. These Claim deadlines apply even if Contractor cannot yet quantify the total amount of any requested change in the Contract Time or Contract Price. If the Contractor cannot quantify those amounts, it must submit an estimate of the amounts claimed pending final determination of the requested remedy by Contractor.

(2) With the exception of any dispute regarding the amount of Final Payment, any Claim must be filed on or before the date of Final Payment or will be deemed waived.

(3) A Claim disputing the amount of Final Payment must be submitted within 21 days of the effective date of Final Payment, under Section 8.7, Final Payment.

(4) Strict compliance with these Claim submission deadlines is necessary to ensure that any dispute may be mitigated as soon as possible, and to facilitate cost-efficient administration of the Project. ***Any Claim that is not submitted within the specified deadlines will be deemed waived by Contractor.***

12.3 City's Response. City will respond within 45 days of receipt of the Claim with a written statement identifying which portion(s) of the Claim are disputed, unless the 45-day period is extended by mutual agreement of City and Contractor or as otherwise allowed under Public Contract Code § 9204. However, if City determines that the Claim is not adequately substantiated pursuant to Section 12.2(A), Substantiation, City may first request in writing, within 30 days of receipt of the Claim, any additional documentation supporting the Claim or relating to defenses to the Claim that City may have against the Claim.

(A) ***Additional Information.*** If additional information is thereafter required, it may be requested and provided upon mutual agreement of City and Contractor. If Contractor's Claim is based on estimated amounts, Contractor has a continuing duty to update its Claim as soon as possible with information on actual amounts in order to facilitate prompt and fair resolution of the Claim.

(B) ***Non-Waiver.*** Any failure by City to respond within the times specified above will not be construed as acceptance of the Claim, in whole or in part, or as a waiver of any provision of these Contract Documents.

12.4 Meet and Confer. If Contractor disputes City's written response, or City fails to respond within the specified time, within 15 days of receipt of City's response or within 15 days of City's failure to respond within the applicable 45-day time period under Section 12.3, respectively, Contractor may notify City of the dispute in writing sent by registered or certified mail, return receipt requested, and demand an informal conference to meet and confer for settlement of the issues in dispute. If Contractor fails to notify City of the dispute and demand for an informal conference to meet and confer in writing within the specified time, Contractor's Claim will be deemed waived.

(A) ***Schedule Meet and Confer.*** Upon receipt of the demand to meet and confer, City will schedule the meet and confer conference to be held within 30 days, or later if needed to ensure the mutual availability of each of the individuals that each party requires to represent its interests at the meet and confer conference.

(B) ***Location for Meet and Confer.*** The meet and confer conference will be scheduled at a location at or near City's principal office.

(C) ***Written Statement After Meet and Confer.*** Within ten working days after the meet and confer has concluded, City will issue a written statement identifying which portion(s) of the Claim remain in dispute, if any.

(D) ***Submission to Mediation.*** If the Claim or any portion remains in dispute following the meet and confer conference, within ten working days after the City issues the written statement identifying any portion(s) of the Claim remaining in dispute, the Contractor may identify in writing disputed portion(s) of the Claim, which will be submitted for mediation, as set forth below.

12.5 Mediation and Government Code Claims.

(A) ***Mediation.*** Within ten working days after the City issues the written statement identifying any portion(s) of the Claim remaining in dispute following the meet and confer, City and Contractor will mutually agree to a mediator, as provided under Public Contract Code § 9204. Mediation will be scheduled to ensure the mutual availability of the selected mediator and all of the individuals that each party requires to represent its interests. If there are multiple Claims in dispute, the parties may agree to schedule the mediation to address all outstanding Claims at the same time. The parties will share the costs of the mediator and mediation fees equally, but each party is otherwise solely and separately

responsible for its own costs to prepare for and participate in the mediation, including costs for its legal counsel or any other consultants.

(B) ***Government Code Claims*.**

(1) Timely presentation of a Government Code Claim is a condition precedent to filing any legal action based on or arising from the Contract. Compliance with the Claim submission requirements in this Article 12 is a condition precedent to filing a Government Code Claim.

(2) The time for filing a Government Code Claim will be tolled from the time Contractor submits its written Claim pursuant to Section 12.2, above, until the time that Claim is denied in whole or in part at the conclusion of the meet and confer process, including any period of time used by the meet and confer process. However, if the Claim is submitted to mediation, the time for filing a Government Code Claim will be tolled until conclusion of the mediation, including any continuations, if the Claim is not fully resolved by mutual agreement of the parties during the mediation or any continuation of the mediation.

12.6 Tort Claims. This Article does not apply to tort claims and nothing in this Article is intended nor will be construed to change the time periods for filing tort-based Government Code Claims.

12.7 Arbitration. City does not consent to arbitration unless required by Laws. It is expressly agreed, under Code of Civil Procedure § 1296, that in any arbitration to resolve a dispute relating to this Contract, the arbitrator's award must be supported by law and substantial evidence.

12.8 Burden of Proof and Limitations. Contractor bears the burden of proving entitlement to and the amount of any claimed damages. Contractor is not entitled to damages calculated on a total cost basis but must prove actual damages. Contractor is not entitled to speculative, special, or consequential damages, including home office overhead or any form of overhead not directly incurred at the Project site or any other Worksite; lost profits; loss of productivity; lost opportunity to work on other projects; diminished bonding capacity; increased cost of financing for the Project; extended capital costs; non-availability of labor, material or equipment due to delays; or any other indirect loss arising from the Contract. The Eichleay Formula or similar formula will not be used for any recovery under the Contract. The City will not be directly liable to any Subcontractor or supplier.

12.9 Legal Proceedings. In any legal proceeding that involves enforcement of any requirements of the Contract Documents, the finder of fact will receive detailed instructions on the meaning and operation of the Contract Documents, including conditions, limitations of liability, remedies, claim procedures, and other provisions bearing on the defenses and theories of liability. Detailed findings of fact will be requested to verify enforcement of the Contract Documents. All of the City's remedies under the Contract Documents will be construed as cumulative, and not exclusive, and the City reserves all rights to all remedies available under law or equity as to any dispute arising from or relating to the Contract Documents or performance of the Work.

12.10 Other Disputes. The procedures in this Article 12 will apply to any and all disputes or legal actions, in addition to Claims, arising from or related to this Contract, including disputes regarding suspension or early termination of the Contract, unless and only to the extent that compliance with a procedural requirement is expressly and specifically waived by City. Nothing in this Article is intended to delay suspension or termination under Article 13.

Article 13 - Suspension and Termination

13.1 Suspension for Cause. In addition to all other remedies available to City, if Contractor fails to perform or correct Work in accordance with the Contract Documents, including non-compliance with applicable environmental or health and safety Laws, City may immediately order the Work, or any portion of it, suspended until the circumstances giving rise to the suspension have been eliminated to City's satisfaction.

(A) ***Notice of Suspension.*** Upon receipt of City's written notice to suspend the Work, in whole or in part, except as otherwise specified in the notice of suspension, Contractor and its Subcontractors must promptly stop Work as specified in the notice of suspension; comply with directions for cleaning and securing the Worksite; and protect the completed and in-progress Work and materials. Contractor is solely responsible for any damages or loss resulting from its failure to adequately secure and protect the Project.

(B) ***Resumption of Work.*** Upon receipt of the City's written notice to resume the suspended Work, in whole or in part, except as otherwise specified in the notice to resume, Contractor and its Subcontractors must promptly re-mobilize and resume the Work as specified; and within ten days from the date of the notice to resume, Contractor must submit a recovery schedule, prepared in accordance with the Contract Documents, showing how Contractor will complete the Work within the Contract Time.

(C) ***Failure to Comply.*** Contractor will not be entitled to an increase in the Contract Time or Contract Price for a suspension occasioned by Contractor's failure to comply with the Contract Documents.

(D) ***No Duty to Suspend.*** City's right to suspend the Work will not give rise to a duty to suspend the Work, and City's failure to suspend the Work will not constitute a defense to Contractor's failure to comply with the requirements of the Contract Documents.

13.2 Suspension for Convenience. City reserves the right to suspend, delay, or interrupt the performance of the Work in whole or in part, for a period of time determined to be appropriate for City's convenience. Upon notice by City pursuant to this provision, Contractor must immediately suspend, delay, or interrupt the Work and secure the Project site as directed by City except for taking measures to protect completed or in-progress Work as directed in the suspension notice, and subject to the provisions of Section 13.1(A) and (B), above. If Contractor submits a timely request for a Change Order in compliance with Articles 5 and 6, the Contract Price and the Contract Time will be equitably adjusted by Change Order pursuant to the terms of Articles 5 and 6 to reflect the cost and delay impact occasioned by such suspension for convenience, except to the extent that any such impacts were caused by Contractor's failure to comply with the Contract Documents or the terms of the suspension notice or notice to resume. However, the Contract Time will only be extended if the suspension causes or will cause unavoidable delay in Final Completion. If Contractor disputes the terms of a Change Order issued for such equitable adjustment due to suspension for convenience, its sole recourse is to comply with the Claim procedures in Article 12.

13.3 Termination for Default. City may declare that Contractor is in default of the Contract for a material breach of or inability to fully, promptly, or satisfactorily perform its obligations under the Contract.

(A) ***Default.*** Events giving rise to a declaration of default include Contractor's refusal or failure to supply sufficient skilled workers, proper materials, or equipment to perform

the Work within the Contract Time; Contractor's refusal or failure to make prompt payment to its employees, Subcontractors, or suppliers or to correct defective Work or damage; Contractor's failure to comply with Laws, or orders of any public agency with jurisdiction over the Project; evidence of Contractor's bankruptcy, insolvency, or lack of financial capacity to complete the Work as required within the Contract Time; suspension, revocation, or expiration and nonrenewal of Contractor's license or DIR registration; Contractor's failure to procure, maintain, or renew insurance coverage or provide notice of any modifications or reductions in insurance coverage; dissolution, liquidation, reorganization, or other major change in Contractor's organization, ownership, structure, or existence as a business entity; unauthorized assignment of Contractor's rights or duties under the Contract; or any material breach of the Contract requirements.

(B) ***Notice of Default and Opportunity to Cure.*** Upon City's declaration that Contractor is in default due to a material breach of the Contract Documents, if City determines that the default is curable, City will afford Contractor the opportunity to cure the default within ten days of City's notice of default, or within a period of time reasonably necessary for such cure, including a shorter period of time if applicable.

(C) ***Termination.*** If Contractor fails to cure the default or fails to expediently take steps reasonably calculated to cure the default within the time period specified in the notice of default, City may issue written notice to Contractor and its performance bond surety of City's termination of the Contract for default.

(D) ***Waiver.*** Time being of the essence in the performance of the Work, if Contractor's surety fails to arrange for completion of the Work in accordance with the Performance Bond within seven calendar days from the date of the notice of termination pursuant to paragraph (C), City may immediately make arrangements for the completion of the Work through use of its own forces, by hiring a replacement contractor, or by any other means that City determines advisable under the circumstances. Contractor and its surety will be jointly and severally liable for any additional cost incurred by City to complete the Work following termination, where "additional cost" means all cost in excess of the cost City would have incurred if Contractor had timely completed Work without the default and termination. In addition, City will have the right to immediate possession and use of any materials, supplies, and equipment procured for the Project and located at the Project site or any Worksite on City property for the purposes of completing the remaining Work.

(E) ***Compensation.*** Within 30 days of receipt of updated as-builts, all warranties, manuals, instructions, or other required documents for Work installed to date, and delivery to City of all equipment and materials for the Project for which Contractor has already been compensated, Contractor will be compensated for the Work satisfactorily performed in compliance with the Contract Documents up to the effective date of the termination pursuant to the terms of Article 8, Payment, subject to City's rights to withhold or deduct sums from payment otherwise due pursuant to Section 8.3, and excluding any costs Contractor incurs as a result of the termination, including any cancellation or restocking charges or fees due to third parties. If Contractor disputes the amount of compensation determined by City, its sole recourse is to comply with the Claim Procedures in Article 12, by submitting a Claim no later than 30 days following notice from City of the total compensation to be paid by City.

(F) ***Wrongful Termination.*** If Contractor disputes the termination, its sole recourse is to comply with the Claim procedures in Article 12. If a court of competent jurisdiction or an arbitrator later determines that the termination for default was wrongful, the termination will be deemed to be a termination for convenience, and Contractor's damages will be strictly limited to the compensation provided for termination for convenience under Section 13.4, below. Contractor waives any claim for any other

damages for wrongful termination including special or consequential damages, lost opportunity costs, or lost profits, and any award of damages is subject to Section 12.8, Burden of Proof and Limitations.

13.4 Termination for Convenience. City reserves the right, acting in its sole discretion, to terminate all or part of the Contract for convenience upon written notice to Contractor.

(A) ***Compensation to Contractor.*** In the event of City's termination for convenience, Contractor waives any claim for damages, including for loss of anticipated profits from the Project. The following will constitute full and fair compensation to Contractor, and Contractor will not be entitled to any additional claim or compensation:

(1) *Completed Work.* The value of its Work satisfactorily performed as of the date notice of termination is received, based on Contractor's schedule of values and unpaid costs for items delivered to the Project site that were fabricated for incorporation in the Work;

(2) *Demobilization.* Demobilization costs specified in the schedule of values, or if demobilization costs were not provided in a schedule of values pursuant to Section 8.1, then based on actual, reasonable, and fully documented demobilization costs; and

(3) *Termination Markup.* Five percent of the total value of the Work performed as of the date of notice of termination, including reasonable, actual, and documented costs to comply with the direction in the notice of termination for convenience, and demobilization costs, which is deemed to cover all overhead and profit to date.

(B) ***Disputes.*** If Contractor disputes the amount of compensation determined by City pursuant to paragraph (A), above, its sole recourse is to comply with the Claim procedures in Article 12, by submitting a Claim no later than 30 days following notice from City of total compensation to be paid by City.

13.5 Actions Upon Termination for Default or Convenience. The following provisions apply to any termination under this Article, whether for default or convenience, and whether in whole or in part.

(A) ***General.*** Upon termination, City may immediately enter upon and take possession of the Project and the Work and all tools, equipment, appliances, materials, and supplies procured or fabricated for the Project. Contractor will transfer title to and deliver all completed Work and all Work in progress to City.

(B) ***Submittals.*** Unless otherwise specified in the notice of termination, Contractor must immediately submit to City all designs, drawings, as-built drawings, Project records, contracts with vendors and Subcontractors, manufacturer warranties, manuals, and other such submittals or Work-related documents required under the terms of the Contract Documents, including incomplete documents or drafts.

(C) ***Close Out Requirements.*** Except as otherwise specified in the notice of termination, Contractor must comply with all of the following:

(1) Immediately stop the Work, except for any Work that must be completed pursuant to the notice of termination and comply with City's instructions for cessation of labor and securing the Project and any other Worksite(s).

(2) Comply with City's instructions to protect the completed Work and materials, using best efforts to minimize further costs.

(3) Contractor must not place further orders or enter into new subcontracts for materials, equipment, services or facilities, except as may be necessary to complete any portion of the Work that is not terminated.

(4) As directed in the notice, Contractor must assign to City or cancel existing subcontracts that relate to performance of the terminated Work, subject to any prior rights, if any, of the surety for Contractor's performance bond, and settle all outstanding liabilities and claims, subject to City's approval.

(5) As directed in the notice, Contractor must use its best efforts to sell any materials, supplies, or equipment intended solely for the terminated Work in a manner and at market rate prices acceptable to City.

(D) ***Payment Upon Termination.*** Upon completion of all termination obligations, as specified herein and in the notice of termination, Contractor will submit its request for Final Payment, including any amounts due following termination pursuant to this Article 13. Payment will be made in accordance with the provisions of Article 8, based on the portion of the Work satisfactorily completed, including the close out requirements, and consistent with the previously submitted schedule of values and unit pricing, including demobilization costs. Adjustments to Final Payment may include deductions for the cost of materials, supplies, or equipment retained by Contractor; payments received for sale of any such materials, supplies, or equipment, less re-stocking fees charged; and as otherwise specified in Section 8.3, Adjustment of Payment Application.

(E) ***Continuing Obligations.*** Regardless of any Contract termination, Contractor's obligations for portions of the Work already performed will continue and the provisions of the Contract Documents will remain in effect as to any claim, indemnity obligation, warranties, guarantees, submittals of as-built drawings, instructions, or manuals, record maintenance, or other such rights and obligations arising prior to the termination date.

Article 14 - Miscellaneous Provisions

14.1 Assignment of Unfair Business Practice Claims. Under Public Contract Code § 7103.5, Contractor and its Subcontractors agree to assign to 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. § 15) or under the Cartwright Act (Chapter 2 (commencing with § 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 or any subcontract. This assignment will be effective at the time City tenders Final Payment to Contractor, without further acknowledgement by the parties.

14.2 Provisions Deemed Inserted. Every provision of law required to be inserted in the Contract Documents is deemed to be inserted, and the Contract Documents will be construed and enforced as though such provision has been included. If it is discovered that through mistake or otherwise that any required provision was not inserted, or not correctly inserted, the Contract Documents will be deemed amended accordingly.

14.3 Waiver. City's waiver of a breach, failure of any condition, or any right or remedy contained in or granted by the provisions of the Contract Documents will not be effective unless it is in writing and signed by City. City's waiver of any breach, failure, right, or remedy will not be deemed a waiver of any other breach, failure, right, or remedy, whether or not similar, nor will any waiver constitute a continuing waiver unless specified in writing by City.

14.4 Titles, Headings, and Groupings. The titles and headings used and the groupings of provisions in the Contract Documents are for convenience only and may not be used in the construction or interpretation of the Contract Documents or relied upon for any other purpose.

14.5 Statutory and Regulatory References. With respect to any amendments to any statutes or regulations referenced in these Contract Documents, the reference is deemed to be the version in effect on the date that bids were due.

14.6 Survival. The provisions that survive termination or expiration of this Contract include Contract Section 11, Notice, and subsections 12.1, 12.2, 12.3, 12.4, 12.5, and 12.6 of Section 12, General Provisions; and the following provisions in these General Conditions: Section 2.2(J), Contractor's Records, Section 2.3(C), Termination, Section 3.7, Ownership, Section 4.2, Indemnity, Article 12, Dispute Resolution, and Section 11.2, Warranty.

END OF GENERAL CONDITIONS

Special Conditions

1. Authorized Work Days and Hours.

1.1 Authorized Work Days. Except as expressly authorized in writing by City, Contractor is limited to performing Work on the Project on the following days of the week, excluding holidays observed by City:
Monday through Friday.

1.2 Authorized Work Hours. Except as expressly authorized in writing by City, Contractor must comply with the requirements of section 12 of the Technical Specifications regarding lane closures. Where section 12 does not require otherwise, Contractor is limited to performing Work within the public right of way that impacts vehicular movement shall remain within 8:30 a.m. to 4:00 p.m., and Work performed within the temporary construction easements shall remain within 7:00 a.m. and 7:00 p.m.

2. Insurance Requirements. The insurance requirements under Section 4.3 of the General Conditions are modified for this Contract, as set forth below. Except as expressly stated below, all other provisions in Section 4.3 are unchanged and remain in full force and effect.

2.1 Pollution Liability Insurance Waived. The pollution liability insurance policy requirement set forth in subsection 4.3(A)(4) of the General Conditions is hereby waived and does not apply to this Contract.

2.2 Professional Liability Insurance. Subsection 4.3(A) of the General Conditions is modified to add professional liability (errors and omissions) insurance. The professional liability insurance policy for professional services provided by Contractor must provide coverage of at least $1,000,000 per occurrence and at least $2,000,000 aggregate. The professional liability insurance must include the specific endorsements set forth in subsection 4.3(D) of the General Conditions.

3. Normal Weather Delay Days. This provision is intended to supplement the requirements of General Conditions Section 5.2 on Schedule Requirements and Section 5.3 on Delays and Extensions of Contract Time. Based on historic records for the Project location, Contractor's schedule should assume the following number of normal Weather Delay Days for each month:

Month	# Normal Weather Delay Days
January	10
February	10
March	12
April	8
May	4
June	2
July	1
August	1
September	2
October	5
November	8

December	13

Weather Delay Days which do not occur during a given month based on the number of days allocated for that month (above) do not carry over to another month.

4. Submittals.

4.1 Review Time Assumptions. Contractor's schedule and all schedule updates should reflect the following assumptions for City and grant agency (if applicable) review. The following assumptions are provided solely for scheduling purposes and do not bind the City to complete its review of any submittal within the assumed time, and the assumed times do not account for delays attributable to Contractor's incomplete or non-compliant submittals. Additionally, any review times set forth in the Specifications are assumptions for planning purposes and are neither certain nor binding on City.

(A) ***City Review.*** Except as otherwise set forth herein, for all submittals except Shop Drawings and samples, assume a minimum review period of 10 days following submission for City review. For Shop Drawings and samples, assume a minimum review period of 20 days following submission for City review. If corrections are necessary, assume an additional days following resubmission for City review.

4.2 Specific Submittal Deadlines. Contractor must submit the following submittals by the deadlines set forth below:

(A) All Traffic Control Plans per Section 12 of the Technical Specifications to be provided with 5 days from the Contract Execution.

(B) All other paper submittals to be provided within 10 days from the Contract Execution.

(C) All material samples to be provided per the Technical Specifications.

5. Milestones. Pursuant to Section 5.4 of the General Conditions, the following milestone(s) apply to the Project:

5.1 Milestone No. 1. Contractor must complete all work withing the Temporary Construction Easement over the lands of Hornstein Property (DN: 2025001417), as set forth in the Contract Documents, 25 Working Days prior to the expiration of the Temporary Construction Easement (for purposes of this milestone, the "Milestone Deadline"). If Contractor fails to complete the Work required for this milestone within the Milestone Deadline, City will assess liquidated damages in the amount of $9,500 per day for each day of unexcused delay in completing the milestone within the Milestone Deadline, and such liquidated damages may be deducted from City's payments due or to become due to Contractor under this Contract.

5.2 Milestone No. 2. Contractor must maintain driveway access to Dick's Sporting Goods parking lot at all times and is only allowed to close one driveway on Edwards Avenue at a time while completing all work withing the Temporary Construction Easement over the lands of Hornstein Property (DN: 2025001417), as set forth in the Contract Documents. If Contractor fails to follow the Work required for this milestone, City will assess liquidated damages in the amount of $9,500 per day for each day that the contractor does not maintain driveway

access to Dick's Sporting Goods or per day for each day contractor closes more than one driveway on Edwards, and such liquidated damages may be deducted from City's payments due or to become due to Contractor under this Contract.

5.3 **Milestone No. 3.** Contractor must complete all work within the Temporary Construction Easement over the lands of Santa Rosa Junior College District (DN: 2024052098), as set forth in the Contract Documents, 180 Working Days prior to the expiration of the Temporary Construction Easement (for purposes of this milestone, the "Milestone Deadline"). If Contractor fails to complete the Work required for this milestone within the Milestone Deadline, City will assess liquidated damages in the amount of $9,500 per day for each day of unexcused delay in completing the milestone within the Milestone Deadline, and such liquidated damages may be deducted from City's payments due or to become due to Contractor under this Contract.

5.4 **Milestone No. 4.** Contractor must complete all work within the Temporary Construction Easement over the lands of Santa Rosa Junior College District (DN: 2024052099), as set forth in the Contract Documents, 180 Working Days prior to the expiration of the Temporary Construction Easement (for purposes of this milestone, the "Milestone Deadline"). If Contractor fails to complete the Work required for this milestone within the Milestone Deadline, City will assess liquidated damages in the amount of $9,500 per day for each day of unexcused delay in completing the milestone within the Milestone Deadline, and such liquidated damages may be deducted from City's payments due or to become due to Contractor under this Contract.

Milestone No. 5. Contractor must complete all work withing the Caltrans Encroachment Permit No. 04-25-N-OP-1816, as set forth in the Contract Documents or notify the City 40 Working Days prior to the expiration of the Encroachment Permit and provide additional time required to complete the remaining Work (for purposes of this milestone, the "Milestone Deadline"). If Contractor fails to complete the Work required for this milestone within the Milestone Deadline, City will assess liquidated damages in the amount of $9,500 per day for each day of unexcused delay in completing the milestone within the Milestone Deadline, and such liquidated damages may be deducted from City's payments due or to become due to Contractor under this Contract.

6. Advance Order Requirement.

6.1 **Materials and Equipment.** Within five days following receipt of the fully executed Contract from City, Contractor must provide the material list and/or equipment list of any advanced order items that impact the Baseline Schedule, within 2 weeks of the City's response to the list the contractor must provide the material and/or equipment submittal and within 2 days of City response to the submittal Contractor must promptly order the materials and/or equipment and submit documentation to City evidencing the order, including, but not limited to, the purchase order, documentation showing that the order has been accepted by supplier(s), and the anticipated shipment and delivery date for the materials and/or equipment.

6.2 **Delivery Notification.** Within two days following delivery of the specified materials and/or equipment to Contractor, Contractor must provide written notice of the delivery to the Engineer. Except as set forth in this Section, Contractor will not perform any Work until the start date set forth in the Notice to Proceed. City

anticipates issuing the Notice to Proceed following delivery of the materials and/or equipment set forth in this Section to Contractor.

6.3 Application for Payment. Contractor may request payment for the materials and/or equipment specified in this Section, which are delivered to a Worksite but not yet incorporated into the Work, subject to the following conditions: the materials and/or equipment must be delivered and suitably stored at a local Worksite agreed to, in writing, by City; full title vests in City at the time of delivery to the agreed upon Worksite; Contractor obtains and submits to City a negotiable warehouse receipt, endorsed over to City for materials and/or equipment stored in an off-site warehouse; the materials and/or equipment are segregated and labeled or tagged to identify the Project; the materials and/or equipment are protected from damage, weather, and contamination; if any defects or damage are discovered after delivery, Contractor agrees to replace the materials and/or equipment at Contractor's expense; and Contractor's application for payment is accompanied by a bill of sale, invoice, or other documentation warranting that City has received the materials and equipment free and clear of all liens and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect City's interest therein, all of which must be satisfactory to City. If these conditions are satisfied, Contractor's application for payment may include up to 10% of the cost of the materials and/or equipment delivered, but not yet incorporated into the Work.

6.4 **Deferred Submittals and Permitting Requirements.** Within 20 working days following receipt of the fully executed Contract from City, Contractor must provide draft deferred submittals and / or permit packages to the City and within 2 days of City response to the submittal Contractor must promptly submit for any permits required.

7. Construction Manager Role and Authority. There will be a Construction Manager for this Project. The Construction Manager will assist City in the management of the construction of the Project. The Construction Manager may perform services in the areas of supervision and coordination of the work of Contractor and/or other contractors, scheduling the Work, monitoring the progress of the Work, providing City with evaluations and recommendations concerning the quality of the Work, recommending the approval of progress payments to Contractor, or other services for the Project in accordance with the Construction Manager's contract with City. The City has not retained the Construction Manager as of the time of bid, but the City anticipates providing this information at the Pre-Construction Conference.

7.1 Communications. Contractor must submit all notices and communications relating to the Work directly to the Construction Manager in writing. The City will provide the Construction Manager contact information once available.

With a copy to the Engineer:

Jose Mederos
Assistant Engineer
Transportation and Public Works
Santa Rosa, CA 95404
707-543-3915
jmederos@srcity.org

7.2 On-Site Management and Communication Procedures. The Construction Manager will provide and maintain a management team on the Project site to provide contract administration as an agent of City, and will establish and

implement coordination and communication procedures among City, the Design Professional, Contractor, and others.

7.3 **Contract Administration Procedures.** The Construction Manager will establish and implement procedures for reviewing and processing requests for clarifications and interpretations of the Contract Documents, Shop Drawings, samples, other submittals, schedule adjustments, Change Order proposals, written proposals for substitutions, payment applications, and maintenance of logs.

7.4 **Pre-Construction Conference.** Contractor will attend the pre-construction conference, during which the Construction Manager will review the Contract administration procedures and Project requirements.

7.5 **Contractor's Construction Schedule.** The Construction Manager will review Contractor's construction schedules and will verify that each schedule is prepared in accordance with the requirements of the Contract Documents.

7.6 Field Office. Contractor shall provide a 10 foot x 12 foot office space for the Construction Manager adjacent to the Contractor's field office.

8. **Federally Funded Projects.** This Project is funded in whole or in part by federal funds and subject to the following federal requirements under the terms of the funding agreement(s) between City and the federal agency or agencies providing federal funds, which are fully incorporated by this reference and made part of the Contract Documents. Copies of any funding agreement between City and a funding agency will be made available upon request.

8.1 Equal Opportunity. During the performance of this Contract, the Contractor agrees as follows:

(A) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action will include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(B) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(C) The Contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision will not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's

essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the Contractor's legal duty to furnish information.

(D) The Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the labor union or workers' representatives of the Contractor's commitments under this Section, and will post copies of the notice in conspicuous places available to employees and applicants for employment.

(E) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the United States Secretary of Labor.

(F) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the United States Secretary of Labor, or pursuant thereto, and will permit access to its books, records, and accounts by the administering agency and the United States Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(G) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of the rules, regulations, or orders, this Contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further federal government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the United States Secretary of Labor, or as otherwise provided by law.

(H) The Contractor will include the portion of the sentence immediately preceding paragraph (A) and the provisions of paragraphs (A) through (H) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the United States Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each Subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the City or funding agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: *Provided,* however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a Subcontractor or vendor as a result of such direction by the City or funding agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

82 **Davis-Bacon Act.** Contractor must comply with the Davis-Bacon Act (40 U.S.C. § 3141 et seq.) and the requirements of 29 CFR Part 5 as may be applicable, including the provisions in 29 CFR § 5.5(a), which are attached hereto and incorporated herein by reference. Contractor will pay wages to laborers and mechanics, not less than once a week, and at a rate not less than the current

federal prevailing wages specified in the Davis-Bacon Act Wage Determination attached hereto and incorporated herein. By entering into this Contract, Contractor accepts the attached Wage Determination. Contractor and Subcontractors must insert the requirements in 29 CFR § 5.5(a) in full into subcontracts of any tier.

8.3 Copeland "Anti-Kickback" Act. Contractor will comply with 18 U.S.C. § 874, 40 U.S.C. § 3145, and the requirements of 29 CFR Part 3 as may be applicable, which are incorporated by reference into this Contract. Contractor and Subcontractors must insert this requirement into subcontracts of any tier. Contractor is responsible for compliance with these requirements by each Subcontractor of any tier.

8.4 Contract Work Hours and Safety Standards Act. In addition to the California state law requirements in Article 9 of the General Conditions, Contractor and each Subcontractor must comply with the requirements of the federal Contract Work Hours and Safety Standards Act ("CWHSSA"), as set forth in 40 U.S.C. §§ 3701-3708, as supplemented by the regulations set forth in 29 CFR Part 5, including 29 CFR § 5.5(b), as may be amended from time to time, which are fully incorporated herein, including:

(A) ***Overtime Requirements.*** No Contractor or Subcontractor contracting for any part of the Work which may require or involve the employment of laborers or mechanics will require or permit any such laborer or mechanic in any workweek in which he or she is employed on such Work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

(B) ***Violation; Liability for Unpaid Wages; Liquidated Damages.*** In the event of any violation of the clause set forth in (A), above, the Contractor and any Subcontractor responsible therefor will be liable for the unpaid wages and interest from the date of the underpayment. In addition, such Contractor and Subcontractor will be liable to the United States for liquidated damages. The liquidated damages will be computed with respect to each individual laborer or mechanic, including watchpersons and guards, employed in violation of the clause set forth in (A) of this Section, in the sum of $32 (or as otherwise set forth in 29 CFR § 5.5(b)) for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in (A) of this Section.

(C) ***Withholding for Unpaid Wages and Liquidated Damages.***

(1) *Withhold Process.* The City may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the Contractor or any Subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this Section, any other Federal contract with the same Contractor, or any other federally assisted contract subject to the CWHSSA that is held by the same Contractor (as defined in 29 CFR § 5.2). The necessary funds may be

withheld from the Contractor under this Contract, any other Federal contract with the same Contractor, or any other federally assisted contract that is subject to the CWHSSA and is held by the same Contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

(2) *Priority to Withheld Funds.* The Department of Labor has priority to funds withheld or to be withheld in accordance with 29 CFR § 5.5(a)(2)(i) or 29 CFR § 5.5(b)(3)(i), or both, over claims to those funds by: (a) a contractor's sureties, including without limitation performance bond sureties and payment bond sureties; (b) a contracting agency for its re-procurement costs; (c) a trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate; (d) a contractor's assignee(s); (e) a contractor's successor(s); or (f) a claim asserted under the Prompt Payment Act (31 U.S.C. §§ 3901–3907).

(D) ***Subcontracts.*** Contractor and Subcontractors must insert in any subcontracts the clauses set forth in this Section and a clause requiring Subcontractors to include these clauses in any lower tier subcontracts. Contractor is responsible for compliance by any Subcontractor or lower tier Subcontractor with the clauses set forth in this Section. In the event of any violations of these clauses, the Contractor and any Subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier Subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

(E) ***Anti-Retaliation.*** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

(1) Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the CWHSSA or its implementing regulations in 29 CFR Part 5;

(2) Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or 29 CFR Part 5;

(3) Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or 29 CFR Part 5; or

(4) Informing any other person about their rights under CWHSSA or 29 CFR Part 5.

(F) ***CWHSSA Required Records.*** To the extent that the Contract is subject only to the CWHSSA and not to any of the other Laws referenced in 29 CFR § 5.1, Contractor and its Subcontractors must maintain regular payrolls and other basic records during the course of the Work and must preserve them for a period

of three years after all the Work on the Contract is completed for all laborers and mechanics, including guards and watchpersons, working on the Contract. Such records must contain the name; last known address, telephone number, and email address; and social security number of each such worker; each worker's correct classification(s) of Work actually performed; hourly rates of wages paid; daily and weekly number of hours actually worked; deductions made; and actual wages paid. The records must be made available by the Contractor or Subcontractor for inspection, copying, or transcription by authorized representatives of the City and the Department of Labor, and the Contractor or Subcontractor will permit such representatives to interview workers during working hours on the job.

8.5 Rights to Inventions. If the federal funding for this Contract meets the definition of "funding agreement" under 37 CFR § 401.2(a) and constitutes an agreement between the City and a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency, will apply to this Contract and are fully incorporated into the Contract Documents by this reference.

8.6 Clean Air Act. If the Contract is for an amount in excess of $150,000, Contractor and each Subcontractor must comply with the requirements of the Clean Air Act, as amended (42 U.S.C. §§ 7401-7671q), and all applicable standards, orders, and regulations issued pursuant thereto, which are fully incorporated into the Contract Documents by this reference, including requirements for reporting violations to the City, federal awarding agency, and the applicable Regional Office for the Environmental Protection Agency. Contractor and Subcontractors must insert this requirement into subcontracts of any tier in excess of $150,000.

8.7 Federal Water Pollution Control Act. If the Contract is for an amount in excess of $150,000, Contractor and each Subcontractor must comply with the requirements of the Federal Water Pollution Control Act (33 U.S.C. §§ 1251-1387), and all applicable standards, orders, and regulations issued pursuant thereto, which are fully incorporated into the Contract Documents by this reference, including requirements for reporting violations to the City, federal awarding agency, and the applicable Regional Office for the Environmental Protection Agency. Contractor and Subcontractors must insert this requirement into subcontracts of any tier in excess of $150,000.

8.8 Suspension and Debarment. This Contract is a covered transaction for purposes of 2 CFR Part 180 and 2 CFR Part 3000. Contractor is required to verify that none of its principals, as defined at 2 CFR § 180.995, or its affiliates, as defined at 2 CFR § 180.905, are excluded or disqualified, as defined at 2 CFR §§ 180.935 and 180.940. Contractor must comply with 2 CFR Part 180, subpart C and 2 CFR Part 3000, subpart C, and must include a provision requiring compliance with these regulations in any subcontract of any tier. If it is later determined that the Contractor did not comply with the applicable subparts, in addition to remedies available to City, the federal government may pursue available remedies, including, but not limited to, suspension and/or debarment. By submitting a bid and entering into this Contract, Contractor agrees to comply with these requirements.

8.9 **Byrd Anti-Lobbying Amendment.** If the Contract is for an amount in excess of $100,000, Contractor must comply with the Byrd Anti-Lobbying Amendment (31 U.S.C. § 1352) and file the certification provided at 44 CFR Part 18, Appendix A, and any disclosures, with the City. Each tier certifies to the tier above that it will not and has not used federal-appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier will also disclose any lobbying with non-federal funds that takes place in connection with obtaining any federal award. Such disclosures will be forwarded from tier to tier up to the recipient who in turn will forward the disclosure(s) to the federal awarding agency.

8.10 **Procurement of Recovered Materials**. The requirements of § 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 at 42 U.S.C. § 6962, apply to this Contract and are fully incorporated into the Contract Documents by this reference. For individual purchases of $10,000 or more, Contractor will make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired (A) competitively within the Contract schedule, (B) in conformance with Contract performance requirements, or (C) at a reasonable price. Information on this requirement, including a list of EPA-designated items, is available at the EPA's Comprehensive Procurement Guidelines website: https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program.

8.11 **Prohibition on Covered Telecommunications.** Federal loan or grant funds must not be obligated or expended to procure or obtain covered telecommunications equipment or services, extend or renew a contract to procure or obtain covered telecommunications equipment or services, or enter into a contract (or extend or renew a contract) to procure or obtain covered telecommunications equipment or services, as further specified in 2 CFR § 200.216, which is fully incorporated into the Contract Documents by this reference. "Covered telecommunications equipment or services" means any of the following: telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities); video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities); telecommunications or video surveillance services provided by such entities or using such equipment; or telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country. The term "covered telecommunications equipment or services" also includes systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. Contractor will include this provision in all subcontracts or purchase orders in connection with the Work.

8.12 **Domestic Preferences for Procurements.** The City should, to the greatest extent practicable and consistent with Laws, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States, as further specified in 2 CFR § 200.322, which is fully incorporated into the Contract Documents by this reference, including, but not limited to, iron,

aluminum, steel, cement, and other manufactured products, as specified therein. The requirements of 2 CFR § 200.322 must be included in all subcontracts and purchase orders for Work or products under the federal award.

9. **Caltrans Oversight.** This Project is subject to oversight by the California Department of Transportation ("Caltrans"). Contractor must comply with the following:

9.1 **Project Safety Reviews.** Contractor must designate a safety representative for the Project, who is responsible for performing and documenting Project safety reviews with the Engineer. Contractor must perform and document Project safety reviews as follows: at least three Working Days before the start of Work at the Project site; every other week after the start of Work at the Project site; after any incident at the Project site that results in injury, illness, or fatality; and as a condition precedent to Final Completion. Contractor is responsible for submitting Project safety review documentation to the Engineer and correcting deficiencies within three Working Days following completion of a safety review, or sooner if directed by the Engineer.

9.2 **Hazard Analyses.** Contractor must prepare and submit to the Engineer a job hazard analysis for each Work activity to be performed at the Project site as required by 8 CCR § 3203(a)(4) and 1511(b). Each job hazard analysis must describe the Work activity and identify existing and predictable hazards associated with the Work activity and hazard control measures, preventative actions, or corrective actions to be taken for the Work activity. Contractor must submit each job hazard analysis at least five Working Days before the start of the Work activity. Contractor must submit a revised job hazard analysis when a change in equipment or methods results in a change to the hazards previously identified by Contractor in its initial hazard analysis for the Work activity. Any such revised hazard analysis must be submitted within one Working Day of the change. Contractor will address job hazard analyses for active Work activities and Work activities planned to start within five Working Days during Project safety reviews.

9.3 **Areas for Use.** Contractor will not occupy the highway unless necessary to perform Work. Contractor will indemnify, defend, and hold harmless the State of California, as set forth in section 7-1.05 of the Caltrans Standard Specifications. Temporary residences are not allowed within the highway.

9.4 **Equipment Load.** Contractor must comply with the load limits and requirements set forth in Section 5-1.37B(1) and Section 5-1.37B(2) of the Caltrans Specifications.

9.5 **Submittals.** In addition to the submittal requirements set forth in the General Conditions, each submittal must include the District-County-Route-Post Mile and the structure name and number, if any.

9.6 **Federal Funding.** This Project is funded in whole or in part by federal funds administered under Caltrans' Local Assistance Procedures Manual ("LAPM"). LAPM contract requirements are provided in Attachment B - Federal Contract Requirements. Contractor must comply with the requirements set forth in Attachment B. For federally-funded projects, the definition of "Working Day," as set forth in Article 1 of the General Conditions, excludes federal holidays.

10. **Close Out Requirements.** Contractor's close out requirements include the following, if applicable:

10.1 Contractor must replace, with thermoplastic, any existing striping within and adjacent to the Project site that is damaged during the Work. Partially damaged striping must be replaced in its entirety.

10.2 Before removing any traffic control or street signs on the Project site, Contractor must take photographs showing their original locations. Upon completion of each phase of construction, Contractor must temporarily reset the signs at those locations. Contractor must then replace the signs permanently upon completion of the Work and the cost of their removal and replacement must be included in the Bid Proposal.

11. Value Engineering. The Contractor may be entitled to additional compensation for cost reduction changes made pursuant to a value engineering proposal submitted by the Contractor, subject to the limitations of Public Contract Code § 7101, and in strict compliance with this Section and Section 4-1.07 of the Specifications. Contractor will not be entitled to any such additional compensation unless all of the following requirements have been met:

11.1 The Contractor must submit a written proposal for changes to the Plans or Specifications for the Project, in which it:

(A) Identifies the written proposal as a proposal for cost reduction changes with reference to this section;

(B) Clearly and specifically identifies the proposed cost reduction changes by describing in detail each of the changes proposed with specific references to each of the Specifications and Plans involved in the proposed changes, and providing proposed revised Specifications and Plans as applicable; and

(C) Estimates the net amount of the cost reduction and provides the basis for that estimate.

11.2 The proposed changes have been identified and developed solely by the Contractor, and not, in whole or in part, by the City.

11.3 The City accepts the proposed changes in whole or in part in a writing signed by the Engineer. The Contractor will only be entitled to additional compensation for those changes specifically accepted by the City. The Engineer will determine the net savings in construction costs from any such changes that are both accepted and implemented by the City. Contractor will not be entitled to more than 50% of the net savings as determined by the Engineer, acting in his or her sole discretion.

12. Pre-Construction Conference. In addition to the requirements set forth in Section 2.2(F)(1) of the General Conditions, Contractor will be prepared to discuss the following topics and documents at the pre-construction conference:

Topic	Document
Equipment	Equipment list
Labor compliance and equal employment opportunity	Job site posters and benefit and payroll reports
Material inspection	Notice of Materials to be Used form
Materials on hand	Request for Payment for Materials on Hand form
Quality control	QC plans
Safety	Injury and Illness Prevention Program, Code of Safe Practices, and job site posters
Traffic control	Traffic contingency plan and traffic control plans
Water pollution control	SWPPP
Work restrictions	PLACs

13. Mitigation Measures and Environmental Protection Requirements. Contractor must implement and comply with the mitigation measures and environmental protection requirements applicable to the Work, as set forth in the "EA 04-2G340 Environmental Commitments Record", which are incorporated herein by reference.

END OF SPECIAL CONDITIONS

Attachment A - Federal Bidding Requirements

EXHIBIT 12-G: REQUIRED FEDERAL-AID CONTRACT LANGUAGE

(For Local Assistance Construction Projects)

The following language must be incorporated into all Local Assistance Federal-aid construction contracts. The following language, with minor edits, was taken from the Code of Federal Regulations.

MAINTAIN RECORDS AND SUBMIT REPORTS DOCUMENTING YOUR PERFORMANCE UNDER THIS SECTION

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1. DISADVANTAGED BUSINESS ENTERPRISES (DBE)

The contractor, subrecipient or subcontractor shall take necessary and reasonable steps to ensure that DBEs have opportunity to participate in the contract (49 CFR 26). To ensure equal participation of DBEs provided in 49 CFR 26.5, the Agency shows a contract goal for DBEs. The prime contractor shall make work available to DBEs and select work parts consistent with available DBE subcontractors and suppliers.

The prime contractor shall meet the DBE goal shown elsewhere in these special provisions or demonstrate that they made adequate Good Faith Efforts (GFE) to meet this goal. An adequate GFE means that the bidder must show that it took all necessary and reasonable steps to achieve a DBE goal that, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to meet the DBE goal.

If the DBE goal is not met, the contractor needs to complete and submit the DBE GFE documentation as described in Local Assistance Procedures Manual (LAPM) Chapter 9, Section 9.8 within 5 (five) days of bid opening.

It is the prime contractor's responsibility to verify that the DBE firm is certified as a DBE on the date of bid opening by using the California Unified Certification Program (CUCP) database and possesses the most specific available North American Industry Classification System (NAICS) codes and Work Code applicable to the type of work the firm will perform on the contract. Additionally, the prime contractor is responsible to document this verification by printing out the CUCP data for each DBE firm. A list of DBEs certified by the CUCP can be found at: https://dot.ca.gov/programs/civil-rights/dbe-search.

DBE participation will only count toward the California Department of Transportation's federally mandated statewide overall DBE goal if the DBE performs a commercially useful function under 49 CFR 26.55.

Credit for materials or supplies the prime contractor purchases from DBEs counts towards the goal in the following manner:

- 100 percent counts if the materials or supplies are obtained from a DBE manufacturer.
- 60 percent counts if the materials or supplies are obtained from a DBE regular dealer.
- Only fees, commissions, and charges for assistance in the procurement and delivery of materials or supplies count if obtained from a DBE that is neither a manufacturer nor regular dealer. 49 CFR 26.55 defines "manufacturer" and "regular dealer."

The prime contractor receives credit towards the goal if they employ a DBE trucking company that performs a commercially useful function as defined in 49 CFR 26.55(d) as follows:

- The DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there cannot be a contrived arrangement for the purpose of meeting DBE goals.
- The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the contract.
- The DBE receives credit for the total value of the transportation services it provides on the Contract using trucks it owns, insures, and operates using drivers it employs.
- The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the Contract.
- The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE that leases trucks equipped with drivers from a non-DBE is entitled to credit for the total value of transportation services provided by non-DBE leased trucks equipped with drivers not to exceed the value of transportation services on the contract provided by DBE-owned trucks or leased trucks with DBE employee drivers. Additional participation by non-DBE owned trucks equipped with drivers receives credit only for the fee or commission it receives as a result of the lease arrangement.
- The DBE may lease trucks without drivers from a non-DBE truck leasing company. If the DBE leases trucks from a non-DBE truck leasing company and uses its own employees as drivers, it is entitled to credit for the total value of these hauling services.

- A lease must indicate that the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.

A. Nondiscrimination Statement

The contractor, subrecipient or subcontractor will never exclude any person from participation in, deny any person the benefits of, or otherwise discriminate against anyone in connection with the award and performance of any contract covered by 49 CFR 26 on the basis of race, color, sex, or national origin. In administering the Local Agency components of the DBE Program Plan, the contractor, subrecipient or subcontractor will not, directly, or through contractual or other arrangements, use criteria or methods of administration that have the effect of defeating or substantially impairing accomplishment of the objectives of the DBE Program Plan with respect to individuals of a particular race, color, sex, or national origin.

B. Contract Assurance

Under 49 CFR 26.13(b): The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR 26 in the award and administration of federal-aid contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

(1) Withholding monthly progress payments;

(2) Assessing sanctions;

(3) Liquidated damages; and/or

(4) Disqualifying the contractor from future bidding as non-responsible.

C. Prompt Progress Payment

In accordance with California Business and Professions Code section 7108.5, the prime contractor or subcontractor shall pay to any subcontractor, not later than seven days after receipt of each progress payment, unless otherwise agreed to in writing, the respective amounts allowed the contractor on account of the work performed by the subcontractors, to the extent of each subcontractor's interest therein. In the event that there is a good faith dispute over all or any portion of the amount due on a progress payment from the prime contractor or subcontractor to a subcontractor, the prime contractor or subcontractor may withhold no more than 150 percent of the disputed amount. Any violation of this requirement shall constitute a cause for disciplinary action and shall subject the licensee to a penalty, payable to the subcontractor, of 2 percent of the amount due per month for every month that payment is not made.

In any action for the collection of funds wrongfully withheld, the prevailing party shall be entitled to his or her attorney's fees and costs. The sanctions authorized under this requirement shall be separate from, and in addition to, all other remedies, either civil, administrative, or criminal. This clause applies to both DBE and non-DBE subcontractors.

D. Prompt Payment of Withheld Funds to Subcontractors

The Agency may hold retainage from the prime contractor and shall make prompt and regular incremental acceptances of portions, as determined by the Agency, of the contract work, and pay retainage to the prime contractor based on these acceptances. The Agency shall designate one of the methods below in the contract to ensure prompt and full payment of any retainage kept by the prime contractor or subcontractor to a subcontractor. The Agency shall include either Method 1, Method 2, or Method 3 below and delete the other two.

Method 1: No retainage will be held by the Agency from progress payments due to the prime contractor. Prime contractors and subcontractors are prohibited from holding retainage from subcontractors. Any delay or postponement of payment may take place only for good cause and with the Agency's prior written approval. Any violation of these provisions shall subject the violating contractor or subcontractor to the penalties, sanctions, and other remedies specified in Section 7108.5 of the California Business and Professions Code and Section 10262 of the California Public Contract Code. This requirement shall not be construed to limit or impair any contractual, administrative or judicial remedies, otherwise available to the

contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the contractor, deficient subcontractor performance and/or noncompliance by a subcontractor. This clause applies to both DBE and non-DBE subcontractors.

Method 2: No retainage will be held by the Agency from progress payments due to the prime contractor. Any retainage kept by the prime contractor or by a subcontractor must be paid in full to the earning subcontractor within seven (7) days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment may take place only for good cause and with the Agency's prior written approval. Any violation of these provisions shall subject the violating contractor or subcontractor to the penalties, sanctions, and remedies specified in Section 7108.5 of the California Business and Professions Code and Section 10262 of the California Public Contract Code. This requirement shall not be construed to limit or impair any contractual, administrative or judicial remedies, otherwise available to the contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the contractor, deficient subcontractor performance and/or noncompliance by a subcontractor. This clause applies to both DBE and non-DBE subcontractors.

Method 3: The Agency shall hold retainage from the prime contractor and shall make prompt and regular incremental acceptances of portions, as determined by the Agency of the contract work and pay retainage to the prime contractor based on these acceptances. The prime contractor or subcontractor shall return all monies withheld in retention from all subcontractors within seven (7) days after receiving payment for work satisfactorily completed and accepted including incremental acceptances of portions of the contract work by the Agency. Any delay or postponement of payment may take place only for good cause and with the Agency's prior written approval. Any violation of these provisions shall subject the violating prime contractor or subcontractor to the penalties, sanctions, and other remedies specified in Section 7108.5 of the California Business and Professions Code and Section 10262 of the California Public Contract Code. This requirement shall not be construed to limit or impair any contractual, administrative or judicial remedies otherwise available to the contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the contractor; deficient subcontractor performance and/or noncompliance by a subcontractor. This clause applies to both DBE and non-DBE subcontractors.

Any violation of these provisions of Prompt Progress Payment and Prompt Payment of Withheld Funds to Subcontractors shall subject the violating prime contractor or subcontractor to the penalties, sanctions and other remedies specified therein. These requirements shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the prime contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor, deficient subcontract performance, or noncompliance by a subcontractor.

E. Termination and Replacement of DBE Subcontractors

The prime contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the contractor obtains the Agency's written consent. The prime contractor shall not terminate or replace a listed DBE for convenience and perform the work with their own forces or obtain materials from other sources without prior written authorization from the Agency. Unless the Agency's prior written consent is provided, the contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE on the Exhibit 15-G Construction Contract DBE Commitment form, included in the Bid.

Termination of DBE Subcontractors

After a contract with a specified DBE goal has been executed, termination of a DBE may be allowed for the following, but not limited to, justifiable reasons with prior written authorization from the Agency:

1. Listed DBE fails or refuses to execute a written contract based on plans and specifications for the project.
2. The Local Agency stipulated that a bond is a condition of executing the subcontract and the listed DBE fails to meet the Local Agency's bond requirements.
3. Work requires a contractor's license and listed DBE does not have a valid license under Contractors License Law, or is not properly registered with the California Department of Industrial Relations as a public works contractor.
4. Listed DBE fails or refuses to perform the work or furnish the listed materials (failing or refusing to

perform is not an allowable reason to remove a DBE if the failure or refusal is a result of bad faith or discrimination).

5. Listed DBE's work is unsatisfactory and not in compliance with the contract.
6. Listed DBE is ineligible to work on the project because of suspension or debarment.
7. Listed DBE becomes bankrupt or insolvent or exhibits credit unworthiness.
8. Listed DBE voluntarily withdraws with written notice from the Contract
9. Listed DBE is ineligible to receive credit for the type of work required.
10. Listed DBE owner dies or becomes disabled resulting in the inability to perform the work on the Contract.
11. The Agency determines other documented good cause.

To terminate a DBE or to terminate a portion of a DBE's work, the contractor must use the following procedures:

1. Send a written notice to the DBE of Contractor's intent to use other forces or material sources and include one or more justifiable reasons listed above. Simultaneously send a copy of this written notice to the Agency. The written notice to the DBE must request they provide any response within five (5) business days to both the Contractor and the Agency by either acknowledging their agreement or documenting their reasoning as to why the use of other forces or sources of materials should not occur.
2. If the DBE does not respond within 5 business days, Contractor may move forward with the request as if the DBE had agreed to Contractor's written notice.
3. Submit Contractor's DBE termination request by written letter to the Agency and include:
    - One or more above listed justifiable reasons along with supporting documentation.
    - Contractor's written notice to the DBE regarding the request, including proof of transmission and tracking documentation of Contractor's written notice
    - The DBE's response to Contractor's written notice, if received. If a written response was not provided, provide a statement to that effect.

The Agency shall respond in writing to Contractor's DBE termination request within 5 business days.

Replacement of DBE Subcontractors

After receiving the Agency's written authorization of DBE termination request, the Contractor must obtain the Agency's written agreement for DBE replacement. The Contractor must find or demonstrate GFEs to find qualified DBE replacement firms to perform the work to the extent needed to meet the DBE commitment.

The following procedures shall be followed to request authorization to replace a DBE firm:

1. Submit a request to replace a DBE with other forces or material sources in writing to the Agency which must include:
    a. Description of remaining uncommitted work items made available for replacement DBE solicitation and participation.
    b. The proposed DBE replacement firm's business information, the work they have agreed to perform, and the following:
        - Quote for bid item work and description of work to be performed
        - Proposed subcontract agreement and written confirmation of agreement to perform on the Contract
        - Revised Subcontracting Request form
        - Revised Exhibit 15-G: Construction Contract DBE Commitment
2. If Contractor has not identified a DBE replacement firm, submit documentation of the Contractor's GFEs

to use DBE replacement firms within 7 days of Agency's authorization to terminate the DBE. The Contractor may request the Agency's approval to extend this submittal period to a total of 14 days. Submit documentation of actions taken to find a DBE replacement firm, such as:

- Search results of certified DBEs available to perform the original DBE work identified and/or other work the Contractor had intended to self-perform, to the extent needed to meet the DBE commitment
- Solicitations of DBEs for performance of work identified
- Correspondence with interested DBEs that may have included contract details and requirements
- Negotiation efforts with DBEs that reflect why an agreement was not reached
- If a DBE's quote was rejected, provide Contractor's reasoning for the rejection, such as why the DBE was unqualified for the work, or why the price quote was unreasonable or excessive
- Copies of each DBE's and non-DBE's price quotes for work identified, as the Agency may contact the firms to verify solicitation efforts and determine if the DBE quotes are substantially higher
- Additional documentation that supports the GFE

The Agency shall respond in writing to the Contractor's DBE replacement request within five (5) business days. The Contractor must submit a revised Subcontracting Request form if the replacement plan is authorized by the Agency.

F. Commitment and Utilization

The Agency's DBE program must include a monitoring and enforcement mechanism to ensure that DBE commitments reconcile to DBE utilization.

The bidder shall complete and sign Exhibit 15-G: Construction Contract DBE Commitment included in the contract documents regardless of whether DBE participation is reported. The bidder shall provide written confirmation from each DBE that the DBE is participating in the Contract. LAPM Exhibit 9-I: DBE Confirmation or equivalent form and DBE's quote must be submitted. The written confirmation must be submitted no later than 4pm on the 5th day after bid opening. If a DBE is participating as a joint venture partner, the bidder shall submit a copy of the joint venture agreement.

If the DBE Commitment form, Exhibit 15-G, is not submitted with the bid, it must be completed and submitted by all bidders to the Agency within five (5) days of bid opening. If the bidder does not submit the DBE Commitment form within the specified time, the Agency will find the bidder's bid nonresponsive.

The prime contractor shall use each DBE subcontractor as listed on Exhibit 15-G: Construction Contract DBE Commitment unless they receive written authorization for a termination or replacement from the Agency.

The Agency shall request the prime contractor to:

1. Notify the Resident Engineer or Inspector of any changes to its anticipated DBE participation
2. Provide this notification before starting the affected work
3. Maintain records including:
    - Name and business address of each 1st-tier subcontractor
    - Name and business address of each DBE subcontractor, DBE vendor, and DBE trucking company, regardless of tier
    - Date of payment and total amount paid to each DBE (see Exhibit 9-F: Monthly Disadvantaged Business Enterprise Payment)

If the prime contractor is a DBE contractor, they shall include the date of work performed by their own forces and the corresponding value of the work.

Before the 15th of each month, the prime contractor shall submit a Monthly DBE Trucking Verification (LAPM Exhibit 16-Z1) form.

If a DBE is decertified before completing its work, the DBE must notify the prime contractor in writing of the decertification date. If a business becomes a certified DBE before completing its work, the business must notify the prime contractor in writing of the certification date. The prime contractor shall submit the notifications. Upon work completion, the prime contractor shall complete a Disadvantaged Business Enterprises (DBE) Certification Status Change, Exhibit 17-O, form and submit the form within 30 days of contract acceptance.

Upon work completion, the prime contractor shall complete Exhibit 17-F: Final Report – Utilization of Disadvantaged Business Enterprises (DBE), First-Tier Subcontractors and submit it within 90 days of contract acceptance. The Agency will withhold $10,000 until the form is submitted. The Agency releases the withhold upon submission of the completed form.

G. Running Tally of Attainments

For projects awarded on or after March 1, 2020, but before September 1, 2023:

After submitting an invoice for reimbursement that includes a payment to a DBE, but no later than the 10th of the following month, the prime contractor/consultant must complete and email the Exhibit 9-F: Disadvantaged Business Enterprise Running Tally of Payments to business.support.unit@dot.ca.gov with a copy to local administering agencies.

For projects that are awarded on or after September 1, 2023:

Exhibit 9-F is no longer required. Instead, by the 15th of the month following the month of any payment(s), the prime contractor must now submit Exhibit 9-P to the Local Agency administering the contract. If the Contractor does not make any payments to subcontractors, supplier(s) and/or manufacturers they must report “no payments were made to subs this month” and write this visibly and legibly on Exhibit 9-P.

H. Commercially Useful Function

DBEs must perform a commercially useful function (CUF) under 49 CFR 26.55 when performing work or supplying materials listed on the DBE Commitment form. The DBE value of work will only count toward the DBE commitment if the DBE performs a CUF. A DBE performs a CUF when it is responsible for execution of the work on the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. If a DBE does not perform or exercise responsibility for at least 30% of the total cost of its contract with its own work force, or the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved, it will be presumed that the DBE is not performing a CUF. Additionally, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material and installing (where applicable), and paying for the material itself.

The Contractor must perform CUF evaluation for each DBE company working on a federal-aid contract, with or without a DBE goal. Perform a CUF evaluation at the beginning of the DBE’s work, and continue to monitor the performance of CUF for the duration of the project.

The Contractor must provide written notification to the AGENCY at least 15 days in advance of each DBE's initial performance of work or supplying materials for the Contract. The notification must include the DBE's name, work the DBE will perform on the contract, and the location, date, and time of where their work will take place.

Within 10 (ten) days of a DBE initially performing work or supplying materials on the contract, the Contractor shall submit to the LPA the initial evaluation and validation of DBE performance of a CUF using the LAPM 9-J: Disadvantaged Business Enterprise Commercially Useful Function Evaluation. Include the following information with the submittal:

- Subcontract agreement with the DBE
- Purchase orders
- Bills of lading
- Invoices
- Proof of payment

The Contractor must monitor all DBE's performance of CUF by conducting quarterly evaluations and validations throughout their duration of work on the contract using the LAPM 9-J: DBE Commercially Useful Function Evaluation. The Contractor must submit to the AGENCY these quarterly evaluations and validations by the 5th of the month for the previous three (3) months of work.

The Contractor must notify the AGENCY immediately if the Contractor believes the DBE may not be performing a CUF.

The AGENCY will verify DBEs performance of CUF by reviewing the initial and quarterly submissions of LAPM 9-J: DBE Commercially Useful Function Evaluation, submitted supporting information, field observations, and through any additional AGENCY evaluations. The AGENCY must evaluate DBEs and their CUF performance throughout the duration of a Contract. The AGENCY will provide written notice to Contractor and DBE at least two (2) business days prior to any evaluation. The Contractor and DBE must participate in the evaluation. Upon completing the evaluation, the AGENCY must share the evaluation results with the Contractor and DBE. An evaluation could include items that must be remedied upon receipt. If the AGENCY determines the DBE is not performing a CUF the Contractor must suspend performance of the noncompliant work.

The Contractor and DBEs must submit any additional CUF related records and documents within five (5) business days of AGENCY's request such as:

- Proof of ownership or lease and rental agreements for equipment
- Tax records
- Employee rosters
- Certified payroll records
- Inventory rosters

Failure to submit required DBE Commercially Useful Function Evaluation forms or requested records and documents can result in withholding of payment for the value of work completed by the DBE.

If the Contractor and/or the AGENCY determine that a listed DBE is not performing a CUF in performance of their DBE committed work, immediately suspend performance of the noncompliant portion of the work. The AGENCY may deny payment for the noncompliant portion of the work. The AGENCY will ask the Contractor to submit a corrective action plan (CAP) to the AGENCY within five (5) days of the noncompliant CUF determination. The CAP must identify how the Contractor will correct the noncompliance findings for the remaining portion of the DBE's work. The AGENCY has five (5) days to review the CAP in conjunction with the prime contractor's review. The Contractor must implement the CAP within five (5) days of the AGENCY's approval. The AGENCY will then authorize the prior noncompliant portion of work for the DBE's committed work.

If corrective actions cannot be accomplished to ensure the DBE performs a CUF on the Contract, then the Contractor may have good cause to request termination of the DBE.

I. Use of Joint Checks

A joint check may be used between the Contractor or lower-tier subcontractor and a DBE subcontractor purchasing materials from a material supplier if the contractor obtains prior approval from the LPA for the proposed use of joint check upon submittal of the LAPM 9-K: DLA Disadvantaged Business Enterprises (DBE) Joint Check Agreement Request form.

To use a joint check, the following conditions must be met:

- All parties, including the Contractor, must agree to the use of a joint check
- Entity issuing the joint check acts solely to guarantee payment
- DBE must release the check to the material supplier
- LPA must authorize the request before implementation
- Any party to the agreement must provide requested documentation within 10 days of the LPA's request for the documentation
- Agreement to use a joint check must be short-term, not to exceed 1 year, allowing sufficient time needed to establish or increase a credit line with the material supplier

A request for a joint check agreement may be initiated by any party. If a joint check is used, the DBE remains responsible for all elements of 49 CFR 26.55(c)(1).

Failure to comply with the above requirements disqualifies DBE participation and results in no credit and no payment to the Contractor for DBE participation.

A joint check may not be used between the Contractor or subcontractor and a DBE regular dealer, bulk material supplier, manufacturer, wholesaler, broker, trucker, packager, manufacturer's representative, or other persons who arrange or expedite transactions.

2. BID OPENING
The Agency publicly opens and reads bids at the time and place shown on the Notice to Contractors.

3. BID RIGGING
The U.S. Department of Transportation (DOT) provides a toll-free hotline to report bid rigging activities. Use the hotline to report bid rigging, bidder collusion, and other fraudulent activities. The hotline number is (800) 424-9071. The service is available 24 hours 7 days a week and is confidential and anonymous. The hotline is part of the DOT's effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General.

4. CONTRACT AWARD
If the Agency awards the contract, the award is made to the lowest responsible and responsive bidder.

5. CONTRACTOR LICENSE
The Contractor must be properly licensed as a contractor from contract award through Contract acceptance (23 CFR 635.110).

6. CHANGED CONDITIONS

A. Differing Site Conditions

1. During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract, are encountered at the site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions before the site is disturbed and before the affected work is performed.
2. Upon written notification, the engineer will investigate the conditions, and if it is determined that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the contract, an adjustment, excluding anticipated profits, will be made and the contract modified in writing accordingly. The engineer will notify the contractor of the determination whether or not an adjustment of the contract is warranted.
3. No contract adjustment which results in a benefit to the contractor will be allowed unless the contractor has provided the required written notice.
4. No contract adjustment will be allowed under this clause for any effects caused on unchanged work. [*This provision may be omitted by the Local Agency, at their option.*]

B. Suspensions of Work Ordered by the Engineer

1. If the performance of all or any portion of the work is suspended or delayed by the engineer in writing for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry) and the contractor believes that additional compensation and/or contract time is due as a result of such suspension or delay, the contractor shall submit to the engineer in writing a request for adjustment within 7 calendar days of receipt of the notice to resume work. The request shall set forth the reasons and support for such adjustment.
2. Upon receipt, the engineer will evaluate the contractor's request. If the engineer agrees that the cost and/or time required for the performance of the contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of and not the fault of the contractor, its suppliers, or subcontractors at any approved tier, and not caused by weather, the engineer will make an adjustment (excluding profit) and modify the contract in writing accordingly. The contractor will be notified of the engineer's determination whether or not an adjustment of the contract is warranted.

3. No contract adjustment will be allowed unless the contractor has submitted the request for adjustment within the time prescribed.
4. No contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided or excluded under any other term or condition of this contract.

C. Significant Changes in the Character of Work

1. The engineer reserves the right to make, in writing, at any time during the work, such changes in quantities and such alterations in the work as are necessary to satisfactorily complete the project. Such changes in quantities and alterations shall not invalidate the contract nor release the surety, and the contractor agrees to perform the work as altered.
2. If the alterations or changes in quantities significantly change the character of the work under the contract, whether such alterations or changes are in themselves significant changes to the character of the work or by affecting other work cause such other work to become significantly different in character, an adjustment, excluding anticipated profit, will be made to the contract. The basis for the adjustment shall be agreed upon prior to the performance of the work. If a basis cannot be agreed upon, then an adjustment will be made either for or against the contractor in such amount as the engineer may determine to be fair and equitable.
3. If the alterations or changes in quantities do not significantly change the character of the work to be performed under the contract, the altered work will be paid for as provided elsewhere in the contract.
4. The term “significant change” shall be construed to apply only to the following circumstances:
   - When the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction; or
   - When a major item of work, as defined elsewhere in the contract, is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 125 percent of original contract item quantity, or in case of a decrease below 75 percent, to the actual amount of work performed.

7. BEGINNING OF WORK, TIME OF COMPLETION AND LIQUIDATED DAMAGES

The Contractor shall begin work within 15 calendar days after the issuance of the Notice to Proceed.

This work shall be diligently prosecuted to completion before the expiration of_____WORKING DAYS beginning on the fifteenth calendar day after the date shown on the Notice to Proceed.

The Contractor shall pay to the City/County_____the sum of $_____per day, for each and every calendar days’ delay in finishing the work in excess of the number of working days prescribed above.

8. BUY AMERICA

Buy America Requirements apply to steel and iron, manufactured products, and construction materials permanently incorporated into the project.

Steel and Iron Materials

All steel and iron materials must be melted and manufactured in the United States except:

1. Foreign pig iron and processed, pelletized, and reduced iron ore may be used in the domestic production of the steel and iron materials [60 Fed Reg 15478 (03/24/1995)];
2. If the total combined cost of the materials produced outside the United States does not exceed the greater of 0.1 percent of the total contract amount or $2,500, materials produced outside the United States may be used if authorized.

Furnish steel and iron materials to be incorporated into the work with certificates of compliance and certified mill test reports. Mill test reports must indicate where the steel and iron were melted and manufactured. All melting and manufacturing processes for these materials, including an application of a coating, must occur in the United States. Coating includes all processes that protect or enhance the value of the material to which the coating is applied.

Manufactured Products

Iron and steel used in precast concrete manufactured products must meet the requirements of the above section (Steel and Iron Materials) regardless of the amount used. Iron and steel used in other manufactured products must meet the requirements of the above section (Steel and Iron Materials) if the weight of steel and iron components constitute 90 percent or more of the total weight of the manufactured product.

Construction Materials

Buy America requirements apply to the following construction materials that are or consist primarily of:

1. Non-ferrous metals
2. Plastic and polymer-based products such as:
   2.1 Polyvinylchloride
   2.2 Composite Building Materials
3. Glass
4. Fiber optic cable (including drop cable)
5. Optical fiber
6. Lumber
7. Engineered wood
8. Drywall

All manufacturing processes for these materials as defined in 2 CFR 184.6 must occur in the United States.

Where one or more of these construction materials have been combined by a manufacturer with other materials through a manufacturing process, Buy America requirements do not apply unless otherwise specified.

Furnish construction materials to be incorporated into the work with certificates of compliance with each project delivery. Manufacturer's certificate of compliance must identify where the construction material was manufactured and attest specifically to Buy America compliance.

All manufacturing processes for these materials must occur in the United States.

Buy America requirements do not apply to the following:

1. Tools and construction equipment used in performing the work
2. Temporary work that is not incorporated into the finished project

Waivers

If Buy America waivers are granted, use the following language to include in the contract:

The following steel and iron products, manufactured products, or construction materials have received an approved Buy America waiver for this contract, and therefore, are not subject to Buy America requirements:

1. _____
2. _____

9. QUALITY ASSURANCE

The Local Agency uses a Quality Assurance Program (QAP) to ensure a material is produced to comply with the Contract. The Local Agency may examine the records and reports of tests the prime contractor performs if they are available at the job site. Schedule work to allow time for QAP.

10. PROMPT PAYMENT

A. FROM THE AGENCY TO THE CONTRACTORS

The Local Agency shall make all project progress payment within 30 days after receipt of an undisputed and properly submitted payment request from the Contractor on a construction contract. If the Local Agency fails to pay promptly, the Local Agency shall pay interest to the Contractor, which accrues at the rate of 10 percent per annum on the principal amount of a money judgment remaining unsatisfied and pro-rated as necessary. Upon receipt of the payment request, the Local Agency shall act in accordance with both of the following:

1. The Local Agency shall review each payment request as soon as feasible after receipt to verify it is a proper payment request.
2. The Local Agency must return any payment request deemed improper by the Local Agency to the Contractor as soon as feasible, but not later than seven (7) days, after receipt. A request returned pursuant to this paragraph shall include documentation setting forth in writing the reasons why it is an improper payment request.

B. SUBMITTAL OF EXHIBIT 9-P

For projects awarded on or after September 1, 2023:

The Contractor must submit Exhibit 9-P to the Local Agency administering the contract by the 15th of the month following the month of any payment(s). If the Contractor does not make any payments to subcontractors, supplier(s) and/or manufacturers they must report “no payments were made to subs this month” and write this visibly and legibly on Exhibit 9-P.

The Local Agency must verify all Exhibit 9-P information, monitor compliance with prompt payment requirements for DBE and non-DBE firms, and address any shortfall to the DBE commitment and prompt payment issues until the end of the project. The Local Agency must email a copy of Exhibit 9-P to DBE.Forms@dot.ca.gov before the end of the month after receiving the Exhibit 9-P from the Contractor.

11. FORM FHWA-1273 REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONTRACTS

[Form FHWA-1273 must be physically inserted into the contract without modification, excluding ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS.]

[The current version of Form FHWA-1273 is accessible at FHWA’s website: https://www.fhwa.dot.gov/programadmin/contracts/1273/1273.pdf]

12. FEMALE AND MINORITY GOALS

To comply with Section II, "Nondiscrimination," of "Required Contract Provisions Federal-Aid Construction Contracts," the following are for female and minority utilization goals for Federal-aid construction contracts and subcontracts that exceed $10,000:

The nationwide goal for female utilization is 6.9 percent.

The goals for minority utilization (45 Fed Reg 65984 (10/3/1980)) are as follows:

MINORITY UTILIZATION GOALS

	Economic Area	Goal (Percent)
174	Redding CA: Non-SMSA (Standard Metropolitan Statistical Area) Counties: CA Lassen; CA Modoc; CA Plumas; CA Shasta; CA Siskiyou; CA Tehama	6.8
175	Eureka, CA Non-SMSA Counties: CA Del Norte; CA Humboldt; CA Trinity	6.6
176	San Francisco-Oakland-San Jose, CA: SMSA Counties: 7120 Salinas-Seaside-Monterey, CA CA Monterey 7360 San Francisco-Oakland CA Alameda; CA Contra Costa; CA Marin; CA San Francisco; CA San Mateo 7400 San Jose, CA CA Santa Clara, CA 7485 Santa Cruz, CA CA Santa Cruz 7500 Santa Rosa CA Sonoma 8720 Vallejo-Fairfield-Napa, CA CA Napa; CA Solano Non-SMSA Counties: CA Lake; CA Mendocino; CA San Benito	 28.9 25.6 19.6 14.9 9.1 17.1 23.2
177	Sacramento, CA: SMSA Counties: 6920 Sacramento, CA CA Placer; CA Sacramento; CA Yolo Non-SMSA Counties CA Butte; CA Colusa; CA El Dorado; CA Glenn; CA Nevada; CA Sierra; CA Sutter; CA Yuba	 16.1 14.3
178	Stockton-Modesto, CA: SMSA Counties: 5170 Modesto, CA CA Stanislaus 8120 Stockton, CA CA San Joaquin Non-SMSA Counties CA Alpine; CA Amador; CA Calaveras; CA Mariposa; CA Merced; CA Tuolumne	 12.3 24.3 19.8
179	Fresno-Bakersfield, CA SMSA Counties: 0680 Bakersfield, CA CA Kern 2840 Fresno, CA CA Fresno Non-SMSA Counties: CA Kings; CA Madera; CA Tulare	 19.1 26.1 23.6

180	Los Angeles, CA: SMSA Counties: 0360 Anaheim-Santa Ana-Garden Grove, CA CA Orange 4480 Los Angeles-Long Beach, CA CA Los Angeles 6000 Oxnard-Simi Valley-Ventura, CA CA Ventura 6780 Riverside-San Bernardino-Ontario, CA CA Riverside; CA San Bernardino 7480 Santa Barbara-Santa Maria-Lompoc, CA CA Santa Barbara Non-SMSA Counties CA Inyo; CA Mono; CA San Luis Obispo	11.9 28.3 21.5 19.0 19.7 24.6
181	San Diego, CA: SMSA Counties 7320 San Diego, CA CA San Diego Non-SMSA Counties CA Imperial	16.9 18.2

For the last full week of July during which work is performed under the contract, the prime contractor and each non material-supplier subcontractor with a subcontract of $10,000 or more must complete Form FHWA PR-1391 (Appendix C to 23 CFR 230). Submit the forms by August 15.

13. TITLE VI ASSURANCES

[The U.S. Department of Transportation Order No.1050.2A requires all federal-aid Department of Transportation contracts between an agency and a contractor to contain Appendix A and E.
Note: Appendix B only requires inclusion if the contract impacts deeds effecting or recording the transfer of real property, structures, or improvements thereon, or granting interest therein. Appendices C and D only require inclusion if the contract impacts deeds, licenses, leases, permits, or similar instruments entered into by the recipient.]

APPENDIX A

During the performance of this Agreement, the contractor, for itself, its assignees and successors in interest (hereinafter collectively referred to as CONTRACTOR) agrees as follows:

a. Compliance with Regulations: CONTRACTOR shall comply with the regulations relative to nondiscrimination in federally assisted programs of the Department of Transportation, Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the REGULATIONS), which are herein incorporated by reference and made a part of this agreement.

b. Nondiscrimination: CONTRACTOR, with regard to the work performed by it during the AGREEMENT, shall not discriminate on the grounds of race, color, sex, national origin, religion, age, or disability in the selection and retention of sub-applicants, including procurements of materials and leases of equipment. CONTRACTOR shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the agreement covers a program set forth in Appendix B of the Regulations.

c. Solicitations for Sub-agreements, Including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by CONTRACTOR for work to be performed under a Sub- agreement, including procurements of materials or leases of equipment, each potential sub-applicant or supplier shall be notified by CONTRACTOR of the CONTRACTOR'S obligations under this Agreement and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

d. Information and Reports: CONTRACTOR shall provide all information and reports required by the

Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the recipient or FHWA to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of CONTRACTOR is in the exclusive possession of another who fails or refuses to furnish this information, CONTRACTOR shall so certify to the recipient or FHWA as appropriate, and shall set forth what efforts CONTRACTOR has made to obtain the information.

e. Sanctions for Noncompliance: In the event of CONTRACTOR's noncompliance with the nondiscrimination provisions of this agreement, the recipient shall impose such agreement sanctions as it or the FHWA may determine to be appropriate, including, but not limited to:
    i. withholding of payments to CONTRACTOR under the Agreement within a reasonable period of time, not to exceed 90 days; and/or
    ii. cancellation, termination or suspension of the Agreement, in whole or in part.

f. Incorporation of Provisions: CONTRACTOR shall include the provisions of paragraphs (1) through (6) in every sub-agreement, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto.

CONTRACTOR shall take such action with respect to any sub-agreement or procurement as the recipient or FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance, provided, however, that, in the event CONTRACTOR becomes involved in, or is threatened with, litigation with a sub-applicant or supplier as a result of such direction, CONTRACTOR may request the recipient enter into such litigation to protect the interests of the State, and, in addition, CONTRACTOR may request the United States to enter into such litigation to protect the interests of the United States.

APPENDIX B

CLAUSES FOR DEEDS TRANSFERRING UNITED STATES PROPERTY

The following clauses will be included in deeds effecting or recording the transfer of real property, structures, or improvements thereon, or granting interest therein from the United States pursuant to the provisions of Assurance 4:

NOW THEREFORE, the U.S. Department of Transportation as authorized by law and upon the condition that the recipient will accept title to the lands and maintain the project constructed thereon in accordance with Title 23 U.S.C., the regulations for the administration of the preceding statute, and the policies and procedures prescribed by the FHWA of the U.S. Department of Transportation in accordance and in compliance with all requirements imposed by Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation pertaining to and effectuating the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252; 42 U.S.C. § 2000d to 2000d-4), does hereby remise, release, quitclaim and convey unto the recipient all the right, title and interest of the U.S. Department of Transportation in and to said lands described in Exhibit A attached hereto and made a part hereof.

(HABENDUM CLAUSE)

TO HAVE AND TO HOLD said lands and interests therein unto the recipient and its successors forever, subject, however, to the covenants, conditions, restrictions and reservations herein contained as follows, which will remain in effect for the period during which the real property or structures are used for a purpose for which Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits and will be binding on the recipient, its successors and assigns. The recipient, in consideration of the conveyance of said lands and interest in lands, does hereby covenant and agree as a covenant running with the land for itself, its successors and assigns, that (1) no person will on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination with regard to any facility located wholly or in part on, over, or under such lands hereby conveyed [,] [and]* (2) that the recipient will use the lands and interests in lands and interest in lands so conveyed, in compliance with all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Effectuation of Title

VI of the Civil Rights Act of 1964, and as said Regulations and Acts may be amended[, and (3) that in the event of breach of any of the above-mentioned non-discrimination conditions, the Department will have a right to enter or re-enter said lands and facilities on said lands, and that above described land and facilities will thereon revert to and vest in and become the absolute property of the U.S. Department of Transportation and its assigns as such interest existed prior to this instruction].*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary in order to make clear the purpose of Title VI.)

APPENDIX C

CLAUSES FOR TRANSFER OF REAL PROPERTY ACQUIRED OR IMPROVED UNDER THE ACTIVITY, FACILITY, OR PROGRAM

The following clauses will be included in deeds, licenses, leases, permits, or similar instruments entered into by the recipient pursuant to the provisions of Assurance 7(a):

A. The (grantee, lessee, permittee, etc. as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree [in the case of deeds and leases add “as a covenant running with the land”] that:

1. In the event facilities are constructed, maintained, or otherwise operated on the property described in this (deed, license, lease, permit, etc.) for a purpose for which a U.S. Department of Transportation activity, facility, or program is extended or for another purpose involving the provision of similar services or benefits, the (grantee, licensee, lessee, permittee, etc.) will maintain and operate such facilities and services in compliance with all requirements imposed by the Acts and Regulations (as may be amended) such that no person on the grounds of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.

B. With respect to licenses, leases, permits, etc., in the event of breach of any of the above Non-discrimination covenants, the recipient will have the right to terminate the (lease, license, permit, etc.) and to enter, re-enter, and repossess said lands and facilities thereon, and hold the same as if the (lease, license, permit, etc.) had never been made or issued.*

C. With respect to a deed, in the event of breach of any of the above Non-discrimination covenants, the recipient will have the right to enter or re-enter the lands and facilities thereon, and the above described lands and facilities will there upon revert to and vest in and become the absolute property of the recipient and its assigns.*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

APPENDIX D

CLAUSES FOR CONSTRUCTION/USE/ACCESS TO REAL PROPERTY ACQUIRED UNDER THE ACTIVITY, FACILITY OR PROGRAM

The following clauses will be included in deeds, licenses, permits, or similar instruments/agreements entered into by the recipient pursuant to the provisions of Assurance 7(b):

A. The (grantee, licensee, permittee, etc., as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest ,and assigns, as a part of the consideration hereof, does hereby covenant and agree (in the case of deeds and leases add, "as a covenant running with the land") that (1) no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over, or under such land, and the furnishings of services thereon, no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits or, or otherwise be subjected to discrimination, (3) that the (grantee, licensee, lessee, permittee, etc.) will use the premises in compliance with all other requirements imposed by or pursuant to the Acts and Regulations, as amended, set forth in this Assurance.

B. With respect to (licenses, leases, permits, etc.) in the event of breach of any of the above of the above Non-discrimination covenants, the recipient will have the right to terminate the (license, permits, etc., as appropriate) and to enter or re-enter and repossess said land and the facilities thereon, and hold the same as if said (license, permit, etc., as appropriate) had never been made or issued.*

C. With respect to deeds, in the event of breach of any of the above Non-discrimination covenants, the recipient will there upon revert to and vest in and become the absolute property of the recipient and its assigns.

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

APPENDIX E

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities, including, but not limited to:

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), prohibits discrimination on the basis of sex;
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 U.S.C. § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such

programs or activities are Federally funded or not);

- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination of the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 – 12189) as implemented by Department of Transportation regulations 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

Federal Trainee Program Special Provisions
(to be used when applicable)

14. FEDERAL TRAINEE PROGRAM

For the Federal training program, the number of trainees or apprentices is___.

This section applies if a number of trainees or apprentices is shown on the Notice of Bidders.

As part of the prime contractor's equal opportunity affirmative action program, provide on-the-job training to develop full journeymen in the types of trades or job classifications involved.

The prime contractor has primary responsibility for meeting this training requirement.

If the prime contractor subcontracts a contract part, they shall determine how many trainees or apprentices are to be trained by the subcontractor. Include these training requirements in each subcontract.

Where feasible, 25 percent of apprentices or trainees in each occupation must be in their 1st year of apprenticeship or training.

Distribute the number of apprentices or trainees among the work classifications on the basis of the prime contractor's needs and the availability of journeymen in the various classifications within a reasonable recruitment area.

Before starting work, the prime contractor shall submit to the City/County of_____ :

1. Number of apprentices or trainees to be trained for each classification
2. Training program to be used
3. Training starting date for each classification

The prime contractor shall obtain the City/County of _____approval for this submitted information before the prime contractor starts work. The City/County of_____credits the prime contractor for each apprentice or trainee the prime contractor employs on the job who is currently enrolled or becomes enrolled in an approved program.

The primary objective of this section is to train and upgrade minorities and women toward journeyman status. The prime contractor shall make every effort to enroll minority and women apprentices or trainees, such as conducting systematic and direct recruitment through public and private sources likely to yield minority and women apprentices or trainees, to the extent they are available within a reasonable recruitment area and show that they have made the efforts. In making these efforts, the prime contractor shall not discriminate against any applicant for training.

The prime contractor shall not employ as an apprentice or trainee an employee:

1. In any classification in which the employee has successfully completed a training course leading to journeyman status or in which the employee has been employed as a journeyman
2. Who is not registered in a program approved by the US Department of Labor, Bureau of Apprenticeship and Training

The prime contractor shall ask the employee if the employee has successfully completed a training course leading to journeyman status or has been employed as a journeyman. The prime contractor's records must show the employee's answers to the questions.

In the training program, the prime contractor shall establish the minimum length and training type for each classification. The City/County of _____ and FHWA approves a program if one of the following is met:

1. It is calculated to:
   - Meet the equal employment opportunity responsibilities
   - Qualify the average apprentice or trainee for journeyman status in the classification involved by the end of the training period
2. It is registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, and it is administered in a way consistent with the equal employment responsibilities of Federal-aid highway construction contracts

The prime contractor shall obtain the State's approval for their training program before they start work involving the classification covered by the program.

The prime contractor shall provide training in the construction crafts, not in clerk-typist or secretarial-type positions. Training is allowed in lower-level management positions such as office engineers, estimators, and timekeepers if the training is oriented toward construction applications. Training is allowed in the laborer classification if significant and meaningful training is provided and approved by the division office. Off-site training is allowed if the training is an integral part of an approved training program and does not make up a significant part of the overall training.

The City/County of_____reimburses the prime contractor 80 cents per hour of training given an employee on this contract under an approved training program:

1. For on-site training
2. For off-site training if the apprentice or trainee is currently employed on a Federal-aid project and prime contractor does at least one of the following:
   a. Contribute to the cost of the training
   b. Provide the instruction to the apprentice or trainee
   c. Pay the apprentice's or trainee's wages during the off-site training period
3. If the prime contractor complies with this section.

Each apprentice or trainee must:

1. Begin training on the project as soon as feasible after the start of work involving the apprentice's or trainee's skill
2. Remain on the project as long as training opportunities exist in the apprentice's or trainee's work classification or until the apprentice or trainee has completed the training program

Furnish the apprentice or trainee a:

1. Copy of the training plan approved by the U.S, Department of Labor or a training plan for trainees approved by both Caltrans and FHWA
2. Certification showing the type and length of training satisfactorily completed

Maintain records and submit reports documenting contractor's performance under this section.

15. PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE EQUIPMENT AND SERVICES

In response to significant national security concerns, the agency shall check the prohibited vendor list before making any telecommunications and video surveillance purchase because recipients and subrecipients of federal funds are prohibited from obligating or expending loan or grant funds to:

- Procure or obtain;
- Extend or renew a contract to procure or obtain; or
- Enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system.

The prohibited vendors (and their subsidiaries or affiliates) are:

- Huawei Technologies Company;
- ZTE Corporation;
- Hytera Communications Corporation;
- Hangzhou Hikvision Digital Technology Company;
- Dahua Technology Company; and
- Subsidiaries or affiliates of the above-mentioned companies.

In implementing the prohibition, the agency administering loan, grant, or subsidy programs shall prioritize available funding and technical support to assist affected businesses, institutions and organizations as is reasonably necessary for those affected entities to transition from covered communications equipment and services, to procure replacement equipment and services, and to ensure that communications service to users and customers is sustained.

The contractors should furnish telecommunications and video surveillance equipment with a certificate of compliance. The certificate must state telecommunications and video surveillance equipment was not procured or obtained from manufacturers identified in the above list.

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Non-segregated Facilities
IV. Davis-Bacon and Related Act Provisions
V. Contract Work Hours and Safety Standards Act Provisions
VI. Subletting or Assigning the Contract
VII. Safety: Accident Prevention
VIII. False Statements Concerning Highway Projects
IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
XI. Certification Regarding Use of Contract Funds for Lobbying
XII. Use of United States-Flag Vessels:

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (*see* 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:
(1) Withholding monthly progress payments;
(2) Assessing sanctions;
(3) Liquidated damages; and/or
(4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than $10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided,* That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH–1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR part 1, a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is used in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to *DBAconformance@dol.gov*. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(4) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to *DBAconformance@dol.gov*, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

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

e. *Unfunded plans.* If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided,* That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in § 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

3. Records and certified payrolls (29 CFR 5.5)

a. *Basic record requirements* (1) *Length of record retention.* All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) *Information required.* Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) *Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(4) *Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. *Certified payroll requirements* (1) *Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) *Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (*e.g.,* the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH–347 or in any other format desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division website at *https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347/.pdf* or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) *Statement of Compliance.* Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3; and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) *Use of Optional Form WH–347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 3729.

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under 29 CFR part 6 any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices* (1) *Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyworkers shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

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

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility. a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, 18 U.S.C. 1001.

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or 29 CFR part 1 or 3; or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or 29 CFR part 1 or 3.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or

mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

* $31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of $150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

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3. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily

excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

* * * * *

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

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XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B)
This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

This content is from the eCFR and is authoritative but unofficial.

Title 29 —Labor

Subtitle A —Office of the Secretary of Labor

Part 5 —Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction (Also Labor Standards Provisions Applicable to Nonconstruction Contracts Subject to the Contract Work Hours and Safety Standards Act)

Subpart A —Davis-Bacon and Related Acts Provisions and Procedures

Source: 48 FR 19540, Apr. 29, 1983, unless otherwise noted.

Authority: 5 U.S.C. 301; Reorganization Plan No. 14 of 1950, 5 U.S.C. appendix; 28 U.S.C. 2461 note; 40 U.S.C. 3141 *et seq.;* 40 U.S.C. 3145; 40 U.S.C. 3148; 40 U.S.C. 3701 *et seq.;* Secretary's Order No. 01-2014, 79 FR 77527; and the laws referenced by § 5.1(a).

Source: 48 FR 19541, Apr. 29, 1983, unless otherwise noted.

Editorial Note: Nomenclature changes to subpart A of part 5 appear at 61 FR 19984, May 3, 1996.

§ 5.5 Contract provisions and related matters.

(a) ***Required contract clauses.*** The Agency head will cause or require the contracting officer to require the contracting officer to insert in full, or (for contracts covered by the Federal Acquisition Regulation (48 CFR chapter 1)) by reference, in any contract in excess of $2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a public building or public work, or building or work financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the laws referenced by § 5.1, the following clauses (or any modifications thereof to meet the particular needs of the agency, *Provided,* That such modifications are first approved by the Department of Labor):

(1) ***Minimum wages*** —

(i) ***Wage rates and fringe benefits.*** All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of this section, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(v) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred

during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph (a)(4) of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided,* That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph (a)(1)(iii) of this section) and the Davis-Bacon poster (WH-1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii) ***Frequently recurring classifications.***

(A) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR part 1, a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph (a)(1)(iii) of this section, provided that:

(*1*) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(*2*) The classification is used in the area by the construction industry; and

(*3*) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(B) The Administrator will establish wage rates for such classifications in accordance with paragraph (a)(1)(iii)(A)(*3*) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

(iii) ***Conformance.***

(A) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

(*1*) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(*2*) The classification is used in the area by the construction industry; and

(*3*) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(C) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a

report of the action taken will be sent by the contracting officer by email to *DBAconformance@dol.gov*. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to *DBAconformance@dol.gov*, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(E) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under paragraphs (a)(1)(iii)(C) and (D) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph (a)(1)(iii)(C) or (D) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

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

(v) ***Unfunded plans.*** If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided,* That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in § 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(vi) ***Interest.*** In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

(2) ***Withholding*** —

(i) ***Withholding requirements.*** The [write in name of Federal agency or the recipient of Federal assistance] may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in paragraph (a) of this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld

from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work (or otherwise working in construction or development of the project under a development statute) all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph (a)(3)(iv) of this section, the [Agency] may on its own initiative and after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(ii) ***Priority to withheld funds.*** The Department has priority to funds withheld or to be withheld in accordance with paragraph (a)(2)(i) or (b)(3)(i) of this section, or both, over claims to those funds by:

(A) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(B) A contracting agency for its reprocurement costs;

(C) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(D) A contractor's assignee(s);

(E) A contractor's successor(s); or

(F) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901-3907.

(3) ***Records and certified payrolls*** —

(i) ***Basic record requirements*** —

(A) ***Length of record retention.*** All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(B) ***Information required.*** Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(C) ***Additional records relating to fringe benefits.*** Whenever the Secretary of Labor has found under paragraph (a)(1)(v) of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan

or program described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(D) ***Additional records relating to apprenticeship.*** Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

(ii) ***Certified payroll requirements*** —

(A) ***Frequency and method of submission.*** The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the [write in name of appropriate Federal agency] if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the certified payrolls to the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records, for transmission to the [write in name of agency]. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(B) ***Information required.*** The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph (a)(3)(i)(B) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (*e.g.,* the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at *https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347/.pdf* or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the sponsoring government agency (or the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records).

(C) ***Statement of Compliance.*** Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(*1*) That the certified payroll for the payroll period contains the information required to be provided under paragraph (a)(3)(ii) of this section, the appropriate information and basic records are being maintained under paragraph (a)(3)(i) of this section, and such information and records are correct and complete;

(*2*) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3; and

(*3*) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(D) ***Use of Optional Form WH-347.*** The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(C) of this section.

(E) ***Signature.*** The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(F) ***Falsification.*** The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 3729.

(G) ***Length of certified payroll retention.*** The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

(iii) ***Contracts, subcontracts, and related documents.*** The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

(iv) ***Required disclosures and access*** —

(A) ***Required record disclosures and access to workers.*** The contractor or subcontractor must make the records required under paragraphs (a)(3)(i) through (iii) of this section, and any other documents that the [write the name of the agency] or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the [write the name of the agency] or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(B) ***Sanctions for non-compliance with records and worker access requirements.*** If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency

may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under 29 CFR part 6 any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(C) ***Required information disclosures.*** Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to the [write in name of appropriate Federal agency] if the agency is a party to the contract, or to the Wage and Hour Division of the Department of Labor. If the Federal agency is not such a party to the contract, the contractor, subcontractor, or both, must, upon request, provide the full Social Security number and last known address, telephone number, and email address of each covered worker to the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records, for transmission to the [write in name of agency], the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

(4) ***Apprentices and equal employment opportunity*** —

(i) ***Apprentices*** —

(A) ***Rate of pay.*** Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(B) ***Fringe benefits.*** Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage

determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(C) ***Apprenticeship ratio.*** The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph (a)(4)(i)(D) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph (a)(4)(i)(A) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(D) ***Reciprocity of ratios and wage rates.*** Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

(ii) ***Equal employment opportunity.*** The use of apprentices and journeyworkers under this part must be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

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

(6) ***Subcontracts.*** The contractor or subcontractor must insert in any subcontracts the clauses contained in paragraphs (a)(1) through (11) of this section, along with the applicable wage determination(s) and such other clauses or contract modifications as the [write in the name of the Federal agency] may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate.

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

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

(9) ***Disputes concerning labor standards.*** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5,

6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(10) ***Certification of eligibility.***

(i) By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

(iii) The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, 18 U.S.C. 1001.

(11) ***Anti-retaliation.*** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

(i) Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

(ii) Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

(iii) Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or 29 CFR part 1 or 3; or

(iv) Informing any other person about their rights under the DBA, Related Acts, this part, or 29 CFR part 1 or 3.

(b) ***Contract Work Hours and Safety Standards Act (CWHSSA).*** The Agency Head must cause or require the contracting officer to insert the following clauses set forth in paragraphs (b)(1) through (5) of this section in full, or (for contracts covered by the Federal Acquisition Regulation) by reference, in any contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses must be inserted in addition to the clauses required by paragraph (a) of this section or 29 CFR 4.6. As used in this paragraph (b), the terms “laborers and mechanics” include watchpersons and guards.

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

(2) ***Violation; liability for unpaid wages; liquidated damages.*** In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done

under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of $33 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1).

(3) ***Withholding for unpaid wages and liquidated damages*** —

(i) ***Withholding process.*** The [write in the name of the Federal agency or the recipient of Federal assistance] may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this paragraph (b) on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

(ii) ***Priority to withheld funds.*** The Department has priority to funds withheld or to be withheld in accordance with paragraph (a)(2)(i) or (b)(3)(i) of this section, or both, over claims to those funds by:

(A) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(B) A contracting agency for its reprocurement costs;

(C) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(D) A contractor's assignee(s);

(E) A contractor's successor(s); or

(F) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901-3907.

(4) ***Subcontracts.*** The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs (b)(1) through (5) of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (5). In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

(5) ***Anti-retaliation.*** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

(i) Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

(ii) Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

(iii) Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

(iv) Informing any other person about their rights under CWHSSA or this part.

(c) ***CWHSSA required records clause.*** In addition to the clauses contained in paragraph (b) of this section, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other laws referenced by § 5.1, the Agency Head must cause or require the contracting officer to insert a clause requiring that the contractor or subcontractor must maintain regular payrolls and other basic records during the course of the work and must preserve them for a period of 3 years after all the work on the prime contract is completed for all laborers and mechanics, including guards and watchpersons, working on the contract. Such records must contain the name; last known address, telephone number, and email address; and social security number of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid; daily and weekly number of hours actually worked; deductions made; and actual wages paid. Further, the Agency Head must cause or require the contracting officer to insert in any such contract a clause providing that the records to be maintained under this paragraph must be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview workers during working hours on the job.

(d) ***Incorporation of contract clauses and wage determinations by reference.*** Although agencies are required to insert the contract clauses set forth in this section, along with appropriate wage determinations, in full into covered contracts, and contractors and subcontractors are required to insert them in any lower-tier subcontracts, the incorporation by reference of the required contract clauses and appropriate wage determinations will be given the same force and effect as if they were inserted in full text.

(e) ***Incorporation by operation of law.*** The contract clauses set forth in this section (or their equivalent under the Federal Acquisition Regulation), along with the correct wage determinations, will be considered to be a part of every prime contract required by the applicable statutes referenced by § 5.1 to include such clauses, and will be effective by operation of law, whether or not they are included or incorporated by reference into such contract, unless the Administrator grants a variance, tolerance, or exemption from the application of this paragraph. Where the clauses and applicable wage determinations are effective by operation of law under this paragraph, the prime contractor must be compensated for any resulting increase in wages in accordance with applicable law.

(The information collection, recordkeeping, and reporting requirements contained in the following paragraphs of this section were approved by the Office of Management and Budget:

Paragraph	OMB Control No.
(a)(1)(ii)(B)	1235-0023
(a)(1)(ii)(C)	1235-0023
(a)(1)(iv)	1235-0023
(a)(3)(i)	1235-0023
(a)(3)(ii)(A)	1235-0023
	1235-0008
(c)	1235-0023

[48 FR 19540, Apr. 29, 1983, as amended at 51 FR 12265, Apr. 9, 1986; 55 FR 50150, Dec. 4, 1990; 57 FR 28776, June 26, 1992; 58 FR 58955, Nov. 5, 1993; 61 FR 40716, Aug. 5, 1996; 65 FR 69693, Nov. 20, 2000; 73 FR 77511, Dec. 19, 2008; 81 FR 43450, July 1, 2016; 82 FR 2225, 2226, Jan. 9, 2017; 83 FR 12, Jan 2, 2018; 84 FR 218, Jan. 23, 2019; 87 FR 2334, Jan. 14, 2022; 88 FR 2215, Jan. 13, 2023; 88 FR 57734, Aug. 23, 2023; 89 FR 1815, Jan. 11, 2024; 90 FR 1859, Jan. 10, 2025]

"General Decision Number: CA20250007 09/26/2025

Superseded General Decision Number: CA20240007

State: California

Construction Types: Building, Heavy (Heavy and Dredging) and Highway

Counties: Alpine, Amador, Butte, Colusa, El Dorado, Glenn, Lassen, Marin, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Siskiyou, Solano, Sonoma, Sutter, Tehama, Trinity, Yolo and Yuba Counties in California.

BUILDING CONSTRUCTION PROJECTS (excluding Amador County only); DREDGING CONSTRUCTION PROJECTS (does not include hopper dredge work); HEAVY CONSTRUCTION PROJECTS (does not include water well drilling); AND HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least $17.75 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2025.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least $13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2025.

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

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

Modification Number	Publication Date
0	01/03/2025
1	01/10/2025
2	02/07/2025
3	02/21/2025
4	02/28/2025
5	03/07/2025
6	03/21/2025
7	06/13/2025
8	06/27/2025
9	07/04/2025
10	07/18/2025
11	08/01/2025
12	08/08/2025
13	08/15/2025
14	08/22/2025
15	09/05/2025
16	09/19/2025
17	09/26/2025

ASBE0016-001 01/01/2024

AREA 1: MARIN, NAPA, SAN BENITO, SAN FRANCISCO, SOLANO, & SONOMA COUNTIES

AREA 2: ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHEMA, TRINITY, YOLO, & YUBA COUNTIES

	Rates	Fringes
Asbestos Workers/Insulator (Includes the application of all insulating materials, Protective Coverings, Coatings, and Finishes to all types of mechanical systems)		
Area 1	$ 84.76	25.07
Area 2	$ 64.56	25.07

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* ASBE0016-007 05/01/2025

AREA 1 : ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SOLANO, SONOMA, SUTTER, TEHAMA, TRINITY, YOLO & YUBA COUNTIES

AREA 2: MARIN & NAPA COUNTIES

	Rates	Fringes
Asbestos Removal worker/hazardous material handler (Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all		

insulation materials from
mechanical systems, whether
they contain asbestos or not)
     AREA 1.....$ 35.31 12.75
     AREA 2.....$ 44.73 12.75

BOIL0549-002 01/01/2021

	Rates	Fringes
BOILERMAKER		
(1) Marin & Solano Counties	$ 49.62	41.27
(2) Remaining Counties	$ 45.60	38.99

BRCA0003-001 08/01/2024

	Rates	Fringes
MARBLE FINISHER	$ 42.06	19.80

BRCA0003-004 05/01/2024

AREA 1: ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SUTTER, TEHAMA, YOLO AND YUBA COUNTIES

AREA 2: MARIN, NAPA, SISKIYOU, SOLANO, SONOMA AND TRINITY COUNTIES

	Rates	Fringes
BRICKLAYER		
AREA 1	$ 52.76	25.01
AREA 2	$ 57.02	28.50

SPECIALTY PAY:
(A) Underground work such as tunnel work, sewer work, manholes, catch basins, sewer pipes and telephone conduit shall be paid $1.25 per hour above the regular rate. Work in direct contact with raw sewage shall receive $1.25 per hour in addition to the above.
(B) Operating a saw or grinder shall receive $1.25 per hour above the regular rate.
(C) Gunite nozzle person shall receive $1.25 per hour above the regular rate.

BRCA0003-008 07/01/2024

	Rates	Fringes
TERRAZZO FINISHER	$ 44.93	20.98
TERRAZZO WORKER/SETTER	$ 60.58	29.79

BRCA0003-010 04/01/2024

	Rates	Fringes
TILE FINISHER		
Area 1	$ 35.00	17.44
Area 2	$ 34.76	19.22
Area 3	$ 37.75	19.28
Area 4	$ 35.78	19.23

Tile Layer

Area 1	$ 55.55	21.08
Area 2	$ 55.17	22.52
Area 3	$ 59.92	22.62
Area 4	$ 56.79	22.54

AREA 1: Butte, Colusa, El Dorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Sutter, Tehema, Yolo, Yuba
AREA 2: Alpine, Amador
AREA 3: Marin, Napa, Solano, Siskiyou
AREA 4: Sonoma

BRCA0003-014 08/01/2024

	Rates	Fringes
MARBLE MASON	$ 61.72	30.31

CARP0034-001 07/01/2021

	Rates	Fringes
Diver		
Assistant Tender, ROV Tender/Technician	$ 54.10	34.69
Diver standby	$ 60.51	34.69
Diver Tender	$ 59.51	34.69
Diver wet	$ 103.62	34.69
Manifold Operator (mixed gas)	$ 64.51	34.69
Manifold Operator (Standby)	$ 59.51	34.69

DEPTH PAY (Surface Diving):
050 to 100 ft $2.00 per foot
101 to 150 ft $3.00 per foot
151 to 220 ft $4.00 per foot
221 ft.-deeper $5.00 per foot

SATURATION DIVING:
The standby rate shall apply until saturation starts. The saturation diving rate applies when divers are under pressure continuously until work task and decompression are complete. The diver rate shall be paid for all saturation hours.

DIVING IN ENCLOSURES:
Where it is necessary for Divers to enter pipes or tunnels, or other enclosures where there is no vertical ascent, the following premium shall be paid: Distance traveled from entrance 26 feet to 300 feet: $1.00 per foot. When it is necessary for a diver to enter any pipe, tunnel or other enclosure less than 48"" in height, the premium will be $1.00 per foot.

WORK IN COMBINATION OF CLASSIFICATIONS:
Employees working in any combination of classifications within the diving crew (except dive supervisor) in a shift are paid in the classification with the highest rate for that shift.

CARP0034-003 07/01/2021

	Rates	Fringes

Piledriver.....$ 54.10 34.69

CARP0035-001 08/01/2020

AREA 1: MARIN, NAPA, SOLANO & SONOMA

AREA 3: SACRAMENTO, WESTERN EL DORADO (Territory west of an including highway 49 and the territory inside the city limits of Placerville), WESTERN PLACER (Territory west of and including highway 49), & YOLO

AREA 4: ALPINE, BUTTE, COLUSA, EASTERN EL DORADO, GLENN, LASSEN, MODOC, NEVADA, EASTERN PLACER, PLUMAS, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY, & YUBA

	Rates	Fringes
Drywall Installers/Lathers:		
Area 1	$ 52.65	31.26
Area 3	$ 47.27	31.26
Area 4	$ 45.92	31.26
Drywall Stocker/Scrapper		
Area 1	$ 26.33	18.22
Area 3	$ 23.64	18.22
Area 4	$ 22.97	18.22

CARP0035-009 07/01/2020

Marin County

	Rates	Fringes
CARPENTER		
Bridge Builder/Highway Carpenter	$ 52.65	30.82
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer	$ 52.80	30.82
Journeyman Carpenter	$ 52.65	30.82
Millwright	$ 52.75	32.41

CARP0035-010 07/01/2020

AREA 1: Marin, Napa, Solano & Sonoma Counties

AREA 2: Monterey, San Benito and Santa Cruz

AREA 3: Alpine, Butte, Colusa, El Dorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, Yolo & Yuba counties

	Rates	Fringes
Modular Furniture Installer		
Area 1		
Installer	$ 28.76	22.53
Lead Installer	$ 32.21	23.03
Master Installer	$ 36.43	23.03
Area 2		
Installer	$ 26.11	22.53

Lead Installer.....$ 29.08 23.03
Master Installer.....$ 32.71 23.03
Area 3
Installer.....$ 25.16 22.53
Lead Installer.....$ 27.96 23.03
Master Installer.....$ 31.38 23.03

CARP0046-001 07/01/2023

El Dorado (West), Placer (West), Sacramento and Yolo Counties

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter	$ 60.39	33.52
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer	$ 54.66	33.52
Journeyman Carpenter	$ 54.51	33.52
Millwright	$ 57.01	35.11

Footnote: Placer County (West) includes territory West of and including Highway 49 and El Dorado County (West) includes territory West of and including Highway 49 and territory inside the city limits of Placerville.

CARP0046-002 07/01/2023

Alpine, Colusa, El Dorado (East), Nevada, Placer (East), Sierra, Sutter and Yuba Counties

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter	$ 60.39	33.52
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer	$ 53.31	33.52
Journeyman Carpenter	$ 53.16	33.52
Millwright	$ 55.66	35.11

CARP0152-003 07/01/2020

Amador County

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter	$ 52.65	30.82
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer	$ 45.57	30.82
Journeyman Carpenter	$ 45.42	30.82
Millwright	$ 47.92	32.41

CARP0180-001 07/01/2021

Solano County

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter	$ 54.85	31.49
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer	$ 55.00	31.49
Journeyman Carpenter	$ 54.85	31.49
Millwright	$ 54.95	33.08

CARP0751-001 07/01/2021

Napa and Sonoma Counties

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter	$ 54.85	31.49
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer	$ 55.00	31.49
Journeyman Carpenter	$ 54.85	31.49
Millwright	$ 54.95	33.08

CARP1599-001 07/01/2020

Butte, Glenn, Lassen, Modoc, Plumas, Shasta, Siskiyou, Tehama and Trinity Counties

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter	$ 52.65	30.82
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer	$ 45.57	30.82
Journeyman Carpenter	$ 45.42	30.82
Millwright	$ 47.92	32.41

ELEC0180-001 06/01/2025

NAPA AND SOLANO COUNTIES

	Rates	Fringes
CABLE SPLICER	$ 69.26	3%+29.28
ELECTRICIAN	$ 61.56	3%+29.28

ELEC0180-003 12/01/2023

NAPA AND SOLANO COUNTIES

	Rates	Fringes
Sound & Communications		
Installer	$ 48.44	27.60
Technician	$ 55.71	27.82

SCOPE OF WORK INCLUDES-
SOUND & VOICE TRANSMISSION (Music, Intercom, Nurse Call, Telephone); FIRE ALARM SYSTEMS [excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs], TELEVISION & VIDEO SYSTEMS, SECURITY SYSTEMS, COMMUNICATIONS SYSTEMS that transmit or receive information and/or control systems that are intrinsic to the above.

EXCLUDES-
Excludes all other data systems or multiple systems which include control function or power supply; excludes installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excludes energy management systems.

ELEC0340-002 03/01/2025

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, NEVADA, PLACER, PLUMAS, SACRAMENTO, TRINITY, YOLO, YUBA COUNTIES

	Rates	Fringes
Communications System		
Sound & Communications Installer	$ 40.00	25.50
Sound & Communications Technician	$ 46.00	25.68

SCOPE OF WORK

Includes the installation testing, service and maintenance, of the following systems which utilize the transmission and/or transference of voice, sound, vision and digital for commercial, education, security and entertainment purposes for the following TV monitoring and surveillance, background-foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multi-media, multiplex, nurse call system, radio page, school intercom and sound, burglar alarms, and low voltage master clock systems.

A. SOUND AND VOICE TRANSMISSION/TRANSFERENCE SYSTEMS
Background foreground music Intercom and telephone interconnect systems, Telephone systems, Nurse call systems, Radio page systems, School intercom and sound systems, Burglar alarm systems, Low voltage master clock systems, Multi-media/multiplex systems, Sound and musical entertainment systems, RF systems, Antennas and Wave Guide.

B. FIRE ALARM SYSTEMS
Installation, wire pulling and testing

C. TELEVISION AND VIDEO SYSTEMS Television monitoring and surveillance systems, Video security systems, Video entertainment systems, Video educational systems, Microwave transmission systems, CATV and CCTV

D. SECURITY SYSTEMS Perimeter security systems Vibration sensor systems Card access systems Access control systems Sonar/infrared monitoring equipment

E. COMMUNICATIONS SYSTEMS THAT TRANSMIT OR RECEIVE INFORMATION AND/OR CONTROL SYSTEMS THAT ARE INTRINSIC TO THE ABOVE LISTED SYSTEMS SCADA (Supervisory Control and Data Acquisition) PCM (Pulse Code Modulation) Inventory Control Systems Digital Data Systems Broadband and Baseband and Carriers Point of Sale Systems VSAT Data Systems Data Communication Systems RF and Remote Control Systems Fiber Optic Data Systems WORK EXCLUDED Raceway systems are not covered (excluding Ladder-Rack for the purpose of the above listed systems). Chases and/or nipples (not to exceed 10 feet) may be installed on open wiring systems. Energy management systems. SCADA (Supervisory Control and Data Acquisition) when not intrinsic to the above listed systems (in the scope). Fire alarm systems when installed in raceways (including wire and cable pulling) shall be performed at the electrician wage rate, when either of the following two (2) conditions apply:
1. The project involves new or major remodel building trades construction.
2. The conductors for the fire alarm system are installed in conduit.

ELEC0340-003 08/01/2025

ALPINE (West of Sierra Mt. Watershed), AMADOR, BUTTE, COLUSA, EL DORADO (West of Sierra Mt. Watershed), GLENN, LASSEN, NEVADA (West of Sierra Mt. Watershed), PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA (West of Sierra Mt. Watershed), SUTTER, TEHAMA, TRINITY, YOLO & YUBA COUNTIES

	Rates	Fringes
ELECTRICIAN		
Remaining area	$ 52.70	38.68
Sierra Army Depot, Herlong	$ 48.83	18.54
Tunnel work	$ 41.01	18.54

CABLE SPLICER: Receives 110% of the Electrician basic hourly rate.

ELEC0401-005 01/01/2025

ALPINE (east of the main watershed divide), EL DORADO (east of the main watershed divide), NEVADA (east of the main watershed), PLACER (east of the main watershed divide) and SIERRA (east of the main watershed divide) COUNTIES:

	Rates	Fringes
ELECTRICIAN	$ 48.50	23.04

ZONE RATE:

70-90 miles - $10.00 per hour
91+ miles   - $15.00 per hour

ELEC0551-004 06/01/2024

MARIN AND SONOMA COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 59.17	32.04

ELEC0551-005 12/01/2024

MARIN & SONOMA COUNTIES

	Rates	Fringes
Sound & Communications		
Installer	$ 51.59	28.20
Technician	$ 59.33	28.43

SCOPE OF WORK INCLUDES-
SOUND & VOICE TRANSMISSION (Music, Intercom, Nurse Call, Telephone); FIRE ALARM SYSTEMS [excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs], TELEVISION & VIDEO SYSTEMS, SECURITY SYSTEMS, COMMUNICATIONS SYSTEMS that transmit or receive information and/or control systems that are intrinsic to the above.

EXCLUDES-
Excludes all other data systems or multiple systems which include control function or power supply; excludes installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excludes energy management systems.

ELEC0659-006 01/01/2025

MODOC and SISKIYOU COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 45.58	20.70

ELEC0659-008 02/01/2023

DEL NORTE, MODOC & SISKIYOU COUNTIES

	Rates	Fringes
Line Construction		
(1) Cable Splicer	$ 67.80	4.5%+22.15
(2) Lineman, Pole Sprayer, Heavy Line Equipment Man	$ 60.54	4.5%+22.15
(3) Tree Trimmer	$ 37.84	4.5%+14.30
(4) Line Equipment Man	$ 53.82	4.5%+19.40

(5) Powdermen,
Jackhammermen.....$ 40.37 4.5%+14.30
(6) Groundman.....$ 33.37 4.5%+14.30

ELEC1245-004 01/01/2025

ALL COUNTIES EXCEPT DEL NORTE, MODOC & SISKIYOU

	Rates	Fringes
LINE CONSTRUCTION		
(1) Lineman; Cable splicer	$ 70.16	24.71
(2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), overhead & underground distribution line equipment)	$ 53.30	22.26
(3) Groundman	$ 40.76	21.76
(4) Powderman	$ 51.87	18.79

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

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ELEV0008-001 01/01/2025

	Rates	Fringes
ELEVATOR MECHANIC	$ 84.05	38.435+a+b

FOOTNOTE:
a. PAID VACATION: Employer contributes 8% of regular hourly rate as vacation pay credit for employees with more than 5 years of service, and 6% for 6 months to 5 years of service.
b. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

ENGI0003-008 08/01/2024

	Rates	Fringes
Dredging: (DREDGING: CLAMSHELL & DIPPER DREDGING; HYDRAULIC SUCTION DREDGING:)		
AREA 1:		
(1) Leverman	$ 60.61	39.55
(2) Dredge Dozer; Heavy duty repairman	$ 55.65	39.55
(3) Booster Pump Operator; Deck Engineer; Deck mate; Dredge Tender; Winch Operator	$ 54.53	39.55
(4) Bargeman; Deckhand; Fireman; Leveehand; Oiler	$ 51.23	39.55
AREA 2:		
(1) Leverman	$ 62.61	39.55
(2) Dredge Dozer; Heavy duty repairman	$ 57.65	39.55

(3) Booster Pump
Operator; Deck
Engineer; Deck mate;
Dredge Tender; Winch
Operator.....$ 56.53 39.55
(4) Bargeman; Deckhand;
Fireman; Leveehand; Oiler..$ 53.23 39.55

AREA DESCRIPTIONS

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

AREA 2: MODOC COUNTY

THE REMAINGING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2 AS NOTED BELOW:

ALPINE COUNTY:
Area 1: Northernmost part
Area 2: Remainder

CALAVERAS COUNTY:
Area 1: Remainder
Area 2: Eastern part

COLUSA COUNTY:
Area 1: Eastern part
Area 2: Remainder

ELDORADO COUNTY:
Area 1: North Central part
Area 2: Remainder

FRESNO COUNTY:
Area 1: Remainder
Area 2: Eastern part

GLENN COUNTY:
Area 1: Eastern part
Area 2: Remainder

LASSEN COUNTY:
Area 1: Western part along the Southern portion of border with Shasta County
Area 2: Remainder

MADERA COUNTY:
Area 1: Except Eastern part
Area 2: Eastern part

MARIPOSA COUNTY
Area 1: Except Eastern part
Area 2: Eastern part

MONTERREY COUNTY
Area 1: Except Southwestern part
Area 2: Southwestern part

NEVADA COUNTY:
Area 1: All but the Northern portion along the border of Sierra County
Area 2: Remainder

PLACER COUNTY:
Area 1: Al but the Central portion
Area 2: Remainder

PLUMAS COUNTY:
Area 1: Western portion
Area 2: Remainder

SHASTA COUNTY:
Area 1: All but the Northeastern corner
Area 2: Remainder

SIERRA COUNTY:
Area 1: Western part
Area 2: Remainder

SISKIYOU COUNTY:
Area 1: Central part
Area 2: Remainder

SONOMA COUNTY:
Area 1: All but the Northwestern corner
Area 2: Remainder

TEHAMA COUNTY:
  Area 1: All but the Western border with Mendocino & Trinity
  Counties
Area 2: Remainder

TRINITY COUNTY:
  Area 1: East Central part and the Northeastern border with
  Shasta County
Area 2: Remainder

TUOLUMNE COUNTY:
Area 1: Except Eastern part
Area 2: Eastern part

 ENGI0003-019 06/30/2025

SEE AREA DESCRIPTIONS BELOW

	Rates	Fringes
OPERATOR: Power Equipment (LANDSCAPE WORK ONLY)		
GROUP 1		
AREA 1	$ 55.85	28.56
AREA 2	$ 57.85	28.56
GROUP 2		
AREA 1	$ 52.25	28.56
AREA 2	$ 54.25	28.56
GROUP 3		
AREA 1	$ 47.64	28.56
AREA 2	$ 49.64	28.56

GROUP DESCRIPTIONS:

  GROUP 1: Landscape Finish Grade Operator: All finish grade
  work regardless of equipment used, and all equipment with a
  rating more than 65 HP.

  GROUP 2: Landscape Operator up to 65 HP: All equipment with

a manufacturer's rating of 65 HP or less except equipment covered by Group 1 or Group 3. The following equipment shall be included except when used for finish work as long as manufacturer's rating is 65 HP or less: A-Frame and Winch Truck, Backhoe, Forklift, Hydragraphic Seeder Machine, Roller, Rubber-Tired and Track Earthmoving Equipment, Skiploader, Straw Blowers, and Trencher 31 HP up to 65 HP.

GROUP 3: Landscae Utility Operator: Small Rubber-Tired Tractor, Trencher Under 31 HP.

AREA DESCRIPTIONS:

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

AREA 2 - MODOC COUNTY

THE REMAINING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2 AS NOTED BELOW:

ALPINE COUNTY:
Area 1: Northernmost part
Area 2: Remainder

CALAVERAS COUNTY:
Area 1: Except Eastern part
Area 2: Eastern part

COLUSA COUNTY:
Area 1: Eastern part
Area 2: Remainder

DEL NORTE COUNTY:
Area 1: Extreme Southwestern corner
Area 2: Remainder

ELDORADO COUNTY:
Area 1: North Central part
Area 2: Remainder

FRESNO COUNTY
Area 1: Except Eastern part
Area 2: Eastern part

GLENN COUNTY:
Area 1: Eastern part
Area 2: Remainder

HUMBOLDT COUNTY:
Area 1: Except Eastern and Southwestern parts
Area 2: Remainder

LAKE COUNTY:
Area 1: Southern part
Area 2: Remainder

LASSEN COUNTY:
Area 1: Western part along the Southern portion of border with Shasta County
Area 2: Remainder

MADERA COUNTY
Area 1: Remainder
Area 2: Eastern part

MARIPOSA COUNTY
Area 1: Remainder
Area 2: Eastern part

MENDOCINO COUNTY:
Area 1: Central and Southeastern parts
Area 2: Remainder

MONTEREY COUNTY
Area 1: Remainder
Area 2: Southwestern part

NEVADA COUNTY:
  Area 1: All but the Northern portion along the border of
  Sierra County
Area 2: Remainder

PLACER COUNTY:
Area 1: All but the Central portion
Area 2: Remainder

PLUMAS COUNTY:
Area 1: Western portion
Area 2: Remainder

SHASTA COUNTY:
Area 1: All but the Northeastern corner
Area 2: Remainder

SIERRA COUNTY:
Area 1: Western part
Area 2: Remainder

SISKIYOU COUNTY:
Area 1: Central part
Area 2: Remainder

SONOMA COUNTY:
Area 1: All but the Northwestern corner
Area 2: Reaminder

TEHAMA COUNTY:
  Area 1: All but the Western border with mendocino & Trinity
  Counties
Area 2: Remainder

TRINITY COUNTY:
  Area 1: East Central part and the Northeaster border with
  Shasta County
Area 2: Remainder

TULARE COUNTY;
Area 1: Remainder
Area 2: Eastern part

TUOLUMNE COUNTY:
Area 1: Remainder
Area 2: Eastern Part

""AREA 1"" WAGE RATES ARE LISTED BELOW

""AREA 2"" RECEIVES AN ADDITIONAL $2.00 PER HOUR ABOVE AREA 1
RATES.

SEE AREA DEFINITIONS BELOW

	Rates	Fringes
OPERATOR: Power Equipment (AREA 1:)		
GROUP 1	$ 66.96	32.53
GROUP 2	$ 65.43	32.53
GROUP 3	$ 63.95	32.53
GROUP 4	$ 62.57	32.53
GROUP 5	$ 61.30	32.53
GROUP 6	$ 59.98	32.53
GROUP 7	$ 58.84	32.53
GROUP 8	$ 57.70	32.53
GROUP 8-A	$ 55.49	32.53
OPERATOR: Power Equipment (Cranes and Attachments - AREA 1:)		
GROUP 1		
Cranes	$ 68.59	32.53
Oiler	$ 43.79	31.15
Truck crane oiler	$ 46.08	31.15
GROUP 2		
Cranes	$ 66.08	32.53
Oiler	$ 42.83	31.15
Truck crane oiler	$ 45.07	31.15
GROUP 3		
Cranes	$ 64.34	32.53
Hydraulic	$ 60.61	32.53
Oiler	$ 42.55	31.15
Truck crane oiler	$ 44.83	31.15
GROUP 4		
Cranes	$ 61.30	32.53
OPERATOR: Power Equipment (Piledriving - AREA 1:)		
GROUP 1		
Lifting devices	$ 52.64	31.15
Oiler	$ 43.38	31.15
Truck Crane Oiler	$ 45.66	31.15
GROUP 2		
Lifting devices	$ 50.82	31.15
Oiler	$ 43.11	31.15
Truck Crane Oiler	$ 45.41	31.15
GROUP 3		
Lifting devices	$ 49.14	31.15
Oiler	$ 42.89	31.15
Truck Crane Oiler	$ 45.12	31.15
GROUP 4		
Lifting devices	$ 47.37	31.15
GROUP 5		
Lifting devices	$ 44.73	31.15
GROUP 6		
Lifting devices	$ 42.50	31.15
OPERATOR: Power Equipment (Steel Erection - AREA 1:)		
GROUP 1		
Cranes	$ 68.81	32.53
Oiler	$ 43.72	31.15

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      Truck Crane Oiler.....$ 45.95           31.15
     GROUP 2
      Cranes................$ 67.04           32.53
      Oiler.................$ 43.45           31.15
      Truck Crane Oiler.....$ 45.73           31.15
     GROUP 3
      Cranes................$ 65.56           32.53
      Hydraulic.............$ 45.07           31.15
      Oiler.................$ 43.23           31.15
      Truck Crane Oiler.....$ 45.46           31.15
     GROUP 4
      Cranes................$ 63.54           32.53
     GROUP 5
      Cranes................$ 62.24           32.53
OPERATOR:  Power Equipment
(Tunnel and Underground Work
- AREA 1:)
     SHAFTS, STOPES, RAISES:
      GROUP 1...............$ 63.06           32.53
      GROUP 1-A.............$ 65.53           32.53
      GROUP 2...............$ 61.80           32.53
      GROUP 3...............$ 60.47           32.53
      GROUP 4...............$ 59.33           32.53
      GROUP 5...............$ 58.19           32.53
     UNDERGROUND:
      GROUP 1...............$ 62.96           32.53
      GROUP 1-A.............$ 65.43           32.53
      GROUP 2...............$ 61.70           32.53
      GROUP 3...............$ 60.37           32.53
      GROUP 4...............$ 59.23           32.53
      GROUP 5...............$ 58.09           32.53

  FOOTNOTE: Work suspended by ropes or cables, or work on a
  Yo-Yo Cat: $.60 per hour additional.


  POWER EQUIPMENT OPERATOR CLASSIFICATIONS

  GROUP 1: 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; Power blade operator (finish); Power
  shovels, over 1 cu. yd. up to and including 7 cu. yds.
  m.r.c.

  GROUP 3: Asphalt milling machine; Cable backhoe; Combination
  backhoe and loader over 3/4 cu. yds.; Continuous flight tie
  back machine assistant to engineer or mechanic; Crane
  mounted continuous flight tie back machine, tonnage to
  apply; Crane mounted drill attachment, tonnage to apply;
  Dozer, slope brd; Gradall; Hydraulic excavator, up to 3 1/2
  cu. yds.; Loader 4 cu. yds. and over; Long reach excavator;
  Multiple engine scraper (when used as push pull); Power
  shovels, up to and including 1 cu. yd.; Pre-stress wire
  wrapping machine; Side boom cat, 572 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/box person; Chicago boom;
  Combination backhoe and loader up to and including 3/4 cu.
  yd.; Concrete batch plant (wet or dry); Dozer and/or push
  cat; Pull- type elevating loader; Gradesetter, grade
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checker (GPS, mechanical or otherwise); Grooving and grinding machine; Heading shield operator; Heavy-duty drilling equipment, Hughes, LDH, Watson 3000 or similar; Heavy-duty repairperson 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; Tubex pile rig; Unlicensed constuction work boat operator, on site; Timber skidder; Track loader up to 4 yds.; Tractor-drawn scraper; Tractor, compressor drill combination; 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 waterliners, wagon drills or jackhammers); Concrete mixer/all; Person and/or material hoist; Mechanical finishers (concrete) (Clary, Johnson, Bidwell Bridge Deck or similar types); Mechanical burm, curb and/or curb and gutter machine, concrete or asphalt); Mine or shaft hoist; Portable crusher; Power jumbo operator (setting slip-forms, etc., in tunnels); Screed (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 tamper; Boom- type backfilling machine; Assistant plant engineer; Bridge and/or gantry crane; Chemical grouting machine, truck-mounted; Chip spreading machine operator; Concrete saw (self-propelled unit on streets, highways, airports and canals); Deck engineer; Drilling equipment Texoma 600, Hughes 200 Series or similar up to and including 30 ft. m.r.c.; Drill doctor; Helicopter radio operator; Hydro-hammer or similar; Line master; Skidsteer loader, Bobcat larger than 743 series or similar (with attachments); Locomotive; Lull hi-lift or similar; Oiler, 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); Screed (except asphaltic concrete paving); Self- propelled pipeline wrapping machine; Tractor; Self-loading chipper; Concrete barrier moving machine

GROUP 7: Ballast regulator; Boom truck or dual-purpose A-frame truck, non-rotating - under 15 tons; Cary lift or similar; Combination slurry mixer and/or cleaner; Drilling equipment, 20 ft. and under m.r.c.; Firetender (hot plant); Grouting machine operator; Highline cableway signalperson; Stationary belt loader (Kolman or similar); Lift slab machine (Vagtborg and similar types); Maginnes internal full slab vibrator; Material hoist (1 drum); Mechanical trench shield; 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 mahcine (on streets, highways, airports and canals); Self-propelled compactor (without dozer); Signalperson; Slip-form pumps (lifting device for concrete forms); Tie spacer; Tower mobile; Trenching machine, maximum digging capacity up to and including 5 ft. depth; Truck- type loader

GROUP 8: Bit sharpener; Boiler tender; Box operator; Brakeperson; Combination mixer and compressor (shotcrete/gunite); Compressor operator; Deckhand; Fire tender; Forklift (under 20 ft.); Generator; Gunite/shotcrete equipment operator; Hydraulic monitor; Ken seal machine (or similar); Mixermobile; Oiler; Pump operator; Refrigeration 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; Switchperson; Tar pot firetender; Tugger hoist, single drum; Vacuum cooling plant; Welding machine (powered other than by electricity)

GROUP 8-A: Elevator operator; Skidsteer loader-Bobcat 743 series or smaller, and similar (without attachments); Mini excavator under 25 H.P. (backhoe-trencher); Tub grinder wood chipper

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ALL CRANES AND ATTACHMENTS

GROUP 1: Clamshell and dragline over 7 cu. yds.; Crane, 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: Clamshell and dragline over 1 cu. yd. up to and including 7 cu. yds.; Crane, over 45 tons up to and including 100 tons; Derrick barge, 100 tons and under; Self-propelled boom-type lifting device, over 45 tons; Tower crane

GROUP 3: Clamshell and dragline up to and including 1 cu. yd.; Cranes 45 tons and under; Self-propelled boom-type lifting device 45 tons and under;

GROUP 4: 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;

PILEDRIVERS

GROUP 1: Derrick barge pedestal mounted over 100 tons; Clamshell over 7 cu. yds.; Self-propelled boom-type lifting device over 100 tons; Truck crane or crawler, land or barge mounted over 100 tons

GROUP 2: Derrick barge pedestal mounted 45 tons to and including 100 tons; Clamshell up to and including 7 cu.

yds.; 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; Fundex F-12 hydraulic pile rig

GROUP 3: Derrick barge pedestal mounted under 45 tons; Self-propelled boom-type lifting device 45 tons and under; Skid/scow piledriver, any tonnage; Truck crane or crawler, land or barge mounted 45 tons and under

GROUP 4: Assistant operator in lieu of assistant to engineer; Forklift, 10 tons and over; Heavy-duty repairperson/welder

GROUP 5: Deck engineer

GROUP 6: Deckhand; Fire tender

STEEL ERECTORS

GROUP 1: Crane over 100 tons; Derrick over 100 tons; Self-propelled boom-type lifting device over 100 tons

GROUP 2: Crane over 45 tons to 100 tons; Derrick under 100 tons; Self-propelled boom-type lifting device over 45 tons to 100 tons; Tower crane

GROUP 3: Crane, 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 repair person/welder

GROUP 5: Boom cat

TUNNEL AND UNDERGROUND WORK

GROUP 1-A: Tunnel bore machine operator, 20' diameter or more

GROUP 1: Heading shield operator; Heavy-duty repairperson; Mucking machine (rubber tired, rail or track type); Raised bore operator (tunnels); Tunnel mole bore operator

GROUP 2: Combination slusher and motor operator; Concrete pump or pumpcrete gun; Power jumbo operator

GROUP 3: Drill doctor; Mine or shaft hoist

GROUP 4: Combination slurry mixer cleaner; Grouting Machine operator; Motorman

GROUP 5: Bit Sharpener; Brakeman; Combination mixer and compressor (gunite); Compressor operator; Oiler; Pump operator; Slusher operator

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AREA DESCRIPTIONS:

POWER EQUIPMENT OPERATORS, CRANES AND ATTACHMENTS,TUNNEL AND UNDERGROUND [These areas do not apply to Piledrivers and Steel Erectors]

AREA 1: DEL NORTE, HUMBOLDT, LAKE, MENDOCINO
AREA 2 -NOTED BELOW

  THE REMAINING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2 AS
  NOTED BELOW:

DEL NORTE COUNTY:
Area 1: Extreme Southwest corner
Area 2: Remainder

HUMBOLDT COUNTY:
Area 1: Except Eastern and Southwestern parts
Area 2: Remainder

LAKE COUNTY:
Area 1: Southern part
Area 2: Remainder

MENDOCINO COUNTY:
Area 1: Central and Southeastern Parts
Area 2: Remainder

 IRON0118-012 01/01/2025

ALPINE, LASSEN, MODOC, SISKIYOU and TRINITY COUNTIES

	Rates	Fringes
IRONWORKER	$ 43.75	34.45

 IRON0118-013 01/01/2025

AMADOR, BUTTE, COLUSA,EL DORADO, GLENN,MARIN, NAPA, NEVADA,
PLACER,PLUMAS, SACRAMENTO, SHASTA, SIERRA, SOLANO, SONOMA,
SUTTER, TEHAMA, YOLO and YUBA COUNTIES

	Rates	Fringes
IRONWORKER	$ 50.70	35.15

 LABO0067-003 07/01/2024

AREA ""1"" - MARIN and NAPA COUNTIES

AREA ""2"" - ALPINE, AMADOR, BUTTE COLUSA EL DORADO, GLENN,
LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA,
SIERRA, SISKIYOU, SOLANO, SONOMA, SUTTER, TEHAMA, TRINITY,
YOLO, AND YUBA COUNTIES

	Rates	Fringes
LABORER (ASBESTOS/MOLD/LEAD LABORER)		
Marin and Napa Counties	$ 37.75	29.69
Remaining Counties	$ 36.75	29.69

 LABO0067-005 01/01/2024

AREA ""A"" - ALAMEDA, CONTRA COSTA, SAN FRANCISCO, SAN MATEO AND
SANTA CLARA COUNTIES

AREA ""B"" - ALPINE, AMADOR, BUTTE, CALAVERAS, COLUSA, DEL NORTE, EL DORADO, FRESNO, GLENN, HUMBOLDT, KINGS, LAKE, LASSEN, MADERA, MARIPOSA, MENDOCINO, MERCED, MODOC, MONTEREY, NEVADA, PLACER, PLUMAS, SANCREMENTO, SAN BENITO, SAN JOAQUIN, SANTA CRUZ, SIERRA, SHASTA, SISKIYOU, STANISLAUS, TEHAMA, TRINITY, TULARE, TUOLUMNE, YOLO AND YOUBA COUNTIES

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person		
Area A	$ 37.26	27.32
Area B	$ 36.26	27.32
Traffic Control Person I		
Area A	$ 37.56	27.32
Area B	$ 36.56	27.32
Traffic Control Person II		
Area A	$ 35.06	27.32
Area B	$ 34.06	27.32

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

LABO0185-002 07/01/2023

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY, YOLO AND YUBA COUNTIES

	Rates	Fringes
LABORER		
Mason Tender-Brick	$ 36.29	25.55

LABO0185-005 06/26/2023

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY, YOLO AND YUBA COUNTIES

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1	$ 45.89	27.72
GROUP 2	$ 45.66	27.72
GROUP 3	$ 45.41	27.72
GROUP 4	$ 44.96	27.72
GROUP 5	$ 44.42	27.72
Shotcrete Specialist	$ 46.41	27.72

TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Gunite and shotcrete nozzlemen

GROUP 2: Rodmen; Shaft work & raise (below actual or

excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading; Cherry pickermen - where car is lifted; Concrete finisher in tunnel; Concrete screedman; Grout pumpman and potman; Gunite & shotcrete gunman & potman; Headermen; High pressure nozzleman; Miner - tunnel, including top and bottom man on shaft and raise work; Nipper; Nozzleman on slick line; Sandblaster - potman, Robotic Shotcrete Placer, Segment Erector, Tunnel Muck Hauler, Steel Form raiser and setter; Timberman, retimberman (wood or steel or substitute materials therefore); Tugger (for tunnel laborer work); Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang - muckers, trackmen; Concrete crew - includes rodding and spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

LABO0185-006 06/26/2023

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHIASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY, YOLO, YUBA COUNTIES

	Rates	Fringes
LABORER (CONSTRUCTION CRAFT LABORERS - AREA B:)		
Construction Specialist Group	$ 36.20	27.30
GROUP 1	$ 35.50	27.30
GROUP 1-a	$ 35.72	27.30
GROUP 1-c	$ 35.55	27.30
GROUP 1-e	$ 36.05	27.30
GROUP 1-f	$ 30.37	23.20
GROUP 2	$ 35.35	27.30
GROUP 3	$ 35.25	27.30
GROUP 4	$ 28.94	27.30
See groups 1-b and 1-d under laborer classifications.		
LABORER (GARDENERS, HORTICULTURAL & LANDSCAPE LABORERS - AREA B:)		
(1) New Construction	$ 35.25	27.30
(2) Establishment Warranty Period	$ 28.94	27.30
LABORER (GUNITE - AREA B:)		
GROUP 1	$ 36.46	27.30
GROUP 2	$ 35.96	27.30
GROUP 3	$ 35.37	27.30
GROUP 4	$ 35.25	27.30
LABORER (WRECKING - AREA B:)		
GROUP 1	$ 35.50	27.30
GROUP 2	$ 35.35	27.30

FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive $0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and bucker; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, 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 compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; 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; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive $4.00 per day above Group 1 wage rates. ""Sewer cleaner"" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shal receive $5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive $ .25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, 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 and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification ""material cleaner"" is to be utilized under the following conditions:
A: at demolition site for the salvage of the material.
B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.
C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of ""form stripping, cleaning and oiling and moving to the next point of erection"".

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Gunite laborer

WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building materials)

LABO0185-008 07/01/2023

	Rates	Fringes
Plasterer tender	$ 39.77	28.54

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

LABO0261-002 07/01/2023

MARIN COUNTY

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person	$ 37.26	27.30
Traffic Control Person I	$ 37.56	27.30
Traffic Control Person II	$ 35.06	27.30

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

LABO0261-004 06/26/2023

MARIN COUNTY

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1	$ 45.89	27.72
GROUP 2	$ 45.66	27.72
GROUP 3	$ 45.41	27.72
GROUP 4	$ 44.96	27.72
GROUP 5	$ 44.42	27.72
Shotcrete Specialist	$ 46.41	27.72

TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Gunite and shotcrete

nozzlemen

GROUP 2: Rodmen; Shaft work & raise (below actual or excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading; Cherry pickermen - where car is lifted; Concrete finisher in tunnel; Concrete screedman; Grout pumpman and potman; Gunite & shotcrete gunman & potman; Headermen; High pressure nozzleman; Miner - tunnel, including top and bottom man on shaft and raise work; Nipper; Nozzleman on slick line; Sandblaster - potman, Robotic Shotcrete Placer, Segment Erector, Tunnel Muck Hauler, Steel Form raiser and setter; Timberman, retimberman (wood or steel or substitute materials therefore); Tugger (for tunnel laborer work); Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang - muckers, trackmen; Concrete crew - includes rodding and spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

LABO0261-007 07/01/2023

MARIN COUNTY

	Rates	Fringes
LABORER		
Mason Tender-Brick	$ 37.54	25.55

LABO0261-010 06/26/2023

MARIN COUNTY

	Rates	Fringes
LABORER (CONSTRUCTION CRAFT LABORERS - AREA A:)		
Construction Specialist Group	$ 37.20	27.30
GROUP 1	$ 36.50	27.30
GROUP 1-a	$ 36.72	27.30
GROUP 1-c	$ 36.55	27.30
GROUP 1-e	$ 37.05	27.30
GROUP 1-f	$ 31.37	23.20
GROUP 2	$ 36.35	27.30
GROUP 3	$ 36.25	27.30
GROUP 4	$ 29.94	27.30
See groups 1-b and 1-d under laborer classifications.		
LABORER (GARDENERS, HORTICULTURAL & LANDSCAPE LABORERS - AREA A:)		
(1) New Construction	$ 36.25	27.30
(2) Establishment Warranty Period	$ 29.94	27.30
LABORER (GUNITE - AREA A:)		
GROUP 1	$ 37.46	27.30
GROUP 2	$ 36.96	27.30
GROUP 3	$ 36.37	27.30
GROUP 4	$ 36.25	27.30
LABORER (WRECKING - AREA A:)		
GROUP 1	$ 36.50	27.30

GROUP 2.....$ 36.35 27.30

FOOTNOTES:
Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive $0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and bucker; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, 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 compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; 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; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive $4.00 per day above Group 1 wage rates. ""Sewer cleaner"" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shal receive $5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive $ .25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, 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 and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification ""material cleaner"" is to be utilized under the following conditions:
A: at demolition site for the salvage of the material.
B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.
C: for the cleaning of salvage material at the jobsite or

temporary jobsite yard.

The material cleaner classification should not be used in the performance of ""form stripping, cleaning and oiling and moving to the next point of erection"".

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Gunite laborer

WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building materials)

LABO0261-015 07/01/2023

	Rates	Fringes
Plasterer tender	$ 39.77	28.54

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

LABO0324-004 07/01/2023

NAPA, SOLANO, AND SONOMA, COUNTIES

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person	$ 36.26	27.30
Traffic Control Person I	$ 36.56	27.30
Traffic Control Person II	$ 34.06	27.30

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

LABO0324-008 06/26/2023

NAPA, SOLANO, AND SONOMA COUNTIES

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1	$ 45.89	27.72

GROUP 2	$ 45.66	27.72
GROUP 3	$ 45.41	27.72
GROUP 4	$ 44.96	27.72
GROUP 5	$ 44.42	27.72
Shotcrete Specialist	$ 46.41	27.72

TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Gunite and shotcrete nozzlemen

GROUP 2: Rodmen; Shaft work & raise (below actual or excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading; Cherry pickermen - where car is lifted; Concrete finisher in tunnel; Concrete screedman; Grout pumpman and potman; Gunite & shotcrete gunman & potman; Headermen; High pressure nozzleman; Miner - tunnel, including top and bottom man on shaft and raise work; Nipper; Nozzleman on slick line; Sandblaster - potman, Robotic Shotcrete Placer, Segment Erector, Tunnel Muck Hauler, Steel Form raiser and setter; Timberman, retimberman (wood or steel or substitute materials therefore); Tugger (for tunnel laborer work); Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang - muckers, trackmen; Concrete crew - includes rodding and spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

LABO0324-010 07/01/2023

SOLANO AND SONOMA COUNTIES

	Rates	Fringes
LABORER		
Mason Tender-Brick	$ 36.84	26.24

LABO0324-013 06/26/2023

NAPA, SOLANO, AND SONOMA COUNTIES

	Rates	Fringes
LABORER (CONSTRUCTION CRAFT LABORERS - AREA B:)		
Construction Specialist Group	$ 36.20	27.30
GROUP 1	$ 35.50	27.30
GROUP 1-a	$ 35.72	27.30
GROUP 1-c	$ 35.55	27.30
GROUP 1-e	$ 36.05	27.30
GROUP 1-f	$ 36.08	27.30
GROUP 2	$ 35.35	27.30
GROUP 3	$ 35.25	27.30
GROUP 4	$ 28.94	27.30
See groups 1-b and 1-d under laborer classifications.		
LABORER (GARDENERS, HORTICULTURAL & LANDSCAPE LABORERS - AREA B:)		
(1) New Construction	$ 35.25	27.30

(2) Establishment Warranty Period	$ 28.94	27.30
LABORER (GUNITE - AREA B:)		
GROUP 1	$ 36.46	27.30
GROUP 2	$ 35.96	27.30
GROUP 3	$ 35.37	27.30
GROUP 4	$ 35.25	27.30
LABORER (WRECKING - AREA B:)		
GROUP 1	$ 35.50	27.30
GROUP 2	$ 35.35	27.30

FOOTNOTES:
Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive $0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and bucker; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, 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 compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; 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; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive $4.00 per day above Group 1 wage rates. ""Sewer cleaner"" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shal receive $5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive $ .25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, 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 and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification ""material cleaner"" is to be utilized under the following conditions:
A: at demolition site for the salvage of the material.
B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.
C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of ""form stripping, cleaning and oiling and moving to the next point of erection"".

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Gunite laborer

WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building materials)

LABO0324-019 07/01/2023

	Rates	Fringes
Plasterer tender	$ 39.77	28.54

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

PAIN0016-004 01/01/2025

MARIN, NAPA, SOLANO & SONOMA COUNTIES

	Rates	Fringes
Painters:	$ 53.38	28.04

PREMIUMS:
EXOTIC MATERIALS - $1.25 additional per hour.
SPRAY WORK: - $0.50 additional per hour.
INDUSTRIAL PAINTING - $0.25 additional per hour
[Work on industrial buildings used for the manufacture and processing of goods for sale or service; steel construction (bridges), stacks, towers, tanks, and similar structures]

HIGH WORK:
over 50 feet - $2.00 per hour additional
100 to 180 feet - $4.00 per hour additional

Over 180 feet - $6.00 per houir additional

PAIN0016-005 01/01/2025

ALPINE, BUTTE, COLUSA, EL DORADO (west of the Sierra Nevada Mountains), GLENN, LASSEN (west of Hwy. 395, excluding Honey Lake); MARIN, MODOC, NAPA, NEVADA (west of the Sierra Nevada Mountains), PLACER (west of the Sierra Nevada Mountains), PLUMAS, SACRAMENTO, SHASTA, SIERRA (west of the Sierra Nevada Mountains), SISKIYOU, SOLANO, SONOMA, SUTTER, TEHAMA, TRINITY, YOLO AND YUBA COUNTIES

	Rates	Fringes
DRYWALL FINISHER/TAPER	$ 59.63	31.29

PAIN0016-007 01/01/2025

ALPINE, AMADOR, BUTTE, COLUSA. EL DORADO (west of the Sierra Nevada Mountains), GLENN, LASSEN (west of Highway 395, excluding Honey Lake), MODOC, NEVADA (west of the Sierra Nevada Mountains), PLACER (west of the Sierra Nevada Mountains), PLUMAS, SACRAMENTO, SHASTA, SIERRA (west of the Sierra Nevada Mountains), SISKIYOU, SUTTER, TEHAMA, TRINITY, YOLO & YUBA COUNTIES

	Rates	Fringes
Painters:	$ 43.45	22.80

SPRAY/SANDBLAST: $0.50 additional per hour.
EXOTIC MATERIALS: $1.25 additional per hour.
  HIGH TIME: Over 50 ft above ground or water level $2.00 additional per hour. 100 to 180 ft above ground or water level $4.00 additional per hour. Over 180 ft above ground or water level $6.00 additional per hour.

PAIN0016-008 01/01/2024

MARIN, NAPA, SOLANO AND SONOMA COUNTIES

	Rates	Fringes
SOFT FLOOR LAYER	$ 59.00	33.03

PAIN0169-004 01/01/2024

MARIN , NAPA & SONOMA COUNTIES; SOLANO COUNTY (west of a line defined as follows: Hwy. 80 corridor beginning at the City of Fairfield, including Travis Air Force Base and Suisun City; going north of Manakas Corner Rd., continue north on Suisun Valley Rd. to the Napa County line; Hwy. 80 corridor south on Grizzly Island Rd. to the Grizzly Island Management area)

	Rates	Fringes
GLAZIER	$ 56.22	34.00

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* PAIN0567-001 07/01/2025

EL DORADO COUNTY (east of the Sierra Nevada Mountains); LASSEN COUNTY (east of Highway 395, beginning at Stacey and including Honey Lake); NEVADA COUNTY (east of the Sierra Nevada Mountains); PLACER COUNTY (east of the Sierra Nevada Mountains); AND SIERRA COUNTY (east of the Sierra Nevada Mountains)

	Rates	Fringes
Painters:		
Brush and Roller	$ 39.43	16.16
Paperhanger	$ 42.19	16.16
Spray Painter	$ 41.43	16.16

PREMIUMS:
Special Coatings (Brush), and Sandblasting = $0.50/hr
Special Coatings (Spray), and Steeplejack = $1.00/hr
Special Coating Spray Steel = $1.25/hr
Swing Stage = $2.00/hr

*A special coating is a coating that requires the mixing of 2 or more products.

PAIN0567-007 07/01/2022

EL DORADO COUNTY (east of the Sierra Nevada Mountains); LASSEN COUNTY (east of Highway 395, beginning at Stacey and including Honey Lake); NEVADA COUNTY (east of the Sierra Nevada Mountains); PLACER COUNTY (east of the Sierra Nevada Mountains) AND SIERRA COUNTY (east of the Sierra Nevada Mountains)

	Rates	Fringes
SOFT FLOOR LAYER	$ 34.27	16.47

PAIN0567-010 07/01/2024

EL DORADO COUNTY (east of the Sierra Nevada Mountains); LASSEN COUNTY (east of Highway 395, beginning at Stacey and including Honey Lake); NEVADA COUNTY (east of the Sierra Nevada Mountains); PLACER COUNTY (east of the Sierra Nevada Mountains); AND SIERRA COUNTY (east of the Sierra Nevada Mountains)

	Rates	Fringes
Drywall		
(1) Taper	$ 42.79	16.12
(2) Steeplejack - Taper, over 40 ft with open space below	$ 44.29	16.12

PAIN0767-004 01/01/2024

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SOLANO (Remainder), SUTTER, TEHAMA, TRINITY, YOLO, YUBA

	Rates	Fringes

GLAZIER.....$ 43.25 35.62

PAID HOLIDAYS: New Year's Day, Martin Luther King, Jr. Day, President's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, and Christmas Day.

Employee required to wear a body harness shall receive $1.50 per hour above the basic hourly rate at any elevation.

PAIN1176-001 07/01/2022

HIGHWAY IMPR0VEMENT

	Rates	Fringes
Parking Lot Striping/Highway Marking:		
GROUP 1	$ 40.83	17.62
GROUP 2	$ 34.71	17.62
GROUP 3	$ 35.11	17.62

CLASSIFICATIONS

GROUP 1: Striper: Layout and application of painted traffic stripes and marking; hot thermo plastic; tape, traffic stripes and markings

GROUP 2: Gamecourt & Playground Installer

GROUP 3: Protective Coating, Pavement Sealing

PAIN1237-001 01/01/2024

ALPINE; COLUSA; EL DORADO (west of the Sierra Nevada Mountains); GLENN; LASSEN (west of Highway 395, beginning at Stacey and including Honey Lake); MODOC; NEVADA (west of the Sierra Nevada Mountains); PLACER (west of the Sierra Nevada Mountains); PLUMAS; SACRAMENTO; SHASTA; SIERRA (west of the Sierra Nevada Mountains); SISKIYOU; SUTTER; TEHAMA; TRINITY; YOLO AND YUBA COUNTIES

	Rates	Fringes
SOFT FLOOR LAYER	$ 48.54	26.59

PLAS0300-003 07/01/2018

	Rates	Fringes
PLASTERER		
AREA 295: Alpine, Amador, Butte, Colusa, El Dorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Siskiyou, Solano, Sutter, Tehema, Trinity, Yolo & Yuba Counties	$ 32.70	31.68
AREA 355: Marin	$ 36.73	31.68
AREA 355: Napa & Sonoma Counties	$ 32.70	31.68

PLAS0300-005 07/01/2016

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 32.15	23.27

PLUM0038-002 07/01/2025

MARIN AND SONOMA COUNTIES

	Rates	Fringes
PLUMBER (Plumber, Steamfitter, Refrigeration Fitter)		
(1) Work on wooden frame structures 5 stories or less excluding high-rise buildings and commercial work such as hospitals, prisons, hotels, schools, casinos, wastewater treatment plants, and resarch facilities as well as refrigeration pipefitting, service and repair work - MARKET RECOVERY RATE	$ 69.70	46.38
(2) All other work - NEW CONSTRUCTION RATE	$ 91.00	49.40

PLUM0038-006 07/01/2025

MARIN & SONOMA COUNTIES

	Rates	Fringes
Landscape/Irrigation Fitter (Underground/Utility Fitter)	$ 77.35	36.53

PLUM0228-001 07/01/2025

BUTTE, COLUSA, GLENN, LASSEN, MODOC, PLUMAS, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY & YUBA COUNTIES

	Rates	Fringes
PLUMBER	$ 50.55	41.04

PLUM0343-001 07/01/2025

NAPA AND SOLANO COUNTIES

	Rates	Fringes
PLUMBER/PIPEFITTER		
Light Commercial	$ 30.85	20.40
All Other Work	$ 71.60	38.38

DEFINITION OF LIGHT COMMERICIAL:
Work shall include strip shopping centers, office buildings, schools and other commercial structures which the total plumbing bid does not exceed Two Hundred and Fifty Thousand ($250,000) and the total heating and cooling does not

exceed Two Hundred Fifty Thousand ($250,000); or Any projects bid in phases shall not qualify unless the total project is less than Two Hundred Fifty Thousand ($250,000) for the plumbing bid; and Two Hundred Fifty Thousand ($250,000) for the heating and cooling bid. Excluded are hospitals, jails, institutions and industrial projects, regardless size of the project

FOOTNOTES: While fitting galvanized material: $.75 per hour additional. Work from trusses, temporary staging, unguarded structures 35' from the ground or water: $.75 per hour additional. Work from swinging scaffolds, boatswains chairs or similar devices: $.75 per hour additional.

PLUM0350-001 08/01/2023

EL DORADO COUNTY (Lake Tahoe area only); NEVADA COUNTY (Lake Tahoe area only); AND PLACER COUNTY (Lake Tahoe area only)

	Rates	Fringes
PLUMBER/PIPEFITTER	$ 52.14	18.71

PLUM0355-001 07/01/2025

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NAPA, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SOLANO, SUTTER, TEHAMA, TRINITY, YOLO, AND YUBA COUNTIES

	Rates	Fringes
Underground Utility Worker /Landscape Fitter	$ 36.01	18.50

PLUM0442-003 07/01/2025

AMADOR (South of San Joaquin River) and ALPINE COUNTIES

	Rates	Fringes
PLUMBER	$ 56.60	38.14

PLUM0447-001 07/01/2025

AMADOR (north of San Joaquin River), EL DORADO (excluding Lake Tahoe area), NEVADA (excluding Lake Tahoe area); PLACER (excluding Lake Tahoe area), SACRAMENTO AND YOLO COUNTIES

	Rates	Fringes
PLUMBER/PIPEFITTER		
Journeyman	$ 67.37	30.00
Light Commercial Work	$ 55.58	24.02

ROOF0081-006 08/01/2024

MARIN, NAPA, SOLANO AND SONOMA COUNTIES

	Rates	Fringes

Roofer.....$ 54.94 23.34

ROOF0081-007 08/01/2023

ALPINE, BUTTE, COLUSA, EL DORADO, GLENN,LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY, YOLO, AND YUBA COUNTIES

	Rates	Fringes
Roofer	$ 46.73	21.36

SFCA0483-003 08/04/2025

MARIN, NAPA, SOLANO AND SONOMA COUNTIES

	Rates	Fringes
SPRINKLER FITTER (Fire Sprinklers)	$ 82.44	40.10

SFCA0669-003 04/01/2025

ALPINE, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY, YOLO AND YUBA COUNTIES

	Rates	Fringes
SPRINKLER FITTER	$ 52.06	28.56

SHEE0104-006 06/29/2020

MARIN, NAPA, SOLANO SONOMA & TRINITY COUNTIES

	Rates	Fringes
Sheet Metal Worker		
Mechanical Contracts		
$200,000 or less	$ 55.92	45.29
All other work	$ 64.06	46.83

SHEE0104-009 07/01/2021

AMADOR, COLUSA, EL DORADO, NEVADA, PLACER, SACRAMENTO, SUTTER, YOLO AND YUBA COUNTIES

	Rates	Fringes
SHEET METAL WORKER	$ 47.85	41.90

SHEE0104-010 07/01/2020

AlPINE COUNTY

	Rates	Fringes
SHEET METAL WORKER	$ 43.50	37.42

SHEE0104-011 07/01/2020

BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER,

PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, YOLO AND YUBA COUNTIES

	Rates	Fringes
Sheet Metal Worker (Metal decking and siding only)	$ 44.45	35.55

SHEE0104-014 07/01/2020

MARIN, NAPA, SOLANO, SONOMA AND TRINITY COUNTIES

	Rates	Fringes
SHEET METAL WORKER (Metal Decking and Siding only)	$ 44.45	35.55

SHEE0104-019 07/01/2020

BUTTE, GLENN, LASSEN, MODOC, PLUMAS, SHASTA, SIERRA, SISKIYOU AND TEHAMA COUNTIES

	Rates	Fringes
SHEET METAL WORKER		
Mechanical Jobs $200,000 & under	$ 35.16	35.88
Mechanical Jobs over $200,000	$ 46.60	40.21

TEAM0094-001 07/01/2025

	Rates	Fringes
Truck drivers:		
GROUP 1	$ 43.26	34.28
GROUP 2	$ 43.56	34.28
GROUP 3	$ 43.86	34.28
GROUP 4	$ 44.21	34.28
GROUP 5	$ 44.56	34.28

FOOTNOTES:

Articulated dump truck; Bulk cement spreader (with or without auger); Dumpcrete truck; Skid truck (debris box); Dry pre-batch concrete mix trucks; Dumpster or similar type; Slurry truck: Use dump truck yardage rate.

Heater planer; Asphalt burner; Scarifier burner; Industrial lift truck (mechanical tailgate); Utility and clean-up truck: Use appropriate rate for the power unit or the equipment utilized.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Dump trucks, under 6 yds.; 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; Fork lift and lift jitneys; Fuel and/or grease truck driver or fuel person; Snow buggy; Steam cleaning; Bus or personhaul driver; Escort or pilot car driver; Pickup truck; Teamster oiler/greaser and/or serviceperson; Hook tender (including loading and

unloading); Team driver; Tool room attendant (refineries)

GROUP 2: Dump trucks, 6 yds. and under 8 yds.; Transit mixers, through 10 yds.; Water trucks, under 7,000 gals.; Jetting trucks, under 7,000 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 bootperson; Buggymobile; Ross, Hyster and similar straddle carriers; Small rubber-tired tractor

GROUP 3: Dump trucks, 8 yds. and including 24 yds.; Transit mixers, over 10 yds.; Water trucks, 7,000 gals. and over; Jetting trucks, 7,000 gals. and over; Vacuum trucks under 7500 gals. Trucks towing tilt bed or flat bed pull trailers; Lowbed heavy duty transport; Heavy duty transport tiller person; Self- propelled street sweeper with self-contained refuse bin; Boom truck - hydro-lift or Swedish type extension or retracting crane; P.B. or similar type self-loading truck; Tire repairperson; Combination bootperson and road oiler; Dry distribution truck (A bootperson when employed on such equipment, shall receive the rate specified for the classification of road oil trucks or bootperson); Ammonia nitrate distributor, driver and mixer; Snow Go and/or plow

GROUP 4: Dump trucks, over 25 yds. and under 65 yds.; Water pulls - DW 10's, 20's, 21's and other similar equipment when pulling Aqua/pak or water tank trailers; Helicopter pilots (when transporting men and materials); Lowbedk Heavy Duty Transport up to including 7 axles; DW10's, 20's, 21's 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; Vacuum Trucks 7500 gals and over and truck repairman

GROUP 5: Dump trucks, 65 yds. and over; Holland hauler; Low bed Heavy Duty Transport over 7 axles

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

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

https://www.dol.gov/agencies/whd/government-contracts.

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

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

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union

prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

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

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

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

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

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

2) If an initial decision has been issued, then any interested

party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

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

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

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

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

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END OF GENERAL DECISION"

Attachment B - Federal Contract Requirements

Appendix E of the Title VI Assurances

(US DOT Order 1050.2A)

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following nondiscrimination statutes and authorities; including but not limited to:

Pertinent Nondiscrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 U.S.C. § 4 71, Section 4 7123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, subrecipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;

- The Federal Aviation Administration's Nondiscrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

TECHNICAL SPECIFICATIONS

FOR

US 101 BIKE AND PEDESTRIAN OVERCROSSING ON US 101 IN SONOMA COUNTY

EA 04-2G340/0413000213

DEPARTMENT OF PUBLIC WORKS
CITY OF SANTA ROSA

November 4, 2025

The special provisions contained herein for the US 101 BICYCLE/PEDESTRIAN OVERCROSSING (BRIDGE NO. 20-0307) have been prepared by or under the direction of the following Registered Licensed Persons.

CIVIL

REGISTERED CIVIL ENGINEER

REGISTERED PROFESSIONAL ENGINEER
J.S. Bhandal
No. C77430
Exp. 6/30/27
CIVIL
STATE OF CALIFORNIA

EDWARDS AVENUE POC

BRIDGE NO. 20-0307

REGISTERED CIVIL ENGINEER

REGISTERED PROFESSIONAL ENGINEER
Daniel S Rosellini
No. C79105
Exp. 3/31/26
CIVIL
STATE OF CALIFORNIA

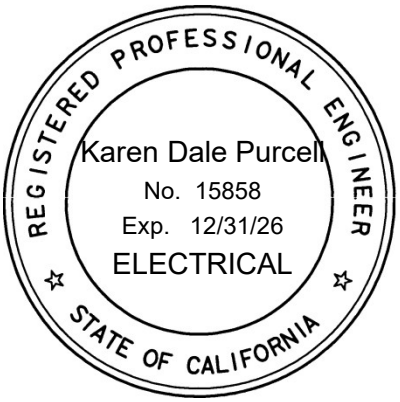
MINOR STRUCTURES

REGISTERED STRUCTURAL ENGINEER

REGISTERED PROFESSIONAL ENGINEER
Jesus Francisco Sierra
No. S3298
Exp. 3/31/27
STRUCTURAL
STATE OF CALIFORNIA

ELECTRICAL

REGISTERED ELECTRICAL ENGINEER



TRAFFIC CONTROL

REGISTERED CIVIL ENGINEER



LANDSCAPING

LANDSCAPE ARCHITECT



GUARD, GUARD WITH FENCE, STEEL COATING, VARIOUS ARCHITECTURAL FINISHES

LICENSED ARCHITECT



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STANDARD PLANS LIST

The standard plan sheets applicable to this Contract include those listed below. When applicable, revised standard plans (RSPs) listed below are included in the project plans.

ABBREVIATIONS, LINES, SYMBOLS, AND LEGEND

RSP A3A	**Abbreviations (Sheet 1 of 3)**
A3B	**Abbreviations (Sheet 2 of 3)**
A3C	**Abbreviations (Sheet 3 of 3)**
A10A	**Legend - Lines and Symbols (Sheet 1 of 5)**
A10B	**Legend - Lines and Symbols (Sheet 2 of 5)**
A10C	**Legend - Lines and Symbols (Sheet 3 of 5)**
A10D	**Legend - Lines and Symbols (Sheet 4 of 5)**
A10E	**Legend - Lines and Symbols (Sheet 5 of 5)**
A10F	**Legend - Soil (Sheet 1 of 2)**
A10G	**Legend - Soil (Sheet 2 of 2)**
A10H	**Legend - Rock**

PAVEMENT MARKERS, TRAFFIC LINES, AND PAVEMENT MARKINGS

A20A	**Pavement Markers and Traffic Lines - Typical Details**
A20B	**Pavement Markers and Traffic Lines - Typical Details**
A20C	**Pavement Markers and Traffic Lines - Typical Details**
A20D	**Pavement Markers and Traffic Lines - Typical Details**
A20E	**Traffic Lines - Typical Details for Contrast Striping**
A24A	**Pavement Markings - Arrows**
A24B	**Pavement Markings - Arrows and Symbols**
A24C	**Pavement Markings - Symbols and Numerals**
A24D	**Pavement Markings - Words**
A24E	**Pavement Markings - Words**
A24F	**Pavement Markings - Crosswalks**
A24G	**Pavement Markings - Yield Lines, Limit Lines, and Wrong Way Details**

EXCAVATION AND BACKFILL

A62A	**Excavation and Backfill - Miscellaneous Details**
A62C	**Limits of Payment for Excavation and Backfill - Bridge**

OBJECT MARKERS, DELINEATORS, CHANNELIZERS, AND BARRICADES

A73A	**Object Markers**
A73B	**Markers**
A73C	**Delineators, Channelizers and Barricades**

MIDWEST GUARDRAIL SYSTEM - STANDARD RAILING SECTIONS AND TRANSITION TO METAL BEAM GUARDRAIL

A77L1	**Midwest Guardrail System - Standard Railing Section (Wood Post with Wood Block)**
A77M1	**Midwest Guardrail System - Standard Hardware**
A77N1	**Midwest Guardrail System - Wood Post and Wood Block Details**
A77N3	**Midwest Guardrail System - Typical Line Post Embedment and Hinge Point Offset Details**
A77N4	**Midwest Guardrail System - Typical Railing Delineation and Dike Positioning Details**

	MINOR CONCRETE VEGETATION CONTROL - GUARDRAIL SYSTEM
A77N5	**Minor Concrete Vegetation Control - Guardrail System**
A77N6	**Minor Concrete Vegetation Control - Guardrail System - For Terminal System End Treatments**
A77N8	**Minor Concrete Vegetation Control - Guardrail System - At Fixed Object**
	MIDWEST GUARDRAIL SYSTEM - TYPICAL LAYOUTS FOR FIXED OBJECTS
A77R3	**Midwest Guardrail System - Typical Layouts for Roadside Fixed Objects**
	MIDWEST GUARDRAIL SYSTEM - END ANCHORAGE AND RAIL TENSIONING ASSEMBLY
A77S1	**Midwest Guardrail System - End Anchor Assembly (Type SFT - M)**
A77S3	**Metal Railing Anchor Cable and Anchor Plate Details**
	FENCES
A85	**Chain Link Fence**
A85A	**Chain Link Fence Details**
A85B	**Chain Link Fence Details**
	CURBS, DRIVEWAYS, DIKES, CURB RAMPS AND ACCESSIBLE PARKING
A88A	**Curb Ramp Details**
	TEMPORARY CRASH CUSHIONS, RAILING AND TRAFFIC SCREEN
T1A	**Temporary Crash Cushion, Sand Filled (Unidirectional)**
T1A1	**Temporary Crash Cushion, Sand Filled (Unidirectional)**
T1B	**Temporary Crash Cushion, Sand Filled (Bidirectional)**
T2	**Temporary Crash Cushion, Sand Filled (Shoulder Installations)**
T3A	**Temporary Railing (Type K)**
T3B	**Temporary Railing (Type K)**
T3C	**Temporary Barrier System (Cross Bolt)**
T3D	**Temporary Barrier System (Cross Bolt)**
T3E	**Temporary Barrier System (Cross Bolt)**
RSP T3F	**Temporary Barrier System (Cal F-23)**
RSP T3F2	**Temporary Barrier System (Cal F-23)**
RSP T3G	**Temporary Barrier System (Staking or Anchoring)**
RSP T3G2	**Temporary Barrier System (Staking or Anchoring)**
	TEMPORARY TRAFFIC CONTROL SYSTEMS
T9	**Traffic Control System Tables for Lane and Ramp Closures**
T10	**Traffic Control System for Lane Closure on Freeways and Expressways**
T10A	**Traffic Control System for Lane Closure on Freeways and Expressways**
T11	**Traffic Control System for Lane Closure on Multilane Conventional Highways**
T13	**Traffic Control System with Reversible Control on Two Lane Conventional Highways**
T13A	**Traffic Control System Two Lane Conventional Highways**
T13B	**Traffic Control System Two Lane Conventional Highways**
T14	**Traffic Control System for Ramp Closure**
T15	**Traffic Control System for Moving Lane Closure on Multilane Highways**
T16	**Traffic Control System for Moving Lane Closure on Multilane Highways**
T18	**Traffic Control System - Construction Work Zone Speed Limit Reduction on Freeways and Expressways**
T20	**Traffic Control System - Construction Work Zone Speed Limit Reduction Details**
T21	**Traffic Control System - Construction Work Zone Speed Limit Reduction Twenty-Four Hours a Day 7 Days a Week (24/7)**

	TEMPORARY PEDESTRIAN ACCESS ROUTES
T30	**Temporary Pedestrian Access Routes - Typical Sidewalk Closure and Pedestrian Detour**
T31	**Temporary Pedestrian Access Routes - Typical Sidewalk Diversion Within Roadbed**
T32	**Temporary Pedestrian Access Routes - Typical Sidewalk/Crosswalk Closure and Pedestrian Detour**
T33	**Temporary Pedestrian Access Routes - Ramp**
T34	**Temporary Pedestrian Access Routes - Curb Ramp Options**
	TEMPORARY WATER POLLUTION CONTROL
T56	**Temporary Water Pollution Control Details (Temporary Fiber Roll)**
T58	**Temporary Water Pollution Control Details (Temporary Construction Entrance)**
T59	**Temporary Water Pollution Control Details (Temporary Concrete Washout Facility)**
T61	**Temporary Water Pollution Control Details (Temporary Drainage Inlet Protection)**
T62	**Temporary Water Pollution Control Details (Temporary Drainage Inlet Protection)**
T63	**Temporary Water Pollution Control Details (Temporary Drainage Inlet Protection)**
T64	**Temporary Water Pollution Control Details (Temporary Drainage Inlet Protection)**
B0-3	**Bridge Details**
B0-13	**Bridge Details**
	JOINT SEALS
B6-21	**Joint Seals (Maximum Movement Range = 2")**
	BOX GIRDER DETAILS
B7-1	**Box Girder Details**
	ROADSIDE SIGNS
RS1	**Roadside Signs - Typical Installation Details No. 1**
RS2	**Roadside Signs - Wood Post - Typical Installation Details No. 2**
RS4	**Roadside Signs - Typical Installation Details No. 4**
	ELECTRICAL SYSTEMS - LEGEND AND ABBREVIATIONS
ES-1A	**Electrical Systems (Legend)**
ES-1B	**Electrical Systems (Legend)**
ES-1C	**Electrical Systems (Legend)**
	ELECTRICAL SYSTEMS - SERVICE EQUIPMENT AND WIRING DIAGRAMS
ES-2A	**Electrical Systems (Service Equipment)**
	ELECTRICAL SYSTEMS - PULL BOX
ES-8A	**Electrical Systems (Non-Traffic Pull Box)**
ES-8B	**Electrical Systems (Traffic Pull Box)**

CANCELED STANDARD PLANS LIST

The standard plan sheets listed below are canceled and not applicable to this contract.

Plan No.	Date Canceled	Plan No.	Date Canceled	Plan No.	Date Canceled
S1	04-21-25				
S2	04-21-25				
S3	04-21-25				
S4	04-21-25				
S5	04-21-25				
S6	04-21-25				
S8	04-21-25				
S9	04-21-25				
S10	04-21-25				
S11	04-21-25				
S12	04-21-25				
S13	04-21-25				
S15	04-21-25				
S17A	04-21-25				

ORGANIZATION

Special provisions are under headings that correspond with the main-section headings of the *Standard Specifications*. A main-section heading is a heading shown in the table of contents of the *Standard Specifications*.

Each special provision begins with a revision clause that describes or introduces a revision to the *Standard Specifications*.

Any paragraph added or deleted by a revision clause does not change the paragraph numbering of the *Standard Specifications* for any other reference to a paragraph of the *Standard Specifications*.

^^

DIVISION I GENERAL PROVISIONS

Replace section 1 with:

1 GENERAL

1-1.01 GENERAL

The following provisions from Division I of the Caltrans Standard Specifications apply to the Contract Documents, either in whole or in modified form, as reflected herein. Contractor must comply with the following provisions.

Every provision of the Caltrans Standard Specifications that is required to be inserted into the Contract Documents pursuant to the Cooperative Agreement between the City and Caltrans and pursuant to the applicable grant funding conditions for the Project, is deemed to be inserted and the Contract Documents will be construed and enforced as though such provision has been included. If it is discovered that through mistake or otherwise that any required provision was not inserted, or not correctly inserted, the Contract Documents will be deemed amended accordingly.

Section 1 includes specifications related to the interpretation of the contract.

The specifications are divided into 12 divisions.

Division I includes general specifications applicable to every contract unless specified as applicable only under certain conditions.

Division II includes specifications for general construction applicable to every contract unless specified as applicable only under certain conditions.

Divisions III through X include construction specifications for specific bid items.

Division XI includes specifications for common materials. For a material specified in this division, that material specified in any section must comply with the specifications in division XI.

Division XII includes construction specifications for buildings.

The bid items set forth the construction specifications that apply. The first 2 digits of a bid item code correspond to the specification section number with the same first 2 digits unless shown otherwise in the table titled "Bid Items and Applicable Sections" in the special provisions.

The specifications are written to the Bidder before award and the Contractor after. Before award, interpret sentences written in the imperative mood as starting with *The Bidder must* and interpret *you* as *the Bidder* and *your* as *the Bidder's*. After award, interpret sentences written in the imperative mood as starting with *The Contractor must* and interpret *you* as *the Contractor* and *your* as *the Contractor's*.

After Contract approval, submit documents and direct questions to the Engineer. Orders, authorizations, and requests to the Contractor are by the Engineer.

The following items from the Department are in writing:

1. Approvals
2. Authorizations
3. Decisions
4. Notifications
5. Orders
6. Responses

The following items from the Contractor must be in writing:

1. Notifications
2. Proposals
3. Reports
4. Requests, including RFIs, sequentially numbered
5. Subcontracts
6. Test results

Where a location is not specified with the words *shown*, *specified*, or *described*, interpret:

1. *Shown* as *shown on the plans*.
2. *Specified* as *specified in the specifications*.
3. *Described* as *described in the Contract*. *Described* means *shown, specified, or both*.

Headings are included for the purposes of organization and referencing. Inclusion of a heading with no related content, *Not Used*, or *Reserved* does not indicate that no specification exists for that subject; applicable specifications may be covered in a general or referenced specification.

Specifications in a section titled *General* apply to all subordinate sections within the section.

Specifications in the general section of a division apply to all sections within the division.

Sections are reserved in the *Standard Specifications* for correlation of special provisions and for future expansion of the *Standard Specifications*.

The specifications are expressed in US customary units except where a referenced document uses the International System of Units as the standard.

Unless an object or activity is specified to be less than the total, the quantity or amount is all of the object or activity.

All items in a list apply unless the items are specified as choices.

Bid Items and Applicable Sections

Item code	Item description	Applicable section
050000A	CONSTRUCTION STAKING	5
120321A	TEMPORARY BARRIER SYSTEM (CITY)	12
130710A	MODIFIED TEMPORARY CONSTRUCTION ENTRANCE (TYPE 2)	13
153250A	REMOVE GAS LINE	15
160111A	TREE PROTECTION (TEMPORARY HIGH VISIBILITY CHAIN LINK FENCE)	16
200112A	2’ DECORATIVE BOULDERS	20
200112B	3’ DECORATIVE BOULDERS	20
200112C	4’ DECORATIVE BOULDERS	20
200112D	STEPPING STONES	20
204100A	PLANT ESTABLISHMENT WORK (3 YEAR)	20
205036A	WOOD MULCH (TREE TRIMMINGS)	20
205063A	CAST IRON TREE GRATE	20
205065A	WIRE ROPE TRELLIS SYSTEM	20
206301A	TEMPORARY IRRIGATION SYSTEM (WATER TRUCK)	20
206569A	1” REMOTE CONTROL VALVE (MASTER VALVE)	20
208223A	1/2" DRIP IRRIGATION TUBING (PURPLE, RECYCLED WATER)	20
208224A	DRIP TRANSITION	20
208225A	DRIP FLUSH VALVE (CUSTOM)	20
208451A	DRIP VALVE ASSEMBLY (PURPLE, RECYCLED WATER)	20
208595A	1" PLASTIC PIPE (SCHEDULE 40)(SUPPLY LINE)(PURPLE, RECYCLED WATER)	20
208598A	2" PLASTIC PIPE (SCHEDULE 40)(SUPPLY LINE)(PURPLE, RECYCLED WATER)	20
208641A	1" PRESSURE REGULATING VALVE	20
208650A	QUICK COUPLING VALVE (W/ SWING JOINT & KEY & HOSE SWIVEL)	20
208650B	QUICK COUPLING VALVE (W/ SWING JOINT & KEY & HOSE SWIVEL) PURPLE, RECYCLED WATER	20
208691A	PVC PIPE CONDUIT (SLEEVE) (6" CLASS 315)	20
208822A	COLLAPSIBLE BOLLARD	20
500002A	PRESTRESSING (BACKSTAY ANCHORS)	50

Bid Items and Applicable Sections

Item code	Item description	Applicable section
511056A	CONCRETE SURFACE TEXTURE A	51
511057A	CONCRETE SURFACE TEXTURE B	51
510531A	RETAINING WALL/BARRIER AT BENT 8 (MINOR STRUCTURE)	51
510532A	CONCRETE SEAT WALLS (MINOR STRUCTURE)	51
550205A	FURNISH STRUCTURAL STEEL (SUPERSTRUCTURE)	55
550206A	FURNISH STRUCTURAL STEEL (PYLON)	55
550207A	ERECT STRUCTURAL STEEL (SUPERSTRUCTURE)	55
550208A	ERECT STRUCTURAL STEEL (PYLON)	55
550209A	STAY CABLES ASSEMBLIES	55
550210A	EXPANSION JOINT ASSEMBLIES	55
550211A	TUNED MASS DAMPER	55
600038A	PREPARE STEEL BRIDGE DECK SURFACE	60
600042A	FURNISH POLYESTER CONCRETE OVERLAY (INTEGRALLY COLORED)	60
600044A	FURNISH POLYESTER CONCRETE OVERLAY (ZINC)	60
600046A	FURNISH POLYESTER CONCRETE OVERLAY (ZINC) (INTEGRALLY COLORED)	60
600048A	PLACE POLYESTER CONCRETE OVERLAY (ZINC)	60
620110A	IMPORTED BIOFILTRATION SOIL	62
700618A	STORM DRAIN LABEL	70
731522A	CONCRETE PAVEMENT (PAVEMENT TREATMENT 3)	73
731628A	CONCRETE PAVING SYSTEM (FIELD)(PAVEMENT TREATMENT 1)	73
731629A	CONCRETE PAVING SYSTEM (EDGE)(PAVEMENT TREATMENT 2)	73
770201A	6” SEWER LATERAL	77
770205A	SANITARY SEWER TESTING AND INSPECTION	77
770206A	REMOVE SANITARY SEWER	77
770207A	REMOVE SEWER MANHOLE	77
770208A	REMOVE WATER LINE	77
770209A	REMOVE FIRE HYDRANT	77
770210A	ABANDON SEWER PIPE	77
770301A	INSTALL FIRE HYDRANT SYSTEM	77
770302A	REMOVE FIRE SERVICE	77
770303A	INSTALL FIRE SERVICE	77
770304A	1” WATER SERVICE	77
770305A	6” WATER LINE	77
770306A	8” COMBINATION WATER SERVICE	77
770401A	CITY OF SANTA ROSA STORM DRAIN MANHOLE	77
770402A	CITY OF SANTA ROSA TYPE I CATCH BASIN	77
770402B	CITY OF SANTA ROSA TYPE II CATCH BASIN	77
770403A	CITY OF SANTA ROSA 3” SIDEWALK DRAIN	77
770403B	CITY OF SANTA ROSA 3” X 12-1/2” CAST IRON SIDEWALK DRAIN	77
770404A	CITY OF SANTA ROSA SIDE OPENING FIELD DRAIN	77
770405A	6” AREA DRAIN	77
770405B	12” x 12” AREA DRAIN	77
770406A	CONVERT CATCH BASIN TO STORM DRAIN MANHOLE	77
770407A	6” HIGH DENSITY POLYETHYLENE PIPE (TYPE S)	77
770408A	12” REINFORCED CONCRETE PIPE	77
770409A	15” REINFORCED CONCRETE PIPE	77
770410A	18” REINFORCED CONCRETE PIPE	77
770411A	27” REINFORCED CONCRETE PIPE	77
770412A	30” REINFORCED CONCRETE PIPE	77
770413A	STORM DRAIN VIDEO INSPECTION	77
800401A	GUARD WITH FENCING (TALL STANCHIONS)	80

Bid Items and Applicable Sections

Item code	Item description	Applicable section
800402A	GUARD WITH FENCING (FORESTAYS)	80
810161A	DELINEATOR (SPECIAL - K-71)	81
820840A	ROADSIDE SIGN (ONE POST)(2” I.D. GALVANIZED STEEL POST)	82
839528A	GUARD	83
839529A	GUARD WITH HANDRAIL	83
839530A	GUARD WITH EXPANSION	83
839584A	ALTERNATIVE IN-LINE TERMINAL TL-3	83
840501A	4” THERMOPLASTIC TRAFFIC STRIPE	84
840615A	8" THERMOPLASTIC TRAFFIC STRIPE (ENHANCED WET NIGHT VISIBILITY) (BROKEN 18-12)	84
871301A	BIKE PED COUNTER	87
999990	MOBILIZATION	9

1-1.02 STYLE VARIATIONS

The Department is gradually standardizing the style of the specifications. The use of the new style does not change the meaning of a Contract part not using this style. The new style includes:

1. Use of:
   1.1. Imperative mood
   1.2. Introductory modifiers
   1.3. Conditional clauses
   1.4. Industry-standard terms
2. Elimination of:
   2.1. Language variations
   2.2. Definitions for industry-standard terms
   2.3. Redundant specifications
   2.4. Needless cross-references

Because of the transition, some terms or clauses used in Division I are different from those used in other divisions and in other Contract parts.

1-1.06 ABBREVIATIONS

Unless context indicates otherwise, interpret the meaning of an abbreviation used in the specifications and the Bid Item List as shown in the following tables:

Abbreviations

Abbreviation	Meaning
AASHTO	American Association of State Highway and Transportation Officials
AB	aggregate base
ACI	American Concrete Institute
ADL	aerially deposited lead
AGT	Approach Guardrail Transition
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ALR	Area of Localized Roughness
AMA	archaeological monitoring area
ANSI	American National Standards Institute
APCD	Air pollution control district
API	American Petroleum Institute
AREMA	American Railway Engineering and Maintenance-of-Way Association
AQMD	Air quality management district
AS	aggregate subbase
ASME	American Society of Mechanical Engineers
ASQ	American Society for Quality
ATPB	asphalt treated permeable base
ATS	active treatment system
AWG	American Wire Gauge
AWPA	American Wood Protection Association
AWS[a]	American Welding Society
AWWA	American Water Works Association
AWIS	automated work zone information system
BBS	battery backup system
BNSF	Burlington Northern Santa Fe
BWC	Bonded wearing course
Cal/OSHA	California Division of Occupational Safety and Health Administration
CBC	California Building Code
CDPH	California Department of Public Health
CIDH	cast-in-drilled-hole
CIH	Certified Industrial Hygienist
CIP	cast in place
CISS	cast-in-steel-shell
CJP	complete joint penetration
CMU	concrete masonry unit
CPM	critical path method
CPL	composite plastic lumber
CRCP	continuously reinforced concrete pavement
CRM	crumb rubber modifier
CSL	crosshole sonic logging
CSC	conductor signal cable
CSS	cement stabilized soil
CTB	cement treated base
CTPB	cement treated permeable base
CVN	Charpy V-notch
CWI	AWS Certified Welding Inspector
DBE	disadvantaged business enterprise
DRA	Dispute Resolution Advisor
DRB	Dispute Resolution Board
DTSC	Department of Toxic Substances Control
DVBE	disabled veteran business enterprise
ECTC	Erosion Control Technology Council
EIA/ECIA	Electronic Industries Alliance/Electronic Components Industry Association

ELAP	Environmental Laboratory Accreditation Program
ESA	environmentally sensitive area
ETL	Electrical Testing Laboratories
f_c	extreme fiber compressive stress in concrete at service loads
f'_c	compressive strength of concrete
FHWA	Federal Highway Administration
FDR	full depth recycling
GAAP	Generally Accepted Accounting Principles
GGBFS	ground granulated blast furnace slag; slag cement
GGL	gamma-gamma logging
GSP	galvanized steel pipe
HMA	hot mix asphalt
HMA-O	hot mix asphalt (open graded)
HMWM	high molecular weight methacrylate
HS	high strength
ICC	International Code Council
ICEA	Insulated Cable Engineers Association
IEEE	Institute of Electrical and Electronics Engineers
IRI	International Roughness Index
ITE	Institute of Transportation Engineers
ITP	independent third party
JIT	just-in-time
JMF	job mix formula
JPCP	jointed plain concrete pavement
ksf	kips per square foot
ksi	kips per square inch
LCB	lean concrete base
LCS	Department's lane closure system
LEED	Leadership in Energy and Environmental Design
LON	length of need
MC	medium curing
METS	Department's Materials Engineering and Testing Services
MPI	Master Painters Institute
MPQP	*Material Plant Quality Program* published by the Department
MR	movement range
MRI	Mean Roughness Index
MSDS[b]	material safety data sheet
MT	magnetic particle testing
MUTCD	*Manual on Uniform Traffic Control Devices*
NAL	numeric action level
NDS	National Design Specification for Wood Construction
NDT	nondestructive testing
NEL	numeric effluent limitation
NETA	International Electrical Testing Association
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NMAS	nominal maximum aggregate size
NPDES	National Pollutant Discharge Elimination System
NPT	National Pipe Thread Taper
NRTL	Nationally Recognized Testing Laboratory
NTU	nephelometric turbidity unit
OBC	optimum binder content
OBD	Offices of Bridge Design
OGFC	open graded friction course
OMC	optimum moisture content

PLAC	permit, license, agreement, certification, or any combination of these
PC	precast
PCC	portland cement concrete
pcf	pounds per cubic foot
PCMS	portable changeable message sign
PDR	partial depth recycling
PDR-EA	partial depth recycling using emulsified asphalt
PDR-FA	partial depth recycling using foamed asphalt
PG	performance grade
PJP	partial joint penetration
POC	pedestrian overcrossing
PPF	Pavement Profile Format
PQR	procedure qualification record
ProVal	Profile Viewer and Analyzer
PS	prestressed
PSF	pedestrian signal face
PV	programmed visibility
QSD	qualified SWPPP developer
QSP	qualified SWPPP practitioner
RAP	reclaimed asphalt pavement
RCSC	Research Council on Structural Connections
RECP	rolled erosion control product
RFI	request for information
RHMA	rubberized hot mix asphalt
RHMA-G	rubberized hot mix asphalt (gap graded)
RHMA-O	rubberized hot mix asphalt (open graded)
RHMA-O-HB	rubberized hot mix asphalt (open graded high binder)
RPL	recycled plastic lumber
RSC	rapid strength concrete
RSP	rock slope protection
RT	radiographic testing
RWQCB	regional water quality control board
SMSA	Standard Metropolitan Statistical Area
SC	slow curing
SCC	self-consolidating concrete
SCM	supplementary cementitious material
SDS	safety data sheet
SSPC	The Society for Protective Coatings
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TEES	Transportation Electrical Equipment Specifications
TIA	Telecommunications Industry Association; time impact analysis
TMDL	total maximum daily load
TRO	time-related overhead
TV	target value
UAS	unmanned aircraft systems
UFFA	ultra fine fly ash
UL	Underwriters Laboratories, Inc
USC	United States Code
USLE	Universal Soil Loss Equation
USM	unidentified stock material
UT	ultrasonic testing
VECP	value engineering change proposal
VFD	variable-frequency drive
VPM	volts per mil
WMA	warm mix asphalt

WPC	water pollution control
WPCP	water pollution control program
WPS	welding procedure specification
WQO	water quality objective

[a]Interpret a reference to AWS as a reference to AWS, ANSI/AWS, or AASHTO/AWS
[b]Interpret a reference to MSDS as a reference to SDS under 29 CFR 1910.1200

Bid Item List Abbreviations

Abbreviation	Meaning
ACRE	acre
CF	cubic foot
CY	cubic yard
EA	each
(F)	final pay item
GAL	gallon
HR	hour
LB	pound
LF	linear foot
LS	lump sum
LNMI	lane mile
MFBM	thousand foot board measure
STA	station (100 feet)
SQFT / SF	square foot
SQYD / SY	square yard
TON	2,000 pounds
WDAY	working day

1-1.07 DEFINITIONS

The definitions in Section 1-1.07 of the Caltrans Standard Specifications apply solely for purposes of understanding terms used within the Specifications.

Any reference to the Notice to Bidders is deemed to mean the Notice Inviting Bids.

Bid Item List is deemed to mean the Bid Schedule.

Note: Any reference to a Department manual is intended to mean the applicable Caltrans manual.

1-1.07A General

Interpret terms as defined in the Contract documents.

1-1.07B Glossary

abandon: Render unserviceable in place.

acts of God: *Acts of God* as defined in Pub Cont Code § 7105.

activity: Task, event, or other project element on a schedule that contributes to completing the project. An activity has a description, start date, finish date, duration, and one or more logic ties.

adjust: Raise or lower a facility to match a new grade line.

aerially deposited lead: Lead primarily from vehicle emissions deposited within unpaved areas or formerly unpaved areas.

authorized laboratory: Independent testing laboratory (1) not employed or compensated by any subcontractor or subcontractor's affiliate providing other services for the Contract and (2) authorized by the Department.

base: Layer of specified material of planned thickness placed immediately below the pavement or surfacing.

basement material: Material in an excavation or embankment under the lowest layer to be placed.

bid item: Work unit for which the Bidder provides a price.

borrow: Fill acquired from an excavation source outside the described cut area.

1. **local borrow:** Material obtained by widening cuts or excavating from sources outside the planned or authorized cross section on the job site. The location of the local borrow is described or designated by the Engineer.
2. **imported borrow:** Borrow that is not local borrow.

bridge: Structure that:

1. Has a bridge number
2. Carries a (1) utility, (2) railroad, or (3) vehicle, pedestrian, or other traffic over, under, or around obstructions or waterways

building-construction contract: Contract that has *Building Construction* on the cover of the *Notice to Bidders and Special Provisions*.

California Test: Department-developed test for determining work quality. For California Tests, go to the METS website.

certificate of compliance: Certificate stating the material complies with the Contract.

Certified Industrial Hygienist: Industrial hygienist certified in comprehensive practice by the American Board of Industrial Hygiene.

closure: Closure of a traffic lane or lanes, including shoulder, ramp, or connector lanes, within a single traffic control system.

commercial quality: Quality meeting the best general practices.

commercial source: Established business operating as a material source for the general public.

controlling activity: Construction activity that will extend the scheduled completion date if delayed.

critical path: Longest continuous chain of activities for the project that has the least amount of total float of all chains. In general, a delay on the critical path extends the scheduled completion date.

critical path method: Network-based planning technique using activity durations and relationships between activities to calculate a schedule for the entire project.

culvert: Structure other than a bridge that provides an opening under a roadway.

data date: Day after the date through which a schedule is current. Everything occurring earlier than the data date is as-built and everything on or after the data date is planned.

deduction: Money permanently taken from a progress payment or the final payment. Deductions are cumulative and are not retentions under Pub Cont Code § 7107.

detour: Temporary route for traffic around a closed road part. A passageway through a job site is not a detour.

Director: Department's Director.

dispose of: Remove from the job site.

divided highway: Highway with separated traveled ways for traffic, generally in opposite directions.

early completion time: Difference in time between an early scheduled completion date and the work completion date.

environmentally sensitive area: Area within or near construction limits where access is prohibited or limited to protect environmental resources.

estimated cost: Estimated cost of the project as shown on the *Notice to Bidders*.

federal-aid contract: Contract that has a federal-aid project number on the cover of the *Notice to Bidders.*

final pay item: Bid item whose quantity shown on the Bid Item List is the quantity paid.

finished grade: Final surface of the completed facility. If the work under the Contract includes stage construction, the relation between the finished grade and the work under the Contract is shown.

fixed cost: Labor, material, or equipment cost directly incurred by the Contractor as a result of performing or supplying a particular bid item that remains constant regardless of the item's quantity.

float: Difference between the earliest and latest allowable start or finish times for an activity.

Department-owned float: Time saved on the critical path by actions of the Department. It is the last activity shown on the schedule before the scheduled completion date.

grading plane: Basement material surface on which the lowest layer of subbase, base, pavement, surfacing, or other specified layer is placed.

highway: Whole right-of-way or area reserved for use in constructing the roadway and its appurtenances.

If January 1st, February 12th, March 31st, July 4th, November 11th, or December 25th falls on a Sunday, the Monday following is a holiday. If November 11th falls on a Saturday, the preceding Friday is a holiday.

hours of darkness: Hours of darkness as defined in Veh Code § 280.

idle equipment: Equipment:

1. On the job site at the start of a delay
2. Idled because of the delay
3. Not operated during the delay

job site: Area within the defined boundaries of a project.

***Labor Surcharge and Equipment Rental Rates*:** Department publication that lists labor surcharge and equipment rental rates.

landscaping: Practice of a landscaping contractor under 16 CA Code of Regs § 832.27.

material: Any product or substance specified for use in the construction of a project.

material shortage:

1. Shortage of raw or produced material that is area-wide and caused by an unusual market condition except if any of the following occurs:
   1.1. Shortage relates to a produced, nonstandard material
   1.2. Supplier's and the Contractor's priority for filling an order differs
   1.3. Event outside the United States for a material produced outside the United States
2. Unavailability of water that delays a controlling activity

material source facility audit: Self-audit and a Department audit evaluating a facility's capability to consistently produce materials that comply with Department standards.

median: Portion of a divided highway separating the traveled ways including inside shoulders.

milestone: Event activity that has zero duration and is typically used to represent the start or end of a certain stage of the project.

mobilization: Preparatory work that must be performed or costs incurred before starting work on the various items on the job site (Pub Cont Code § 10104).

modify: Add to or subtract from an appurtenant part.

narrative report: Document submitted with each schedule that discusses topics related to project progress and scheduling.

near critical path: Chain of activities with total float exceeding that of the critical path but having not more than 10 working days of total float.

obliterate: Place an earth cover over or root, plow, pulverize, or scarify.

pavement: Uppermost layer of material placed on a traveled way or shoulder.

permanent erosion control establishment period: Number of working days shown on the *Notice to Bidders* for permanent erosion control establishment work.

plant establishment period: Number of working days shown on the *Notice to Bidders* for plant establishment work.

quality characteristic: Characteristic of a material that is measured to determine conformance with a given requirement.

quality control plan: Contractor's plan to ensure QC.

reconstruct: Remove and disassemble and construct again at an existing or new location.

relocate: Remove and install or place in a new location.

remove: Remove and dispose of.

reset: Remove and install or place laterally at the same station location.

roadbed: Roadway portion extending from the curb line to curb line or the shoulder line to shoulder line. A divided highway has 2 roadbeds.

roadside: Area between the outside shoulder edge and the right-of-way limits.

roadway: Portion of the highway within the outside lines of curbs, sidewalks, slopes, ditches, channels, or waterways. A roadway includes the structures and features necessary for safety, protection of facilities, and drainage.

salvage: Remove, clean, and haul to a specified location.

shoulder: Roadway portion contiguous with the traveled way for accommodation of a stopped vehicle, emergency use, and lateral support of base and surface courses.

small tool: Tool or piece of equipment not listed in Labor Surcharge and Equipment Rental Rates that has a replacement value of $500 or less.

State: State of California, including its agencies, departments or divisions whose conduct or action is related to the work.

subbase: Layer of material between a base and the basement material.

subgrade: Roadbed portion on which pavement, surfacing, base, subbase, or a layer of any other material is placed.

submittal:

1. **action submittal:** Written and graphic information and samples that require the Department's response.
2. **informational submittal:** Written information that does not require the Department's response.

substantial defects: Defects plainly seen as damaged, displaced, or missing parts or improper functioning of materials, parts, equipment, or systems.

substructure: Bridge parts below the bridge seats, pier tops, and haunches for rigid-framed bridges or spring lines for arched bridges; includes abutment backwalls, abutment parapets, and wingwalls.

superstructure: Bridge parts except the substructure.

supplemental project information: Information relevant to the project, specified as supplemental project information, and made available to bidders.

surfacing: Uppermost layer of material placed on a traveled way or shoulders; pavement.

time-scaled network diagram: Graphic depiction of a CPM schedule comprised of activity bars with relationships for each activity represented by arrows. The tail of each arrow connects to the activity bar for the predecessor and points to the successor.

total float: Amount of time that an activity or chain of activities can be delayed before extending the scheduled completion date.

traffic: Pedestrians, bicyclists, ridden or herded animals, vehicles, streetcars, and other conveyances either singularly or together while using any highway for purposes of travel.

traffic break: Traffic operation performed by a California Highway Patrol officer or other law enforcement officer to slow or stop traffic within the traveled way.

traffic lane: Portion of traveled way used for the movement of a single line of vehicles.

traveled way: Portion of the roadway for the movement of vehicles, exclusive of the shoulders, berms, sidewalks, and parking lanes.

tunnel: Tunnel as defined in 8 CA Code of Regs § 8405 et seq.

unsuitable material: Material encountered below the natural ground surface in embankment areas or below the grading plane in excavation areas that the Engineer determines to be in any of the following conditions:

1. Of such unstable nature that it cannot be compacted to the specified density using ordinary methods at optimum moisture content.
2. Too wet to be properly compacted and cannot be dried before incorporating it into the work. Excessive moisture alone is not sufficient cause for determining that the material is unsuitable.
3. Inappropriate for the planned use.

withhold: Money temporarily or permanently taken from a progress payment.

work: Work

work plan: Detailed formulation of a program of action.

work zone: Area of a highway with construction, maintenance, or utility work activities.

1-1.08 DISTRICTS

The relevant Caltrans district for purposes of this Project is District 4, which covers the following counties: Alameda (Ala), Contra Costa (CC), Marin (Mrn), Napa (Nap), San Francisco (SF), San Mateo (SM), Santa Clara (SCl), Solano (Sol), Sonoma (Son). District 4's office address is: 111 GRAND AVE OAKLAND CA. District 4's mailing address is: PO BOX 23660 OAKLAND CA 94623-0660.

1-1.11 WEBSITES, ADDRESSES, AND TELEPHONE NUMBERS

Websites, Addresses, and Telephone Numbers

Reference or agency or department unit	Website	Address	Telephone no.
Authorized ADSC Standard Mitigation Plan	https://dot.ca.gov/-/media/dot-media/programs/engineering/documents/20201214-caltransapprovedadscstandardmitigationplan-a11y.pdf	--	--
Authorized Facility Audit List	http://www.dot.ca.gov/hq/esc/Translab/OSM/documents/smdocuments/Internet_auditlisting.pdf	--	--
Authorized Material List	http://www.dot.ca.gov/hq/esc/approved_products_list/	--	--
Authorized Material Source List	http://www.dot.ca.gov/hq/esc/Translab/authorized_material_source_list/	--	--
Authorized Material Systems List	http://www.dot.ca.gov/hq/esc/Translab/authorized_systems_list/	--	--
Authorized Laboratory List	http://www.dot.ca.gov/hq/esc/Translab/authorized_laboratories_list/	--	--
CA Unified Certification Program's list of certified DBEs	http://www.dot.ca.gov/hq/bep/find_certified.htm	--	--
Data Interchange for Materials Engineering	https://dime.dot.ca.gov	MATERIALS ENGINEERING AND TESTING SERVICES DEPARTMENT OF TRANSPORTATION 5900 FOLSOM BLVD SACRAMENTO CA 95819-4612	(916) 227-5238
California MUTCD	http://www.dot.ca.gov	--	--
Department	http://www.dot.ca.gov	--	--
Department of Conservation, Office of Mine Reclamation	http://www.conservation.ca.gov/dmr	--	--
Department of General Services, Office of Small Business and DVBE Services	http://www.dgs.ca.gov/dgs/ProgramsServices/BusServices.aspx	OFFICE OF SMALL BUSINESS AND DVBE SERVICES DEPARTMENT OF GENERAL SERVICES 707 3RD ST WEST SACRAMENTO CA 95605-2811	(800) 559-5529 (916) 375-4940
Department of Industrial Relations	http://www.dir.ca.gov	455 GOLDEN GATE AVE SAN FRANCISCO CA 94102	--

Division of Accounting, Office of External Accounts Payable	http://www.dot.ca.gov/hq/asc/oap/payments/contact.htm#conpets1	MAJOR CONSTRUCTION PAYMENT AND INFORMATION UNIT OFFICE OF EXTERNAL ACCOUNTS PAYABLE DIVISION OF ACCOUNTING DEPARTMENT OF TRANSPORTATION P.O. BOX 168043 SACRAMENTO CA 95816-8043	(916) 227-9013
Division of Construction	https://dot.ca.gov/programs/construction	--	--
Division of Safety: MASH devices	https://dot.ca.gov/programs/safety-programs/mash	--	--
Geotechnical Services	http://www.dot.ca.gov/hq/esc/geotech	GEOTECHNICAL SERVICES DEPARTMENT OF TRANSPORTATION 5900 FOLSOM BLVD SACRAMENTO CA 95819-4612	(916) 227-7000
METS	http://www.dot.ca.gov/hq/esc/Translab/	MATERIALS ENGINEERING AND TESTING SERVICES DEPARTMENT OF TRANSPORTATION 5900 FOLSOM BLVD SACRAMENTO CA 95819-4612	(916) 227-7000
MPQP	http://www.dot.ca.gov/manuals.htm	--	--
Office Engineer	--	MSC 43 OFFICE ENGINEER DEPARTMENT OF TRANSPORTATION 1727 30TH ST SACRAMENTO CA 95816-7005	(916) 227-6299
Office of Electrical Systems Regional Transportation Management Center	--	OFFICE OF ELECTRICAL SYSTEMS REGIONAL TRANSPORTATION MANAGEMENT CENTER 3165 GOLD VALLEY DR RANCHO CORDOVA CA 95742	
Quail Software	https://www.dot.ca.gov/programs/engineering-services/quail-software	--	--
South Coast Air Quality Management District	www.aqmd.gov	--	--
SWRCB, Land Disposal Program	https://www.waterboards.ca.gov/water_issues/programs/land_disposal/walist.html	--	--

1-1.12 MISCELLANY

Make checks and bonds payable to the Department of Transportation.

1-1.13–1-1.15 RESERVED

^^

Replace section 2 with:

2 BIDDING

2-1.01 GENERAL

Section 2 includes specifications related to bid eligibility and the bidding process.

2-1.06B Supplemental Project Information

The Department makes supplemental information available as specified in the special provisions.

The Department makes the following supplemental project information available:

Supplemental Project Information

Means	Description
Included in the *Information Handout*	1. City of Santa Rosa Street Design and Construction Standards dated January 13, 2004 2. City of Santa Rosa Construction Specifications for Public Improvements Rev. 6/86 3. City of Santa Rosa Public Storm Drain Standards dated April 26, 2005 4. City of Santa Rosa Traffic Standards dated April 8, 2008 5. City of Santa Rosa Sewer Construction Specifications revised October 18, 2018 6. City of Santa Rosa Sewer Construction Standards revised October 18, 2018 7. City of Santa Rosa Sewer Engineers Approved List revised October 18, 2018 8. City of Santa Rosa Water Construction Specifications revised October 18, 2018 9. City of Santa Rosa Water Construction Standards revised October 18, 2018 10. City of Santa Rosa Water Engineers Approved List revised October 18, 2018 11. City of Santa Rosa Storm Water Low Impact Development Technical Design Manual 12. City of Santa Rosa National Pollutant Discharge Elimination (NPDES) Storm Water Permit
Included with the project plans	Log of test borings

Logs of test borings are supplemental project information.

If an *Information Handout* or electronic design files are available, you may view them at the Contract Plans and Special Provisions link at the Department's Office of Construction Contract Awards website. Electronic design files contain design information such as cross sections, digital models, and roadway design alignments and profiles.

If rock cores are available, you may view them by sending a request to Coreroom@dot.ca.gov.

If other supplemental project information is available for inspection, you may view it by phoning in a request.

Make your request at least 7 days before viewing. Include in your request:

1. District-County-Route
2. Contract number
3. Viewing date
4. Contact information, including telephone number

For rock cores, also include the bridge number in your request.

If bridge as-built drawings are available, submit a request to the Office of Structure Maintenance and Investigations electronic mailbox address BIRIS@dot.ca.gov. Include in your request:

1. Business name and address
2. Contact information: name, email address, and telephone number
3. Contract number
4. District-County-Route
5. Bridge number

As-built drawings may not show existing dimensions and conditions. Where new construction dimensions are dependent on existing bridge dimensions, verify the field dimensions and adjust the dimensions of the work to fit the existing conditions.

2-1.07 JOB SITE AND DOCUMENT EXAMINATION

Examine the job site and bid documents. Notify the Department of apparent errors and patent ambiguities in the plans, specifications, and Bid Item List. Failure to do so may result in rejection of a bid or rescission of an award.

Bid submission is your acknowledgment that you have examined the job site and bid documents and are satisfied with:

1. General and local conditions to be encountered
2. Character, quality, and scope of work to be performed
3. Quantities of materials to be furnished
4. Character, quality, and quantity of surface and subsurface materials or obstacles
5. Requirements of the contract

^^

Replace section 3 with:

3 CONTRACT AWARD AND EXECUTION

3-1.01 GENERAL

Section 3 includes specifications related to contract award and execution.

3-1.13 FORM FHWA-1273

For a federal-aid contract, form FHWA-1273 is included with the Contract form in the documents sent to the successful bidder for execution. Comply with its provisions.

^^

Replace section 4 with:

4 SCOPE OF WORK

4-1.01 GENERAL

Section 4 includes specifications related to the scope of work.

4-1.07 VALUE ENGINEERING

4-1.07A General

Reserved

4-1.07B Value Engineering Change Proposal

You may submit a VECP to reduce any of the following:

1. Total cost of construction
2. Construction activity duration
3. Traffic congestion
4. Right-of-way delay or third-party utility delay
5. Public impact

Before preparing a VECP, meet with the Engineer to discuss:

1. Proposal concept
2. Permit issues
3. Impact on other projects
4. Project impacts, including traffic, schedule, and later stages
5. Peer reviews
6. Overall proposal merits
7. Review times required by the Department and other agencies

The VECP must not impair the project's essential functions or characteristics, including:

1. Service life
2. Operation economy
3. Maintenance ease
4. Desired appearance
5. Design and safety

The VECP must include:

1. Description of the Contract specifications and drawing details for performing the work and the proposed changes.
2. Itemization of Contract specifications and plan details that would be changed.
3. Detailed cost estimate for performing the work under the existing Contract and under the proposed change. Determine the estimates under section 9-1.04.
4. Deadline for the Engineer to decide on the changes.
5. Bid items affected and resulting quantity changes.

Submit a VECP using the Value Engineering Change Proposal Submittal to the Engineer, Project Manager and Construction Manager.

The Department makes every effort to consider a VECP. If a VECP is similar to a change in the plans or specifications being considered by the Department at the time the proposal is submitted or if the proposal is based on or similar to plans or specifications adopted by the Department before Contract award, the Department may make these changes without VECP payments. A VECP concept based on an alternative not chosen, but contemplated by the Department before bid, will be considered as a VECP.

If the Department does not approve a Change Order before the deadline stated in the VECP or other date you subsequently stated in writing, the VECP is rejected. The Department does not adjust time or payment for a rejected VECP.

The Department decides whether to accept a VECP and the estimated net construction-cost savings from adopting the VECP or parts of it. The Department may require you to accept a share of the investigation cost as a condition of reviewing a VECP. In determining the estimated net construction-cost savings, the Department excludes your VECP preparation cost and the Department's VECP investigation costs, including parts paid by you. After written acceptance, the Department considers the VECP and deducts the agreed cost of the investigation.

If the Department accepts the VECP or parts of it, the Department issues a Change Order that:

1. Incorporates changes in the Contract necessary to implement the VECP or the parts adopted
2. Includes the Department's acceptance conditions
3. States the estimated net construction-cost savings resulting from the VECP
4. Adjusts the payment so that the Change Order results in a credit to the Department of 50 percent of the estimated net construction-cost savings, except if the VECP provides a reduction in traffic congestion or avoids traffic congestion

If a VECP providing for a reduction in traffic congestion or avoiding traffic congestion is accepted by the Department, submit detailed traffic handling comparisons between the existing Contract and the proposed change, including estimates of the traffic volumes and congestion.

If a VECP providing for a reduction in working days is accepted by the Department, 50 percent of the reduction is deducted from the Contract time.

The Department may apply an accepted VECP for general use on other contracts.

If an accepted VECP is adopted for general use, the Department pays only the contractor who first submitted the VECP and only for the contracts awarded to that contractor before the submission of the accepted VECP.

If the Department does not adopt a general-use VECP, an identical or similar submitted proposal is eligible for acceptance.

4-1.07C Preconstruction Value Engineering Meeting

You may request a preconstruction value engineering meeting by submitting a request after Contract approval and before the start of Contract time.

The preconstruction value engineering meeting creates opportunity for the contractor and Department personnel involved in daily construction of the project to examine the Contract prior to the start of Contract time to identify potential cost or time saving proposals.

The Department offers the preconstruction value engineering meeting to:

1. Allow real-time feedback on ideas from either the Contractor or Department construction personnel
2. Expedite the process of developing and approving a VECP

The Department may postpone the start of Contract time based on the time required to develop and obtain approval of the VECP if:

1. Meeting results in a viable conceptual VECP
2. Project critical path method schedule is affected

Postponement of the start of Contract time does not apply to a cost-plus-time Contract.

^^

Replace section 5 with:

5 CONTROL OF WORK

5-1.01 GENERAL

Section 5 includes specifications related to the Contract parties' relations and Contract acceptance.

Furnish the resources except Department-furnished materials required to complete the work as described in the Contract.

Provide QC.

Work is subject to the Department's inspection, sampling, and testing. The Department's inspection, sampling, and testing do not relieve you of your responsibility to provide QC.

Ensure the Department's safe and unrestricted access to the work. Furnish facilities necessary for the Department's inspection.

Where the means and methods to complete the work are not described in the Contract, choose the means and methods to complete the work.

Where the Contract describes more than 1 construction method or more than 1 type of material or equipment, the Department does not assure that each construction method or type of material or equipment can be used successfully throughout all or any part of the project. You are responsible to use the alternative or alternatives that will accomplish the work under the conditions encountered.

Failure to comply with any Contract part is a waiver of your right to an adjustment of time and payment related to that part.

5-1.13E Prompt Payment

Section 5-1.13E applies to all contracts.

Pay your subcontractors within 7 days of receipt of each progress payment under Pub Cont Code §§ 10262 and 10262.5. Pay duly authorized motor carriers of property in dump trucks for transportation charges under Bus & Prof Code § 7108.6. Pay other entities, such as material suppliers, within 30 days of receipt of each progress payment.

Each month, after the 15th and prior to 20th, submit the following payment information through the Department’s prompt payment monitoring system at https://caltrans.dbesystem.com:

1. Subcontractor’s or entity’s business name
2. Description of work performed
   2.1. Bid item numbers or change order numbers
   2.2. Written narrative of work performed
3. Value of work performed
4. Amount paid to subcontractor or entity
5. Withhold amount, if applicable
6. Explanation of withhold reasoning, if applicable

Your subcontractors and other entities may validate payments received using the prompt payment monitoring system.

If a subcontractor’s or other entity’s work is in dispute, provide a written withhold notification to the subcontractor or entity and the Engineer no later than 7 days after receipt of the corresponding progress payment that includes the following:

1. Value of the disputed work
2. Amount of the withhold being taken
3. Bid item numbers or change order numbers associated with the disputed work
4. Explanation of the deficiencies of the disputed work and how the corresponding value was calculated
5. Corrective actions to be taken for release of withheld amount

The Department may request additional documentation from you to evaluate whether you applied the withhold in good faith. Submit requested documents within 10 days of receipt of request.

The Department may withhold the same amount of your withhold from a future progress pay estimate if the Department determines any of the following has occurred:

1. Withhold was not applied in good faith
2. Requested additional withhold documentation records were not provided
3. Payment information was not submitted through the prompt payment monitoring system
4. Required withhold notification was not provided

The Department may also apply a 2 percent penalty on the withhold amount for every month payment is not made.

5-1.15 SAFETY REPRESENTATIVE

5-1.15A General

Designate an on-site safety representative to superintend project safety for the duration of this Contract. The safety representative may perform other non-safety related work if safety responsibilities are fulfilled. The safety representative must be available after work hours as needed. The safety representative is not required to be on-site during plant establishment period, erosion control establishment period, or temporary suspensions when no other Contract work is being performed.

Develop a written site-specific safety program (SSSP) that incorporates known hazards associated with the project.

5-1.15A(1) Submittals

Submit a resume of the safety representative before starting work on the project, including education, completed safety training, and safety experience in heavy construction, heavy industrial, or oil and energy industry.

Submit a copy of the safety representative's certificate for the Cal/OSHA 30-hour – Cal/OSHA Standards for the Construction Industry or OSHA 510 - OSHA Standards for the Construction Industry training course as an informational submittal. The certificate must include:

1. Name of the entity providing certification
2. Name of the individual receiving certification
3. Date when the certification was provided
4. Expiration date, if applicable

Submit a copy of the SSSP as an informational submittal:

1. At least 15 days before starting work
2. At least 48 hours before starting work whenever a revision is made to the SSSP

5-1.15A(2) Quality Assurance

5-1.15A(2)(a) General

Not Used

5-1.15A(2)(b) Certifications

The safety representative must have completed training and received a certificate of completion for the Cal/OSHA 30-hour - Cal/OSHA Standards for the Construction Industry or OSHA 510 – OSHA Standards for the Construction Industry training course.

The safety representative must have one of the following certifications:

1. Certified Safety Professional from the Board of Certified Safety Professionals
2. Construction Health and Safety Technician from the Board of Certified Safety Professionals
3. Occupational Hygiene and Safety Technician from the Board of Certified Safety Professionals
4. Safety Trained Supervisor from the Board of Certified Safety Professionals
5. Safety Trained Supervisor Construction from the Board of Certified Safety Professionals

6. Associate Safety Professional from the Board of Certified Safety Professionals
7. Master Safety Professional from the National Association of Safety Professionals
8. Certified Safety Director from the National Association of Safety Professionals

5-1.15A(2)(c) Qualifications

The safety representative must be a competent and qualified person, as defined by Cal/OSHA, and must provide safety oversight on the project. The safety representative must have:

1. At least 3 years of safety experience in heavy construction, heavy industrial, or oil and energy industry
2. Knowledge in the area of safety procedure for all types of work being performed on this project
3. Knowledge of Department specifications and plans, Cal/OSHA policy and procedures, and 8 CA Code of Regs safety requirements

The safety representative must have completed safety training and maintain valid certifications for:

1. First aid
2. Cardiopulmonary resuscitation

5-1.15B Materials

Not Used

5-1.15C Construction

The safety representative must be available by:

1. Cellular telephone
2. Two-way radio
3. Mobile internet access

The safety representative must:

1. Develop the SSSP
2. Conduct the on-site new project orientation for each worker assigned to the project
3. Review the construction work plans for each subcontractor before starting work
4. Conduct or attend pre-planning sessions for high hazard work such as excavations, demolition, confined space entry, falsework, crane hoisting, high-risk utilities such as high-pressure pipelines with fuel or natural gas, and tunneling or boring
5. Conduct weekly job site safety meetings
6. Review work schedules, including subcontractors' work schedules, to ensure adequacy of job hazard analyses and address all safety concerns and issues
7. Ensure safety data sheets are available on-site for all materials and have a hazard communication program for informing workers of material hazards
8. Verify compliance with hazardous waste requirements under section 14-11, including spill prevention and control measures
9. Conduct daily safety inspections of the job site for hazards and compliance with safety requirements in the specifications and 8 CA Code of Regs
10. Report all incidents to the Engineer immediately, including the investigation of any close calls

When monitoring the job site, including work zones with certified flaggers or traffic control technicians, take immediate corrective action and notify the Engineer if an imminent danger is identified.

If the Engineer determines the safety representative is not meeting the intended duties and responsibilities, you must replace the safety representative within 30 days of written notice from the Engineer. If you need to replace the safety representative, notify the Engineer and provide replacement safety representative resume and required certifications at least 15 days before the replacement.

You may submit a secondary safety representative to act on behalf of the designated safety representative during extended shifts, continuous operations, or short-term absences that will not exceed 14 days in duration. The secondary safety representative must meet the same required qualifications and certifications as the designated safety representative.

5-1.15D Payment

Not Used

Coordinate lane closures and traffic handling with the Engineer and with contractors of coincident or adjacent projects. Potential conflicts may not be limited to the contracts listed above.

5-1.20 COORDINATION WITH OTHER ENTITIES

5-1.20A General

Other entities may perform work at or near the job site and material sources at any time. Coordinate activities to avoid delays.

Each contractor or other entity performing work at or near the job or material site is responsible to the other for damage to work, persons, or property and for costs due to unnecessary delays.

During the progress of the work under this Contract, work under the following contracts may be in progress at or near the job site of this Contract:

Coincident or Adjacent Contracts

Contract no.	County–Route–Post Mile	Location	Type of work
04-4A1304	Son-101-PM 18.5	Santa Rosa	Widen & Replace Overcrossing
04-1Q7004	Son-101-PM 22.8/32.8	Santa Rosa	Replace Bridge Railing And Guardrail

5-1.20B Permits, Licenses, Agreements, and Certifications

5-1.20B(1) General

Comply with PLACs. Maintain a copy of each PLAC at the job site.

5-1.20B(4) Contractor–Property Owner Agreement

Before procuring material from or disposing of material on nonhighway property:

1. Submit a written agreement from the property owner:
   1.1. For the use of the property
   1.2. Absolving the Department from responsibility in connection with the property
2. Obtain authorization to start

Before Contract acceptance, submit a document signed by the owner of the material source or disposal site stating that the Contractor has complied with the Contractor-owner agreement.

5-1.23B(2) Shop Drawings

5-1.23B(2)(a) General

Submit electronic shop drawings as specified and as otherwise required to control the work.

Calculations must demonstrate the design adequacy. Calculations specified as independently checked must be sealed and signed by an engineer who is registered as a civil engineer in the State and who did not seal and sign the drawings.

If multiple sets are submitted simultaneously or an additional set is submitted before the review of a previously submitted set is complete, designate the sequence that the sets are to be reviewed.

If drawings require corrections, the Department:

1. Describes the deficiencies
2. Stamps the drawings with the date that the review stopped
3. Returns the drawings

Show the set revision number. Uniquely number each revised detail. Show the number in an inverted triangle near the revised portion of the detail. In a legend, describe and date the revision.

Upon completion of review, the Department returns an electronic copy with the authorized date.

To make a change to an authorized drawing, submit it as specified for a new submittal. Note the changes.

Upon the completion of work shown on the drawings, submit electronic copies of as-built drawings. Include an index of the sheet numbers and titles on the 1st sheet for each structure. Arrange the drawings in the drawing-number order shown in the index.

Contractor shall submit shop drawings stamped as built for all steel and cable stay work for the principal bridge span and supports. The format shall be approved by Project Manager.

Contractor shall accurately measure and note the final vertical clearances for the structure at all low points within traveled ways, in accordance with Caltrans procedures on the As-Built plans.

5-1.23B(2)(b) Electronic Shop Drawings

Provide electronic shop drawing and calculation sheet submittals to the Construction Manager and Project Manager.

Submit a PDF file in a resolution of at least 300 dpi.

The subject line of the email must contain:

1. The words "Shop Drawing Submittal"
2. Contract number
3. Bid item number

In the email for each PDF file, list the number of pages

If separate emails are needed to accommodate large files, indicate the total number of e-mails included in the submittal or shared folder location with access information.

For each PDF file, use the following naming convention:

1. For shop drawings:
   SD_Contract number_Bridge number_Bid item number_Submittal e-mail number
   Example: SD_12-345678_54-0001_123_1_of_<<Total Number>>.PDF
2. For calculations:
   CALC_Contract number_Bridge number_Bid item__number_Submittal e-mail number
   Example: CALC_12-345678_54-0001_123_1_of_<<Total Number>>.PDF

After submitting the electronic files, send a notification of the electronic submittal to the Engineer. Include the names of the submitted files.

Upon completion of review, the Department returns 1 electronic copy with the date of authorization.

5-1.23B(3)–5-1.23B(10) Reserved

5-1.23C Informational Submittals

Informational submittals include:

1. Certificates of compliance
2. Manufacturer's instructions not associated with drawing submittals
3. Notifications
4. PLACs
5. Subcontracts
6. QC test data, QC test results, and QC evaluation reports

5-1.24 CONSTRUCTION SURVEY

5-1.24A General

You are responsible for providing construction survey to establish “control stakes”, also known as “grade stakes” for basic line and grade for the project. This includes layout, horizontal and vertical control of the construction of the project, including setting of line and grade stakes.

Comply with Chapter 12, "Construction Surveys," of the Department's Surveys Manual under the supervision of a Professional Land Surveyor with a minimum of 5 years' experience providing construction surveys pursuant to the Department's Surveys Manual.

You are responsible to provide any traffic control in accordance with these special provisions required for providing construction survey.

5-1.24B Submittal

Before starting any construction, submit to the Engineer for approval the frequency, information, and format of survey stakes and other construction horizontal and vertical control to be used for the project.

5-1.24C Construction

Perform survey calculations based upon the information shown and information provided by the Engineer per Chapter 12, "Construction Surveys," of the Department's Surveys Manual. In the event of a conflict between information provided by the Engineer and the plans, the plans govern. Immediately notify the Engineer of any discrepancies prior to establishing grade stakes.

Upon completion of the work, submit copies of survey and field notes within 24 hours. Failure to submit to copies of all survey and field notes within 24 hours results in a $100 deduction for each day that the survey and field notes are not submitted. This deduction is in addition to other retentions or deductions identified elsewhere.

Replace, at your sole expense and at no cost to the City, any survey marking or stakes that are disturbed or destroyed. It is your responsibility to protect or replace survey marking or stakes from damage by the public, including vandalism.

5-1.24D Payment

Construction Surveys is paid for as construction staking.

5-1.31 JOB SITE APPEARANCE

Keep the job site neat. In areas visible to the public:

1. If practicable, dispose of debris removed during clearing and grubbing concurrently with its removal. If stockpiling is necessary, dispose of debris weekly.
2. Furnish trash bins for construction debris. Place the debris in trash bins daily.
3. For falsework to be reused, stack the forms neatly and concurrently with their removal.

5-1.32 AREAS FOR USE

Occupy the highway only for purposes necessary to perform the work.

If no State-owned area is designated for the Contractor's use, you may request for temporary storage with the Department. The Department may reject the request for any reason.

Defend, indemnify, and hold the State harmless to the same extent as under Section 4.2 of the General Conditions.

The Department does not allow temporary residences within the highway.

Personal vehicles of your employees must not be parked on the traveled way or shoulders, including sections closed to traffic.

Do not cast precast concrete members within the right-of-way of Route 101.

5-1.33 EQUIPMENT

Submit a list describing each piece of equipment and its identifying number.

5-1.36 PROPERTY AND FACILITY PRESERVATION

5-1.36A General

Preserve and protect:

1. Highway improvements and facilities

2 Adjacent property
3. Waterways
4. ESAs
5. Lands administered by other agencies
6. Railroads and railroad equipment
7. Nonhighway facilities, including utilities
8. Survey monuments
9. Department's instrumentation
10 Temporary work
11. Roadside vegetation not to be removed

Comply with Govt Code § 4216 et seq. Notify the Engineer at least 3 business days before you contact the regional notification center. Failure to contact the notification center prohibits excavation.

Immediately report damage to the Engineer.

If you cause damage, you are responsible.

The Department may make a temporary repair to restore service to a damaged facility.

Install suitable safeguards to preserve and protect facilities from damage.

Install temporary facilities, such as sheet piling, cribbing, bulkheads, shores, or other supports, necessary to support existing facilities or to support material carrying the facilities.

5-1.36C Nonhighway Facilities

5-1.36C(1) General

Before starting work that could damage or interfere with underground infrastructure, locate the infrastructure described in the Contract, including laterals and other appurtenances, and determine the presence of other underground infrastructure inferred from visible facilities, such as buildings, meters, and junction boxes.

Underground infrastructure described in the Contract may be in different locations from those described, and additional infrastructure may exist.

Upon discovering an underground main or trunk line not described in the Contract, immediately notify the Engineer and the infrastructure owner. The Engineer orders the locating and protecting of the infrastructure. If ordered, repair infrastructure damage.

Immediately notify the Engineer of a delay due to the presence of main-line underground infrastructure not described in the Contract or in a substantially different location.

Notify the Engineer if the infrastructure described in the Contract cannot be found. If after giving the notice, you find the infrastructure in a substantially different location from that described, finding the infrastructure is change order work.

5-1.36C(2) Nonhighway Facility Protection

Reserved

5-1.36C(3) Nonhighway Facility Rearrangement

The Department may rearrange a nonhighway facility during the Contract. Rearrangement of a nonhighway facility includes installation, relocation, alteration, or removal of the facility.

The Department may authorize facility owners and their agents to enter the highway to perform rearrangement work for their facilities or to make connections or repairs to their property. Coordinate activities to avoid delays.

The utility owner will relocate a utility shown in the following table before the corresponding date shown:

Utility Relocation and Date of the Relocation

Utility	Location	Date
PG&E Overhead Electric	"EE" 9+54.20 to 18+56.25	March 31, 2026
PG&E Gas	"EE" 14+46.81	March 31, 2026
Comcast Underground	"EE" 10+43.31 to 14+83.04	March 31, 2026
Comcast Overhead	"EE" 17+26.14 to 18+56.25	March 31, 2026
AT&T Underground	"EE" 10+43.31 to 14+83.04	March 31, 2026

If necessary rearrangement of underground infrastructure is not described in the Contract, the Engineer may order you to perform the work.

Immediately notify the Engineer of a delay due to a rearrangement different from that described in the Contract.

If you want infrastructure rearrangement different from that described in the Contract:

1. Notify the Engineer
2. Make an arrangement with the infrastructure owner
3. Obtain authorization for the rearrangement
4. Pay the infrastructure owner any additional cost

The Department does not adjust time or payment for a rearrangement different from that described the Contract.

5-1.36D Survey Monuments

Protect survey monuments on and off the highway. Upon discovery of a survey monument not identified and located by the Department, immediately:

1. Stop work near the monument
2. Notify the Engineer

Do not resume work near the monument until authorized.

5-1.36E Landscape

If you damage plants not to be removed:

1. Dispose of them unless the Engineer authorizes you to reduce them to chips and spread the chips within the highway at locations designated by the Engineer
2. Replace them

Replace plants with plants of the same species.

Replace trees with 24-inch-box trees.

Replace shrubs with no. 15-container shrubs.

Replace ground cover plants with plants from flats. Replace *Carpobrotus* ground cover plants with plants from cuttings. Plant ground cover plants 1 foot on center.

If a plant establishment or permanent erosion control establishment period is specified, replace plants before the start of the plant establishment or permanent erosion control establishment period; otherwise, replace plants at least 30 days before Contract acceptance.

Water each plant immediately after planting. Saturate the backfill soil around and below the roots or the ball of earth around the roots of each plant. Water as necessary to maintain plants in a healthy condition until Contract acceptance.

5-1.36F Irrigation Facilities

Keep existing irrigation facilities in place that are described to be removed, relocated, or modified until the Engineer determines they are no longer needed.

Maintain the existing water supply. If the existing water supply is interrupted for more than 3 consecutive days, provide an alternative water supply. Water the existing plants in the area irrigated from that water supply, including those maintained by the Department, as necessary to maintain healthy plant growth.

If you and the Department irrigate existing plants from the same water supply, furnish enough water to the Department for watering plantings on and off the highway as necessary to maintain a healthy condition through Contract acceptance.

If you damage irrigation facilities not to be removed:

1. Remove and dispose of them.
2. Repair and replace damaged facilities within 10 days.
3. Use similar commercial-quality components from the same manufacturer or components that are compatible with the existing irrigation system if authorized.
4. After completing the repair or replacement of the facilities, perform an operational test in the presence of the Engineer. If you repair or replace the remote control valves, conduct the test with the irrigation controller in the automatic mode.

Notify the Engineer:

1. At least 4 business days before shutting off the water supply to any portion of the existing irrigation system
2. Immediately after restoring the water supply to any portion of the existing irrigation system

5-1.37 MAINTENANCE AND PROTECTION

5-1.37A General

Maintain and protect work until the Department has granted relief from maintenance or accepted the Contract.

Do not remove any padlock used to secure a portion of the work until the Engineer is present to replace it. Notify the Engineer at least 3 business days before removing the lock.

Prevent construction equipment that exceeds the maximum weight limits in Veh Code Div 15 from operating on completed or existing treated base, pavement, or structures.

5-1.37B Load Limits

5-1.37B(1) General

For areas within the project limits and subject to the Contractor providing protective measures and repairing related damage, construction equipment exceeding the size or weight limits in Veh Code Div 15 may move over:

1. Public roads within the highway.
2. Treated base or pavement under construction or completed.
3. Culverts and pipes.
4. Structures not open to traffic that are designed for AASHTO HS20-44 live loading, except culverts and pipes. Before crossing one of these structures, submit the dimensions and maximum axle loadings of the equipment; and unless a material hauling equipment lane on a bridge is shown on the drawings, comply with the following specifications:
   - 4.1. The maximum loading on a bridge due to pneumatic-tired truck and trailer combinations must not exceed:
     - 4.1.1. 28,000 lb for single axles
     - 4.1.2. 48,000 lb for tandem axles
     - 4.1.3. 60,000 lb total gross load for single vehicles
     - 4.1.4. 110,000 lb total gross load for truck and trailer or semi-trailer combinations
   - 4.2. The loading on a bridge due to 2- and 3-axle pneumatic-tired earthmovers must not exceed that shown in the following table:

Allowable Construction Loading on Bridges for 2- and 3-Axle Earthmovers

Bridge girder center-to-center spacing (feet)	Maximum axle loading (pounds)
4	28,000
5	29,000
6	30,000
7	32,000
8	34,000
9	37,000
10 and over	40,000

NOTE: Minimum axle spacing:

For 2-axle earthmovers:
Axles 1 to 2 = 20 feet

For 3-axle earthmovers:
Axles 1 to 2 = 8 feet
Axles 2 to 3 = 20 feet

5. Completed or existing base, pavement, and structures under the Department's *Transportation Permits Manual*, whether open to the public or not.

Loads imposed on existing, new, or partially completed structures must not exceed the load-carrying capacity of the structure or any portion of the structure as determined by AASHTO LRFD with interims and California Amendments, Design Strength Limit State II. The f'_c to be used in computing the load-carrying capacity must be the smaller of the following:

1. Actual compressive strength at the time of loading
2. Value of f'_c shown on the plans for that portion of the structure or 2.5 times the value of f_c shown on the plans for portions of the structure where no f'_c is shown

5-1.39C Landscape Damage

5-1.39C(1) General

Repair slopes or other existing facilities that were damaged after starting job site activities and before starting plant establishment or permanent erosion control establishment.

5-1.39C(2) Plant Establishment Period of 3 Years or More

Section 5-1.39C(2) applies if a plant establishment period of 3 years or more is shown on the *Notice to Bidders*.

Replace plants and repair slopes, irrigation systems, and other highway facilities damaged during the plant establishment period. The Department pays 1/2 the accumulated costs in excess of the greater of 5 percent of the plant establishment work or $2,000; the Contractor pays the other 1/2.

^^

Replace section 6 with:

6 CONTROL OF MATERIALS

6-1 GENERAL

6-1.01 GENERAL

Section 6 includes specifications related to the control of materials.

Store materials and samples in a way that preserves the quality and facilitates prompt inspection.

Material incorporated into the work must be new.

Before the preconstruction conference, submit material source information on a Notice of Materials to be Used form.

6-1.02 DEPARTMENT-FURNISHED MATERIALS

The City furnishes you with:

1. Six sign panels for City project funding identification signs

You must furnish replacement plants. The Department does not pay you for the replacement plants.

Request Department-furnished materials except sign panels at least 15 days before their scheduled installation. Request sign panels at least 30 days before their scheduled installation.

If the Department furnishes the material:

1. At the job site, unload and store the material
2. At a location other than the job site, deliver the material to the job site and store it

The Engineer orders the return and disposal of surplus Department-furnished material.

You are responsible for the cost of replacing lost or damaged Department-furnished material. The Department deducts replacement costs. Department-furnished material not used in the work remains the property of the Department.

6-1.03B Submittals

6-1.03B(1) General

Not Used

6-1.03B(2) Work Plan

For local material, such as rock, gravel, earth, structure backfill, pervious backfill, imported borrow, and culvert bedding, obtained from a (1) noncommercial source, or (2) source not regulated under California jurisdiction, submit a local material plan for each material at least 60 days before placing the material. The local material plan must include:

1. Certification signed by you and an engineer who is registered as a civil engineer in the State or a professional geologist licensed as a professional geologist by the State stating:

   > I am aware local material from a noncommercial source or a source not regulated under CA jurisdiction must be sampled and analyzed for pH and lead and may require sampling and analysis under section 6-1.03B(3) for other constituents of concern based on the land use history. I am aware that local material sources must not contain ADL at concentrations greater than 80 mg/kg total lead or equal to or greater than 5 mg/L soluble lead as determined by the Waste Extraction Test (WET) Procedures, 22 CA Code of Regs § 66261.24(a)(2) App II. I am aware that a maximum quantity of material may be excavated at the site based on the minimum number of samples taken before excavating at the site under section 6-1.03B(3).

2. Land use history of the local material location and surrounding property
3. Sampling protocol
4. Number of samples per volume of local material
5. QA and QC requirements and procedures

6. Qualifications of sampling personnel
7. Stockpile history
8. Name and address of the analytical laboratory that will perform the chemical analyses
9. Analyses that will be performed for lead and pH
10. Other analyses that will be performed for possible hazardous constituents based on:
    10.1. Source property history
    10.2. Land use adjacent to source property
    10.3. Constituents of concern in the ground water basin where the job site is located

The plan must be sealed and signed by an engineer who is registered as a civil engineer in the State or a professional geologist licensed as a professional geologist by the State.

If the plan requires revisions, the Engineer provides comments. Submit a revised plan within 7 days of receiving comments. Allow 7 days for the review.

6-1.03B(3) Analytical Test Results

At least 15 days before placing local material, submit analytical test results for each local material obtained from a noncommercial source or a source not regulated under CA jurisdiction. The analytical test results must include:

1. Certification signed by an engineer who is registered as a civil engineer in the State or a professional geologist licensed as a professional geologist by the State stating:

    > The analytical testing described in the local material plan has been performed. I performed a statistical analysis of the test results of the analytical testing described in the local material plan using the US EPA's ProUCL software with the applicable 95 percent upper confidence limit. I certify that the material from the local material source is suitable for unrestricted use at the job site and the material has met the following criteria:
    >
    > 1. Has a pH above 5.0.
    > 2. Does not contain soluble lead in concentrations equal to or greater than 5 mg/L as determined by the Waste Extraction Test (WET) Procedures, 22 CA Code of Regs § 66261.24(a)(2) App II.
    > 3. Does not contain lead in concentrations above 80 mg/kg total lead.
    > 4. Is not contaminated with the other constituents of concern identified in the local material plan in average concentration (95 percent upper confidence limit) in excess of these constituents' respective San Francisco Bay RWQCB commercial/industrial environmental screening levels ESLs, except for arsenic.
    > 5. Does not exceed the maximum allowed concentration limit table listed in Section 6-1.03B(4).

2. Chain of custody of samples.
3. Analytical results no older than 1 year.
4. Statistical analysis of the data using US EPA’s ProUCL software with a 95 percent upper confidence limit.
5. Comparison of sample results and 95 percent upper confidence limits to hazardous waste concentration thresholds and the applicable San Francisco Bay RWQCB environmental screening levels (ESLs) given in direct exposure human health risk levels (Table S-1), commercial/industrial: Shallow soil exposure, under Summary of Soil ESLs tables (2019 Rev 2). The Summary of Soil ESLs tables (2019 Rev 2) can be obtained by sending an email to ESLs.ESLs@waterboards.ca.gov with "Request for ESL Documents" in the subject line.

6-1.03B(4) Sample and Analysis

Sample and analyze local material from a (1) noncommercial source or (2) a source not regulated under CA jurisdiction:

1. Before bringing the local material to the job site
2. As described in the local material plan
3. Under US EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846)

The sample collection must be designed to generate a data set representative of the entire volume of proposed local material.

Before excavating at (1) a noncommercial material source or (2) a source not regulated under CA jurisdiction, collect the minimum number of samples, and perform the minimum number of analytical tests for the corresponding maximum volume of local material as shown in the following table:

Minimum Number of Samples and Analytical Tests for Local Material

Maximum volume of imported borrow (cu yd)	Minimum number of samples and analytical tests
< 5,000	8
5,000–10,000	12 for the first 5,000 cu yd plus 1 for each additional 1,000 cu yd or portion thereof
10,000–20,000	17 for the first 10,000 cu yd plus 1 for each additional 2,500 cu yd or portion thereof
20,000-40,000	21 for the first 20,000 cu yd plus 1 for each additional 5,000 cu yd or portion thereof
40,000–80,000	25 for the first 40,000 cu yd plus 1 for each additional 10,000 cu yd or portion thereof
> 80,000	29 for the first 80,000 cu yd plus 1 for each additional 20,000 cu yd or portion thereof

Do not collect composite samples or mix individual samples to form a composite sample.

Statistically analyze the samples' laboratory results using the US EPA's ProUCL software to define 95 percent upper confidence limit for the various contaminants of concern. All chemical analysis must be performed by a laboratory certified by the SWRCB's Environmental Laboratory Accreditation Program (ELAP).

The analytical test results must demonstrate that the local material:

1. Is not a hazardous waste
2. Has a pH above 5.0
3. Has an average total lead concentration, based upon the 95 percent upper confidence limit, at or below 80 mg/kg
4. Is not contaminated with local material plan-identified constituents of concern at average concentrations (95 percent upper confidence limits) in excess of their respective commercial/industrial San Francisco Bay RWQCB environmental screening levels ESLs, except for arsenic.
5. Does not contain any of the following compounds, chemicals, or elements at an estimated average concentration (95 percent upper confidence limit) above the maximum allowed concentration defined in the following table:

Compound/Chemical	Maximum allowed concentration (mg/kg)
Arsenic	11
Barium	1500
Benzene	1
Beryllium	10
Cadmium	10
Chromium (total)	1000
Cobalt	100
Diesel	150
Ethylbenzene	10
Gasoline	500
Mercury	10
Motor oil	500
Nickel	150
Selenium	10
Toluene	10
Trichloroethene	1
Vanadium	200
Xylenes	10
Zinc	600

6-1.03C Local Material Management

Do not place local material until authorized.

If the Engineer determines the appearance, odor, or texture of any delivered local material suggests possible contamination, sample and analyze the material. The sampling and analysis is change order work unless (1) hazardous waste is discovered or (2) the analytical test results indicate the material does not comply with section 6-1.03B(3).

Dispose of noncompliant local material at an appropriately permitted CA Class I, CA Class II or CA Class III facility. You are the generator of noncompliant local materials.

6-1.04 BUY AMERICA

6-1.04A General

Buy America requirements do not apply to the following:

1. Tools and construction equipment used in performing the work
2. Temporary work that is not incorporated into the finished project

6-1.04B Crumb Rubber (Pub Res Code § 42703(d))

Furnish crumb rubber with a certificate of compliance. Crumb rubber must be:

1. Produced in the United States
2. Derived from waste tires taken from vehicles owned and operated in the United States

6-1.04C Steel and Iron Materials

Steel and iron materials must be melted and manufactured in the United States except:

1. Foreign pig iron and processed, pelletized, and reduced iron ore may be used in the domestic production of the steel and iron materials
2. If the total combined cost of the materials produced outside the United States does not exceed the greater of 0.1 percent of the total bid or $2,500, the material may be used if authorized

Furnish steel and iron materials to be incorporated into the work with certificates of compliance and certified mill test reports. Mill test reports must indicate where the steel and iron were melted and manufactured.

All melting and manufacturing processes for these materials, including an application of a coating, must occur in the United States. Coating includes all processes that protect or enhance the value of the material to which the coating is applied.

6-1.04D Manufactured Products

Iron and steel used in precast concrete manufactured products must meet the requirements of section 6-1.04C regardless of the amount used.

Iron and steel used in other manufactured products must meet the requirements of section 6-1.04C if the weight of steel and iron components constitute 90 percent or more of the total weight of the manufactured product.

6-1.04E Construction Materials

The following construction materials must be produced in the United States under standards in 2 CFR 184.6:

1. Non-ferrous metals
2. Plastic and polymer-based products such as:
   2.1. Polyvinylchloride
   2.2. Composite building materials
3. Glass
4. Fiber optic cable including drop cable
5. Optical fiber
6. Lumber
7. Engineered wood
8. Drywall

All manufacturing processes for these materials as defined in 2 CFR 184.6 must occur in the United States.

Furnish construction materials to be incorporated into the work with certificates of compliance with each project delivery. Manufacturer's certificate of compliance must identify where the construction material was manufactured and attest specifically to compliance with its 2 CFR 184.6 standard.

Minor additions of articles, materials, supplies, or binding agents to these construction materials do not change the categorization of the construction material.

6-1.06 BUY CLEAN CALIFORNIA ACT

6-1.06A Summary

For projects with a total bid over $1 million and 175 or more original working days, the materials or products shown in the following table are subject to the Buy Clean California Act (Pub Cont Code § 3500 et seq.):

Material or product	Material specifications
Carbon steel rebar[a]	Section 52-1.02B, "Bar Reinforcement" and Section 99, "Building Construction." Includes uncoated or ungalvanized bar reinforcement used in epoxy-coated or galvanized reinforcement applications.
Structural steel[b]	Section 55-1.02D(1), "General," – Structural Steel and Other Materials tables, Section 56-2.02B(1), "General," Section 56-2.02F, "Pipe Posts," and Section 99, "Building Construction." For hot-rolled, plate or hollow materials.
Flat glass[c]	Section 99, "Building Construction"
Mineral wool board insulation[d]	Section 99, "Building Construction"

[a]For each mill providing 20,000 pounds or more on the project.
[b]For each mill providing 5,000 pounds or more on the project.
[c]For each manufacturer providing 2,000 square feet or more on the project.
[d]For each manufacturer providing 4,000 square feet or more on the project.

An informal-bid contract is not subject to Buy Clean California Act requirements.

For carbon steel rebar and structural steel materials subject to Buy Clean California Act, the source mills must be on the Authorized Material Lists for Buy Clean California Act compliant steel mills. Identify source mills on Notice of Materials to be Used form submittals.

For flat glass and mineral wool board insulation subject to Buy Clean California Act, submit an environmental product declaration for each applicable material or product at least 15 days before the scheduled installation. The global warming potential of each applicable material or product as evidenced by its environmental product declaration must not exceed the maximum acceptable global warming potential values established by the Department of General Services. Do not install the applicable material or product until the submittal has been authorized. The maximum acceptable global warming potential for each category of material or product is published on the Department of General Services website at:

https://www.dgs.ca.gov/

For product category rules for flat glass or mineral wool board insulation, go to the METS website. Use the product category rule in effect on the date of bid opening unless otherwise authorized. An environmental product declaration for flat glass or mineral wool board is not required for either of the following conditions:

1. Applicable product category rule has expired without replacement as of the bid opening date.
2. Applicable product category rule was issued less than 100 days before the bid opening date.

Upon each jobsite shipment receipt of materials or products subject to these Buy Clean California Act requirements, report the represented quantity information using the Department's Data Interchange for Materials Engineering.

6-1.06B Definitions

environmental product declaration: Independently verified document created and verified under International Organization for Standardization (ISO) 14025 for Type III environmental declarations that identifies the global warming potential emissions of the facility-specific material or product through a product stage life cycle assessment.

product category rule: Program operator established rule based on the science of life cycle assessment that governs the development of the environmental product declaration for the material or product.

product stage: Boundary of the environmental product declaration that includes (1) raw material supply, (2) transportation processes, and (3) processing operations, including operations such as melting, mixing, milling, finishing, curing, cooling, trimming, packaging and loading for transport delivery. Commonly referred to as a "cradle-to-gate" life cycle assessment.

program operator: Independent agency that supervises and confirms the full environmental product declaration development process under ISO 14025.

raw material supply: Upstream processes which can include allocations, extraction, refinement, reclamation, handling, and processing of the constituents used in producing the material or product.

transportation processes: Includes transportation of raw, reclaimed or recycled material constituents from the supplier to the gate of the manufacturer, producer or fabricator. Includes transport of related waste products.

6-1.06C Submittals

You must register on the Department's Data Interchange for Materials Engineering at least 15 days before submitting either of the following:

1. Represented quantity information for materials or products subject to Buy Clean California Act
2. Environmental product declarations for flat glass or mineral wool board insulation

Follow the registration process at:

https://dime.dot.ca.gov/

Submit environmental product declarations for flat glass and mineral wool board insulation to the Department's Data Interchange for Materials Engineering and provide PDF copies to the Engineer.

Submit certified mill test reports upon delivery of carbon steel rebar and structural steel materials to the project documenting their compliance. Fabricators of items containing carbon steel rebar or structural steel materials must have the certified mill test reports available for Department inspection prior to beginning fabrication. Do not incorporate these materials and products into the work until compliant documentation has been provided to the Engineer.

For each material or product subject to Buy Clean California Act requirements, complete the represented quantity information on the Department's Data Interchange for Materials Engineering within 5 business days of shipment receipt at the project site.

Immediately notify the Engineer if a program operator has determined their product category rule does not allow for development of a facility-specific environmental product declaration for flat glass or mineral wool board insulation. Include written correspondence from the program operator. If the Engineer determines the development of a facility-specific environmental product declaration for flat glass or mineral wool board insulation cannot be achieved, an environmental product declaration will not be required for that material or product.

6-1.08 ENVIRONMENTAL PRODUCT DECLARATIONS FOR HOT MIX ASPHALT AND CONCRETE

Section 6-1.08 includes specifications for environmental product declarations for hot mix asphalt and concrete materials and products.

See section 6-1.06B for definitions.

For projects with bid opening dates after February 1, 2025, with a total bid over $1 million and 175 or more original working days, materials or products specified in the following table require facility-specific, product stage, environmental product declarations as informational submittals:

Material or product	Material specifications
Hot mix asphalt[a]	Section 39-2, "Hot Mix Asphalt" Excludes RHMA, OGFC, and BWC materials.
Concrete[b]	Section 28-2, "Lean Concrete Bases," Section 28-3, "Rapid Strength Concrete Base," Section 28-4, "Lean Concrete Base Rapid Setting," Section 28-5, "Concrete Base," Section 40, "Concrete Pavement," Section 47-5, "Type 6 Retaining Walls," Section 49-3, "Cast-In-Place Concrete Piling," Section 49-4, "Steel Soldier Piling," Section 51, "Concrete Structures," Section 58-2, "Masonry Block," Section 73, "Concrete Curbs and Sidewalks," Section 83, "Railings and Barriers," and Section 99, "Building Construction." Excludes volumetric-proportioned rapid strength concrete and Section 90-4 PC concrete members.

[a]For each hot mix asphalt plant providing 2,250 tons or more on the project by job mix formula.
[b]For each concrete plant providing 250 cubic yards or more on the project by mix design.

The requirements in section 6-1.08 do not apply to seasonal plants operating fewer than 6 months per year.

The requirements in section 6-1.08 do not apply to informal-bid contracts.

For product category rules for hot mix asphalt or concrete, go to the METS website. Use the product category rule in effect on the date of bid opening unless otherwise authorized. An environmental product declaration for hot mix asphalt or concrete is not required for either of the following conditions:

1. Applicable product category rule has expired without replacement as of the bid opening date.
2. Applicable product category rule was issued less than 50 days before the bid opening date.

Immediately notify the Engineer if a program operator has determined their product category rule does not allow for development of a facility-specific environmental product declaration. Include written correspondence from the program operator with your notification to the Engineer. If the Engineer determines the development of a facility-specific environmental product declaration cannot be achieved, an environmental product declaration will not be required for that material or product.

You must register on the Department's Data Interchange for Materials Engineering (DIME) at least 15 days before submitting environmental product declarations. Follow the registration process at:

https://dime.dot.ca.gov/

Within 30 days of initial placement of each applicable material or product, submit a facility-specific, product stage, environmental product declaration informational submittal to DIME and provide proof of submission in PDF file format to the Engineer. The DIME entry information must include intended use of materials and estimated quantities of materials to be used as represented by the environmental product declaration.

Failure to provide a required environmental product declaration informational submittal will result in a $6,000 performance failure withhold for each missing declaration. The Department returns the withhold within 30 days after receipt of the compliant declaration if submitted prior to Contract acceptance. Withholds become permanent deductions if the declaration is not submitted before Contract acceptance.

6-2 QUALITY ASSURANCE

6-2.01 GENERAL

6-2.01A General

Section 6-2 includes provisions related to quality.

Quality assurance includes all activities used to (1) provide an overall level of quality for the project and (2) determine compliance with the Contract documents.

Quality control includes sampling, testing, and inspections performed under your QC program to (1) control material quality and (2) ensure the specified quality characteristics for the project are met.

Department acceptance includes sampling, testing, and inspections performed by the Department to verify compliance with the Contract.

The Department's independent assurance program is described in the Department's *Independent Assurance Manual: Procedures for Accreditation of Laboratories and Qualification of Testers*. For the manual, go to the METS website.

For a material specified to comply with a State Specification number, the material may comply with a later version of the specification. Obtain State Specifications from METS.

For a material specified to comply with a requirement for a quality characteristic shown in the following table, the quality characteristic is tested under the corresponding California Test:

California Tests

Quality characteristic	California Test
Relative compaction	216 or 231
Sand equivalent	217
Resistance (R-value)	301
Gradation (sieve analysis)	202
Durability index	229

6-2.01B Authorized Facility Audit Lists

Section 6-2.01B applies where a facility is specified to be on an Authorized Facility Audit List.

An audit authorized by the Department not more than 3 years before completion of the fabrication process is acceptable if the Department determines the audit was for the same type of work to be performed.

For procedures to be included on an Authorized Facility Audit List, go to the Authorized Facility Audit List website.

6-2.01C Authorized Material Lists

Section 6-2.01C applies where a material is specified to be on an Authorized Material List.

The material must be on an Authorized Material List before it is incorporated into the work.

For procedures to be included on an Authorized Material List, go to the Authorized Material List website.

6-2.01D Authorized Material Source Lists

Section 6-2.01D applies where a material is specified to be on an Authorized Material Source List.

The material source must be on an Authorized Material Source List before the item from the source is incorporated into the work.

For procedures to be included on an Authorized Material Source List, go to the Authorized Material Source List website.

6-2.01E Material Source Inspection and Testing

Section 6-2.01E applies if a material is to be inspected or tested at the source.

Submit an inspection request form:

1. At least 3 business days before the requested inspection date for a material source within California.
2. At least 5 business days before the requested inspection date for a material source outside California but within the United States.
3. 50 days before the planned production start for a material source outside the United States. Notify the Engineer at least 20 days before the actual start.

For the inspection request form and the procedure for its submittal, go to the METS website. Notify the Engineer of each submittal.

For each item shown in the following table, the Department deducts the corresponding amount shown:

Source Inspection Expense Deductions

Item	Distance[a]	Deduction
Steel pipe piling	> 300	$5,000
Prestressing system Tier 1 and tier 2 precast concrete members Epoxy-coated reinforcement Structural steel for sign structures Miscellaneous metal	> 3,000	$8,000
Extinguishable message signs Variable message signs Changeable message signs Service equipment enclosures Telephone demarcation cabinets Closed circuit television cabinets Weigh-in-motion cabinets Highway advisory radio cabinets	> 300	$2,000
Poles for electrical systems	> 300	$1,000 for ≤ 10 poles and $1,000 for every multiple of 10 poles thereafter
Structural steel	> 300	The greater of: 1. $5,000 2. $0.02/lb
	> 3,000	The greater of: 1. $8,000 2. $0.036/lb
Structural steel paint	> 300	The greater of: 1. $2,000 2. $0.01/sq ft
	> 3,000	The greater of: 1. $5,000 2. $0.015/sq ft
Check samples	> 300	$2,000
High mast poles	> 300	$2,500
	> 3,000	$5,000
PTFE bearings, ≤ 2 lots	> 300	$5,000
	> 3,000	$15,000
PTFE bearings, > 2 lots	> 300	$10,000
	> 3,000	$20,000

[a]Distance is air-line miles from both Sacramento and Los Angeles to the inspection source.

6-2.01F Test Samples

Section 6-2.01F applies where a test sample is specified or if a test sample is requested.

Notify the Engineer 10 days before taking a sample.

Submit material to be tested with a Sample Identification Card. For the card, go to the METS website.

Restore work immediately after sampling.

If requested, obtain the Department's authorization for the material before incorporating the material represented by the test sample into the work.

6-2.01G–6-2.01K Reserved

6-2.02 QUALITY CONTROL

6-2.02A General

Material production and testing equipment must measure accurately and precisely.

6-2.02B Quality Control Program

Develop, implement, and maintain a QC program.

Prepare and maintain QC records, including:

1. Names and qualifications of:
   1.1. Samplers
   1.2. Testers
   1.3. Inspectors
2. Testing laboratories' identification and certifications
3. Testing equipment calibrations and certifications
4. Inspection reports
5. Sampling and testing records organized by date and type of material
6. Test results with comparison of quality characteristic requirements
7. Test results in relation to action and any suspension limits
8. Records of corrective actions and suspensions

Within 24 hours, notify the Engineer of any noncompliance identified by your QC program.

Allow the Department access to all QC records.

Submit QC test data and QC test results within 2 business days of test completion.

6-2.02C Quality Control Manager

Section 6-2.02C applies to work requiring a QC manager.

The QC manager must be responsible directly to you for the quality of the work, including materials and workmanship performed by you and your subcontractors.

Assign the QC manager before the start of the affected work. The QC manager must be the sole individual responsible for:

1. Receiving, reviewing, and approving all correspondence, submittals, and reports before they are submitted to the Department
2. Signing the QC plan
3. Implementing the QC plan
4. Maintaining the QC records

The QC manager must be your employee or must be hired by a subcontractor providing only QC services. The QC manager must not be employed or compensated by a subcontractor or by other persons or entities hired by subcontractors who will provide other services or materials for the project.

Notify the Engineer of the name and contact information of the QC manager.

6-2.02D Quality Control Plans

Submit 7 copies of each authorized QC plan.

Make 1 copy available at each location where work is performed.

6-2.03 DEPARTMENT ACCEPTANCE

6-2.03A General

The Department may use multiple acceptance methods for a material.

Specifications in sections titled "Department Acceptance" do not include all requirements on which the Department makes its acceptance.

The Department may inspect, sample, and test materials for compliance with the Contract at any time.

Allow the Department to record, including photograph and video, to ensure a material is produced to comply with the Contract.

You may examine the records and reports of tests the Department performs.

Schedule work to allow time for the Department's inspection, sampling, and testing.

The Department deducts testing costs for work that does not comply with the Contract.

The Department may retest material previously tested and authorized for use. If the Department notifies you of a retest, furnish resources for retesting.

6-2.03B Job Site Inspection and Testing

Section 6-2.03B applies if a material is to be inspected or tested at the job site.

The material must be authorized for use before it is incorporated into the work.

6-2.03C Certificates of Compliance

Section 6-2.03C applies (1) where a certificate of compliance is specified or (2) if any material is produced outside the United States.

Submit a certificate of compliance:

1. Before the material is incorporated into the work.
2. For each lot of the material. Identify the lot on the certificate.
3. Signed by the producer of the material and stating that the material complies with the Contract.

^^

Replace section 7 with:

7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

7-1.02K(6)(b) Excavation Safety

Comply with Labor Code § 6705 while excavating. For an excavation 5 feet or more in depth, submit shop drawings for a protective system.

The drawings must show the design and details for providing worker protection from caving ground during excavation.

Shop drawings of protective systems for which the Construction Safety Orders require design by a registered professional engineer must be sealed and signed by an engineer who is registered as a civil engineer in the State.

The submittal must allow review time and include the contents shown in the following table:

Drawing Review Time and Contents

Topic	Plan not requiring a signature	Plan requiring a signature
Review time	5 business days before excavating	20 days before excavating
Contents	Drawings Calculations Material information Proprietary system information	Drawings Calculations Material information Proprietary system information Soil classification Soil properties Soil design calculations

7-1.02K(6)(c) Tunnel Safety

Cal/OSHA classifies tunnels into one of the following classifications:

1. Nongassy
2. Potentially gassy
3. Gassy
4. Extrahazardous

If a tunnel location is described in the Contract, the classification is included in the *Information Handout* and you must:

1. Designate an on-site Safety Representative under 8 CA Code of Regs § 8406
2. Submit the name of your on-site Safety Representative at least 7 days before starting work at each tunnel
3. Prominently post a notice at the job site of:
   3.1. Tunnel classifications
   3.2. Any special orders, rules, special conditions, or regulations related to tunnel work
4. Ensure your workers are informed of these classifications

Notify the Engineer at least 20 days before a worker enters a tunnel not described in the Contract. The Department obtains the classification of the tunnel. The Engineer may suspend the work because of a change directly resulting from the Contractor's planned activities that causes activities to fall under the Tunnel Safety Orders of 8 CA Code of Regs § 8422.

7-1.02K(6)(e) Scaffolding

7-1.02K(6)(e)(i) General

Section 7-1.02K(6)(e) applies to scaffolding constructed:

1. Over traffic
2. On or suspended from a bridge
3. Within a distance equal to the scaffolding height plus 6 feet from the edge of a traveled way open to traffic

Section 7-1.02K(6)(e) does not apply to scaffolding at sound walls, retaining walls, and buildings.

Submit 6 copies of scaffolding shop drawings and 1 copy of scaffolding calculations.

The shop drawings and calculations must be sealed and signed by:

1. Engineer who is registered as a civil engineer
2. Independent checker who is:
   2.1. Registered as a civil engineer in the State
   2.2. Not employed by the same entity that prepared the drawings or calculations

The shop drawings must include:

1. Descriptions, calculations, and values for loads anticipated during scaffolding erection, use, and removal.
2. Methods and equipment for erecting, moving, and removing scaffolding.
3. Design details, including bolt layouts, welding details, and connections to bridge structures.
4. Stress sheets showing summary of computed stresses in the scaffolding and in the connections between the scaffolding and bridge structures. The computed stresses must include the effects of erection, movement, and removal of the scaffolding.
5. If manufactured scaffolding is used, include the manufacturer's:
   5.1. Name, address, and telephone number
   5.2. Written design load capacities for the scaffolding

Allow 30 days for review.

Welding must comply with AWS D1.1 for steel and AWS D1.2 for aluminum.

7-1.02K(6)(e)(ii) Bridge Scaffolding

7-1.02K(6)(e)(ii)A General

Section 7-1.02K(6)(e)(ii) applies to construction loads, including scaffolding constructed on or suspended from a bridge.

Construction loads include scaffolding, construction equipment, personnel, and material. Construction loads must not exceed:1. Uniform load of 50 pounds per square foot over the full width of the bridge deck
2. Concentrated load of 8,000 pounds at a maximum of two points of contact with bridge deck, spaced a minimum of 6 feet apart transversely. The concentrated load may be distributed over an area not to exceed 10 inches transversely by 10 inches longitudinally

Calculations must include:

1. Proposed construction loading plan and weights of each scaffolding construction component.
2. Detailed descriptions of the construction loading distribution to the girder system. Treat construction loads distributed to the girders and other components of the girder system as dead load. Include additional loads imposed on the structure during:
   2.1. Scaffolding erection, movement, and removal
   2.2. Construction while scaffolding is in place or being moved

7-1.02K(6)(j) Lead Safety

7-1.02K(6)(j)(i) General

Reserved

7-1.02K(6)(j)(ii) Lead Compliance Plan

Section 7-1.02K(6)(j)(ii) applies if a bid item for a lead compliance plan is shown on the Bid Item List.

Regulations containing specific Cal/OSHA requirements when working with lead include 8 CA Code of Regs § 1532.1.

Submit a plan:

1. That documents your compliance program to prevent or minimize worker exposure to lead
2. Including the items listed in 8 CA Code of Regs § 1532.1(e)(2)(B)
3. Sealed and signed by a CIH with knowledge of and experience complying with 8 CA Code of Regs

Allow 7 days for review. Obtain authorization for the plan before starting any activity that presents the potential for lead exposure.

Before starting any activity that presents the potential for lead exposure to employees who have no prior training, including State employees, provide a safety training program to these employees that complies with 8 CA Code of Regs § 1532.1 and your lead compliance plan.

Submit copies of air monitoring or job site inspection reports made by or under the direction of the CIH under 8 CA Code of Regs § 1532.1 within 10 days after the date of monitoring or inspection.

Supply personal protective equipment, training, and washing facilities required by your lead compliance plan for 5 State employees.

7-1.02K(6)(j)(iii) Unregulated Earth Material Containing Lead

Section 7-1.02K(6)(j)(iii) includes specifications for handling, removing, and disposing of unregulated earth material containing lead. Management of this material exposes workers to health hazards that must be addressed in your lead compliance plan. This material contains average lead concentrations below 80 mg/kg total lead and below 5 mg/L soluble lead and is not regulated by DTSC as a hazardous substance or a hazardous waste. This material does not require disposal at a permitted landfill or solid waste disposal facility. The RWQCB has jurisdiction over reuse of this material at locations outside the job site limits.

Unregulated earth material exists throughout the job site.

Lead is typically found within the top 2 feet of material within the highway. Reuse all of the excavated material on the right-of-way.

Handle the material under all applicable laws, rules, and regulations, including those of the following agencies:

1. Cal/OSHA
2. CA RWQCB, Region 1

Manage the material as shown in the following table.

Earth Material Management

Location	Depth	Management requirements
“SR” 210+31.49 to “SR” 212+57	2 ft	Reuse all earth material on the job site.

7-1.03 PUBLIC CONVENIENCE

Compliance with section 7-1.03 does not relieve you of your responsibility for public safety.

Construction activities must not inconvenience the public or abutting property owners. Schedule and conduct work to avoid unnecessary inconvenience to the public and abutting property owners. Avoid undue delay in construction activities to reduce the public's exposure to construction.

Where possible, route traffic on new or existing paved surfaces.

Maintain convenient access to driveways, houses, and buildings. When an abutting property owner's access across the right-of-way line is to be eliminated or replaced under the Contract, the existing access must not be closed until the replacement access facility is usable. Construct temporary approaches to a crossing and an intersecting highway.

Provide a reasonably smooth and even surface for use by traffic at all time during the excavation of a roadway and construction of an embankment. Before other grading activities, place fill at culverts and bridges to allow traffic to cross. If ordered, excavate a roadway cut in layers and construct an embankment in partial widths at a time alternating construction from one side to the other and routing

traffic over the side opposite the one under construction. Install or construct culverts on only 1/2 the width of the traveled way at a time; keep the traveled way portion being used by traffic open and unobstructed until the opposite side of the traveled way is ready for use by traffic.

Upon completion of rough grading or placing any subsequent layer, bring the surface of the roadbed to a smooth and even condition, free of humps and depressions, and satisfactory for the use of the public.

After subgrade preparation for a specified layer of material has been completed, repair any damage to the roadbed or completed subgrade, including damage caused by public use.

While subgrade and paving activities are underway, allow the public to use the shoulders. If half-width paving methods are used, allow the public to use the side of the roadbed opposite the one under construction. If enough width is available, keep open a passageway wide enough to accommodate at least 2 lanes of traffic at locations where subgrade and paving activities are underway. Shape shoulders or reshape subgrade as necessary to accommodate traffic during subgrade preparation and paving activities.

Apply a dust palliative for the prevention or alleviation of dust nuisance.

If a height differential of more than 0.04 foot is created by construction activities at a joint transverse to the direction of traffic on the traveled way or a shoulder subject to public traffic, construct a temporary taper at the joint with a slope complying with the requirements shown in the following table:

Temporary Tapers

Height differential (foot)	Slope (horizontal:vertical)	
	Taper use of 14 days or less	Taper use of more than 14 days
Greater than 0.08	100:1 or flatter	200:1 or flatter
0.04–0.08	70:1 or flatter	70:1 or flatter

For a taper on existing asphalt concrete or concrete pavement, construct the taper with minor HMA under section 39-2.07.

Grind existing surfaces to accommodate a minimum taper thickness of 0.10 foot under either of the following conditions:

1. HMA material such as rubberized HMA, polymer-modified bonded wearing course, or open-graded friction course is unsuitable for raking to a maximum 0.02 foot thickness at the edge
2. Taper will be in place for more than 14 days

For a taper on a bridge deck or approach slab, construct the taper with rapid setting concrete under section 60-3.02B(2) or polyester concrete under section 60-3.04B(2). Prepare the surface to receive the taper under section 60-3.02C(7). For tapers with aggregate fillers, rake conform edges to ensure smooth transitions. Cure the taper for at least 3 hours or the minimum time recommended by the manufacturer before opening to traffic.

The completed surface of the taper must be uniform and must not vary more than 0.02 foot from the lower edge of a 12-foot straightedge when placed on its surface parallel and perpendicular to traffic.

If authorized, you may use alternative materials or methods to construct the required taper.

Install signs, lights, flares, temporary barrier system, barricades and other facilities to direct traffic. Provide flaggers whenever necessary to direct the movement of the public through or around the work. Flagging must comply with section 12-1.

You are required to pay for the cost of replacing or repairing all facilities installed under change order work for the convenience, direction, or warning of the public that are lost while in your custody or are damaged by your operations to such an extent as to require replacement or repair.

The Engineer may order or consent to your request to open a completed section of surfacing, pavement, or structure roadway surface for public use. You will not be compensated for any delay to your construction activities caused by the public. This does not relieve you from any other contractual responsibility.

7-1.04 PUBLIC SAFETY

You are responsible to provide for public safety.

Do not construct a temporary facility that interferes with the safe passage of traffic.

Control dust resulting from the work, inside and outside the right-of-way.

Move workers, equipment, and materials without endangering traffic.

Whenever your activities create a condition hazardous to the public, furnish, erect and maintain those fences, temporary barrier system, barricades, lights, signs, and other devices and take any other necessary protective measures to prevent damage or injury to the public.

Any fences, temporary barrier system, barricades, lights, signs, or other devices furnished, erected and maintained by you are in addition to those for which payment is provided elsewhere in the specifications.

Provide flaggers whenever necessary to ensure that the public is given safe guidance through the work zone. Flagging must comply with section 12-1.

At locations where traffic is being routed through construction under one-way controls, move your equipment in compliance with the one-way controls unless otherwise ordered.

Use of signs, lights, flags, or other protective devices must comply with the *California MUTCD* and any directions of the Engineer. Signs, lights, flags or other protective devices must not obscure the visibility of, nor conflict in intent, meaning, and function of either existing signs, lights and traffic control devices, or any construction area signs.

Keep existing traffic signals and highway lighting in operation. Other forces within the Department will perform routine maintenance of these facilities during the work.

Cover signs that direct traffic to a closed area.

Install temporary illumination such that the illumination and the illumination equipment do not interfere with public safety. The installation of general roadway illumination does not relieve you from furnishing and maintaining any protective devices.

Equipment must enter and leave the highway via existing ramps and crossovers and must move in the direction of traffic. All movements of workers and construction equipment on or across lanes open to traffic must be performed in a manner that do not endanger the public. Your vehicles or other mobile equipment leaving an open traffic lane to enter the construction area must slow down gradually in advance of the location of the turnoff to give the traffic following an opportunity to slow down. When leaving a work area and entering a roadway carrying traffic, your vehicles and equipment must yield to traffic. Compensation for flaggers, used for all movement of workers and construction vehicles and equipment on or across lanes open to traffic, is included in the bid items of work involved.

Immediately remove hauling spillage from a roadway lane or shoulder open to traffic. When hauling on roadways, trim loads and remove material from shelf areas to minimize spillage.

Notify the Engineer not less than 25 days and not more than 125 days before the anticipated start of an activity that will change the vertical or horizontal clearance available to traffic, including shoulders.

If vertical clearance is temporarily reduced to 15.5 feet or less, place low clearance warning signs in compliance with the *California MUTCD* and any directions of the Engineer. Signs must comply with the dimensions, color, and legend requirements of the *California MUTCD* and section 12-3.11 except that the signs must have black letters and numbers on an orange retroreflective background. W12-2P signs must be illuminated so that the signs are clearly visible.

Pave or provide full width continuous and cleared wood walks for pedestrian openings through falsework. Protect pedestrians from falling objects and concrete-curing water. Extend overhead protection for pedestrians at least 4 feet beyond the edge of the bridge deck. Illuminate all pedestrian openings through falsework. Temporary pedestrian facilities must comply with the *California MUTCD*, Part 6, Chapter 6D, "Pedestrian and Worker Safety."

Do not store vehicles, material, or equipment in a way that:

1. Creates a hazard to the public
2. Obstructs traffic control devices

Do not install or place temporary facilities used to perform the work which interfere with the free and safe passage of traffic.

Temporary facilities that could be a hazard to public safety if improperly designed must comply with design requirements described in the Contract for those facilities or, if none are described, with standard design criteria or codes appropriate for the facility involved. Submit shop drawings and design calculations for the temporary facilities and show the standard design criteria or codes used. Shop drawings and supplemental calculations must be sealed and signed by an engineer who is registered as a civil engineer in the State.

If you appear to be neglectful or negligent in furnishing warning devices and taking protective measures, the Engineer may direct your attention to the existence of a hazard. You must furnish and install the necessary warning devices. If the Engineer points out the inadequacy of warning devices and protective measures, that action on the part of the Engineer does not relieve you from your responsibility for public safety or abrogate your obligation to furnish and pay for these devices and measures.

Install temporary barrier system or other authorized protective systems under any of the following conditions:

1. Excavations: Where the near edge of the excavation is within 15 feet from the edge of an open traffic lane
2. Temporarily unprotected permanent obstacles: When the work includes the installation of a fixed obstacle together with a protective system, such as a sign structure together with protective railing, and you elect to install the obstacle before installing the protective system; or you, for your convenience and as authorized, remove a portion of an existing protective railing at an obstacle and do not replace such railing completely the same day
3. Storage areas: When material or equipment is stored within 15 feet of the edge of an open traffic lane and the storage is not otherwise prohibited by the Contract
4. Height differentials: When construction operations create a height differential greater than 0.15 feet within 15 feet of the edge of traffic lane

Installation of temporary barrier system is not required if an excavation within 15 feet from the edge of an open traffic lane is protected by any of the following:

1. Steel plate or concrete covers of adequate thickness to prevent accidental entry by traffic or the public
2. Side slope where the downhill slope is 4:1 (horizontal:vertical) or less unless a naturally occurring condition
3. Barrier or railing

Secure temporary barrier system in place before starting work for which the temporary barrier system is required.

If a traffic lane is closed with channelizers for excavation work, move the devices to the adjacent edge of the traveled way when not excavating. Space the devices as specified for the closure.

Do not move or temporarily suspend anything over a traffic lane open to the public unless the public is protected.

7-1.08 PERSONAL LIABILITY

Neither the Director, the Engineer nor any other officer or authorized employee of the State of California, nor any officer or employee of the City, any county, or district shall be personally responsible for any liability arising under or by virtue of the Contract.

7-1.09 UNSHELTERED INDIVIDUALS ENCAMPMENTS

Notify the Engineer at least 10 days prior to needing access to areas in the right of way with encampments that affect performance of the work. The Department will remove encampments including encampment debris.

^^

Replace section 8 with:

8 PROSECUTION AND PROGRESS

8-1.01 GENERAL

Section 8 includes specifications related to prosecuting the Contract and work progress.

8-1.04C Delayed Start

Section 8-1.04B does not apply.

Start job site activities within 55 days after receiving notice that the Contract has been approved by the Attorney General or the attorney appointed and authorized to represent the Department.

Do not start job site activities until the Department authorizes or accepts your submittal for:

1. Preconstruction requirements per “EA 04-2G340 Environmental Commitments Record”
2. Preconstruction requirements per “EA 04-2G340 Construction Cooperative Agreement”
3. Contractor-supplied biologist
4. CPM baseline schedule
5. WPCP or SWPPP, whichever applies
6. Notification of DRA or DRB nominee and disclosure statement
7. Natural resource protection plan
8. Contingency plan for opening closures to traffic
9. SSPC QP certifications

You may enter the job site only to measure controlling field dimensions and locate utilities.

Do not start other job site activities until all the submittals from the above list are authorized or accepted and the following information is received by the Engineer:

1. Notice of Materials To Be Used form.
2. Written statement from the vendor that the order for electrical material has been received and accepted by the vendor. The statement must show the dates that the materials will be shipped.
3. Written statement from the vendor that the order for structural steel has been received and accepted by the vendor. The statement must show the dates that the materials will be shipped.

You may start job site activities before the 55th day after Contract approval if you:

1. Obtain specified authorization or acceptance for each submittal before the 55th day
2. Receive authorization to start

Submit a notice 72 hours before starting job site activities. If the project has more than 1 location of work, submit a separate notice for each location.

8-1.05 TIME

The contract time starts on the earlier of the following:

1. Day you start job site activities after Contract approval
2. Last day specified to start job site activities in section 8-1.04

Complete the work within the Contract time.

Meet each specified interim work-completion date.

The Engineer issues a Weekly Statement of Working Days form by the end of the following week. If you disagree with a Weekly Statement of Working Days report, comply with the requirements in Articles 5 and 6 of the General Conditions.

The Weekly Statement of Working Days form shows:

1. Working days and non–working days during the reporting week
2. Time adjustments
3. Calculations of work completion dates, including working days remaining

4. Controlling activities

If you disagree with a Weekly Statement of Working Days report, comply with the requirements in Articles 5 and 6 of the General Conditions.

^^

Replace section 9 with:

9 PAYMENT

9-1.01 GENERAL

Section 9 includes specifications related to work payment.

9-1.02C Final Pay Item Quantities

The Department shows a bid item quantity as a final pay item for payment purposes only. For a final pay item, accept payment based on the Bid Item List quantity, regardless of the actual quantity used unless dimensions are changed by the Engineer.

9-1.03 PAYMENT SCOPE

Payment is:

1. Full compensation for all work involved in each bid item shown on the Bid Item List by the unit of measure shown for that bid item
2. For the price bid for each bid item shown on the Bid Item List or as changed by change order with a specified price adjustment

Full compensation for work specified in divisions I, II, and XI is included in the payment for the bid items involved unless:

1. Bid item for the work is shown on the Bid Item List
2. Work is specified as change order work

Work paid for under one bid item is not paid for under any other bid item.

Payment for a bid item includes payment for work in sections referenced by the section set forth by that bid item.

If an alternative is described in the Contract, the Department pays based on the bid items for the details and specifications not described as an alternative unless the bid item is described as an alternative, in which case, the Department pays based on the details and specifications for that alternative.

9-1.16C Materials On Hand

A material on hand but not incorporated into the work is eligible for a progress payment if:

1. Compliant with other Contract parts
2. Material cost exceeds: $50,000
3. Purchased
4. Invoice is submitted
5. Stored within the State and you submit evidence that the stored material is subject to the Department's control
6. Protected from weather and contamination
7. Water pollution control measures are established and maintained
8. Requested on the Department-furnished form

^^

DIVISION II GENERAL CONSTRUCTION

10 GENERAL

Replace section 10-1.03 with:

10-1.03 TIME CONSTRAINTS

No work is allowed within the Temporary Construction Easement (TCE) area at Dick's Sporting Goods after November 30, 2026.

No work is allowed within Santa Rosa Junior College parking lot TCE area after November 30, 2026.

Contractor must notify City of Santa Rosa Fire Department at 1-707-543-3500 on a monthly basis until November 30, 2026 to inform them that Santa Rosa Junior College student housing parking lot drive aisle is closed and that alternate route must be utilized for access.

^^

11 WELDING

Add between the 3rd and 4th paragraphs of section 11-1.07:

Digital radiography specified under clause 8.16.1.1 of AWS D1.1 and clause 8.10.1.1 of AWS D1.5 is not allowed.

^^

12 TEMPORARY TRAFFIC CONTROL

Add to section 12-3.11B(5)(b):

Provide two (2) C50A (CA) construction project funding identification signs. Install six (6) City-furnished project identification signs.

Legend for the type of project must be one line and read as follows:

BRIDGE CONSTRUCTION

Legend for the year of completion on project funding sign must read as follows:

YEAR OF COMPLETION 2028

Add the following funding partner agency pictographs:

Partner funding agency	Pictograph details
Metropolitan Transportation Commission	12 inches high including MTC text
Sonoma County Transportation Authority	12 inches high including SCTA text
City of Santa Rosa	12 inches high including City of Santa Rosa text

Replace section 12-3.20 with:

12-3.20 TEMPORARY BARRIER SYSTEMS

12-3.20A General

12-3.20A(1) Summary

Section 12-3.20 includes specifications for placing, maintaining, repairing, and removing temporary barrier systems.

Temporary barrier system consists of:

1. New or undamaged used interconnected barrier segments
2. Segment connection hardware
3. Stakes and anchor bolts

12-3.20A(2) Definitions

approach zone: Area immediately upstream of the work area and buffer space.

clear area width: Minimum width throughout the length of the barrier system that must be maintained clear of obstructions, objects, and work resources during non-working hours. The width is measured perpendicular from the non-traffic side toe.

departure zone: Area past the work area and the trailing end of the construction area.

height differential: May be an excavation, a downward slope greater than 4:1, or a difference in elevation. The height differential is measured down from the top of pavement.

set back distance: Space measured between the closest toe of temporary barrier and the edge of traveled way for each direction of traffic.

12-3.20A(3) Submittals

Submit as informational submittal for each type of temporary barrier system:

1. Certificate of compliance.
2. Manufacturer's installation instructions except for temporary concrete barriers with loop and pin and temporary concrete barriers with cross bolt.
3. Manufacturer's concrete QC test results and daily production log of precast concrete activities, under section 90-4. QC test results must include the concrete mix design number and barrier stamped ID.

Submit test reports for cross bolts that certify compliance with the applicable ASTM requirements. The test reports must be from a laboratory that is accredited to International Standards Organization/International Electrotechnical Commission 17025 by the American Association for Laboratory Accreditation (A2LA) or the ANSI-ASQ National Accreditation Board.

Submit a signed manufacturer's replacement evaluation report within 10 days of damage to a temporary steel barrier system.

12-3.20A(4) Quality Assurance

12-3.20A(4)(a) General

Temporary barrier systems must comply with MASH Test Level 3 except for Type K temporary railing.

Except for temporary concrete barriers with loop and pin and temporary concrete barriers with cross bolt, temporary barrier systems must:

1. Be on the Authorized Materials List for highway safety features
2. Comply with the manufacturer's drawings shown on the Department's Division of Safety Programs website and the manufacturer's installation instructions

If a discrepancy exists, governing ranking in descending order is:

1. These specifications
2. Manufacturer's drawings
3. Manufacturer's installation instructions

QC sampling, testing, and inspection personnel must have an ACI Concrete Field-Testing Technician, Grade 1 certification.

Temporary concrete barrier segments must:

1. Comply with the requirements for tier 3 precast concrete in section 90-4
2. Be fabricated at a plant on the Authorized Facility Audit List

Concrete must be sampled and tested as shown in the following table.

Concrete QC Tests

Quality characteristic	Test method	Minimum testing frequency
Compressive strength	ASTM C172/C172M, ASTM C31/C31M, and ASTM C39/C39M	Once per 300 cu yd of concrete cast, or every day of casting, whichever is more frequent
Slump	ASTM C143/C143M	
Temperature at time of mixing	ASTM C1064/C1064M	
Density	ASTM C138	Once per 600 cu yd of concrete cast or every 7 days of batching, whichever is more frequent
Air content	ASTM C231/C231M or ASTM C173/C173M	If concrete is air entrained, once for each set of cylinders, and when conditions warrant

A daily production log of precast concrete activities must be maintained under section 90-4.01C(4).

12-3.20A(4)(b) Quality Control

Replace damaged temporary concrete barrier segments with exposed reinforcing steel or concrete spalls 1-1/2 inches in depth and 4 inches in width or greater. Repair minor damage under section 51-1.03F(2), for temporary concrete barriers with loop and pin and temporary concrete barriers with cross bolt.

Replace damaged temporary steel barrier segments with permanent bends, tearing, or buckling as described in the signed manufacturer's replacement evaluation report.

Realign temporary barrier system within 2 days of impact or displacement when displaced more than 3 inches except when the temporary barrier system is displaced into a traveled lane realign immediately.

12-3.20B Materials

12-3.20B(1) General

Temporary barrier segment must:

1. Be a minimum 31-1/2 inches in height
2. Have at least two lifting holes
3. Be designed to be used with temporary traffic screen when required

Temporary barrier segment may have your name or logo on each barrier segment. The name or logo must be no more than 4 inches in height and must be located no more than 12 inches above the bottom of the barrier segment.

12-3.20B(2) Temporary Concrete Barriers

12-3.20B(2)(a) General

Temporary concrete barrier segment must:

1. Be precast concrete with a minimum 5,000-psi compressive strength, except for Type K Temporary Railing.
2 Have reinforcement steel that complies with section 52.
3. Have a finished surface that complies with section 51-1.03F(2).
4. Include the manufacturer's name, lot number, and month and year of manufacture stamped on the top of each barrier segment except for Type K temporary railing. The stamped information must be:
   4.1. No more than 6 inches in height
   4.2. From 3/16 to 1/4 inch in depth
   4.3. Centered on the top width of the barrier segment
5. Use one of the following segment connections:
   5.1. Loop and pin
   5.2. "J" hook
   5.3. Cross bolt
6. Comply with the tolerances shown in the following table:

Precast Barrier Tolerances

Dimension	Tolerance(±)
Length (in)	1
Insert placement (in)	1/2
Horizontal alignment (in)	1/8 per 10 feet of length
Deviation of ends (in):	
Horizontal skew	1/4
Vertical batter	1/8 per foot of depth

Reinforcement steel must:

1. Comply with ASTM A615 or ASTM A706, Grade 60
2. Be galvanized under section 52-3, when required

Combinations of reinforcing steel and welded wire reinforcement are allowed. Welded wire reinforcement must comply with ASTM A1064.

Stake must:

1. Comply with ASTM A36/A36M-14 or ASTM A529-14, Grade 50
2. Be 1-1/2 inches in diameter and 36 inches long, except "J" Hook must be 48 inches long
3. Have a 1/2-by-3-1/2-by-3-1/2-inch plate welded 2 inches down from the upper end using a 3/8-inch fillet weld under AWS D1.1 or D1.4

Anchor bolt must:

1. Be a bolt or threaded rod 1-1/8 inches in diameter
2. Comply with ASTM A307
3. Include a 1/2-by-3-1/2-by-3-1/2-inch plate washer:
    3.1. With a 1-3/8-inch-diameter hole in the center
    3.2. Complying with ASTM A36/A36M
    3.3. Galvanized post fabrication under section 75-1.02B

Threaded rod must include a nut complying with ASTM A563.

Anchor steel plate must:

1. Be 1/2 inch thick
2. Comply with ASTM A572, Grade 50
3. Be galvanized post fabrication under section 75-1.02B

Chemical adhesive must be on the Authorized Materials List for chemical adhesives and must be for a threaded rod at least 1 inch in diameter.

12-3.20B(2)(b) Temporary Concrete Barriers with Cross Bolt

Cross bolt hardware includes:

1. Cross bolt
2. Nut complying with ASTM A563
3. Hardened washer complying with ASTM F436, Type 1
4. Plate washer complying with ASTM A36/A36M and galvanized post fabrication under section 75-1.02B

Cross bolt must:

1. Be a 7/8-inch bolt or threaded rod and comply with one of the following:
    1.1. HS threaded rod ASTM A193, Grade B7
    1.2. HS threaded rod ASTM A449, Type 1
    1.3. HS nonheaded anchor bolt ASTM F1554, Grade 105, Class 2A
2. Have a permanent grade symbol and manufacturer's identifier

12-3.20B(2)(c) Temporary Concrete Barriers with Loop and Pin

12-3.20B(2)(c)(i) General

Not Used

12-3.20B(2)(c)(ii) Temporary Barrier Systems CAL F-23

Connecting loop must:

1. Be a steel bar 3/4 inch in diameter
2. Comply with ASTM A36/A36M, cold roll
3. Be galvanized after fabrication

Connecting pin must:

1. Comply with ASTM A449
2. Be forged, no welds
3. Be 1 inch in diameter and a minimum 30-1/4 inches long
4. Be galvanized under ASTM F2329 and A153

12-3.20B(2)(c)(iii) Type K Temporary Railings

Connecting pin must comply with ASTM A307, be 1-1/4 inch in diameter, and be a minimum 26 inches long. A round bar of the same diameter and length may be substituted for the connecting bolt. The round bar must:

1. Comply with ASTM A36/A36M
2. Have a 3-inch-diameter, 3/8-inch-thick plate welded on the upper end using a 3/16-inch fillet weld

Stake must:

1. Comply with ASTM A706, Grade 60
2. Be 1 inch in diameter and 24 inches long
3. Have a 2-3/4-inch-diameter, 1/2-inch-thick plate, welded 1 inch down from the upper end using a 3/8-inch fillet welds under AWS D1.1 or D1.4

Anchor bolt must:

1. Be a threaded rod, 1 inch in diameter and 15-1/2 inches long
2. Comply with ASTM A307
3. Include a nut complying with ASTM A563
4. Include a 3/8-by-2-1/2-by-3-inch plate washer:
    4.1. With a 1-1/8-inch-diameter hole in the center
    4.2. Complying with ASTM A36/A36M
    4.3. Galvanized post fabrication under section 75-1.02B

12-3.20B(2)(d) Temporary Concrete Barriers with "J" Hook

"J" hook must:

1. Comply with ASTM A36/A36M
2. Be 3/8-inch-thick steel plate
3. Be a minimum 18 inches in height

Anchor hardware must include:

1. Anchor bolt insert 1 inch in diameter and 6 inches long
2. Hex head bolt 1 inch in diameter with a minimum length of 11 inches plus thickness of asphalt overlay
3. 3/8-by-3-by-3-inch plate washer
4. Retainer ring

12-3.20B(3) Temporary Steel Barriers

Temporary steel barrier segment must:

1. Be galvanized steel.
2. Have a joint connection.
3. Include permanent identification information with no more than 6 inches in height and 12 inches in length and centered on the top width of the segment. The identification information must include:
    3.1. Manufacturer's name
    3.2. Serial number
    3.3. Lot number
    3.4. Month and year of manufacture

Temporary steel barrier 19-foot segment must be filled to a depth of 11-13/16 inches with concrete ballast.

12-3.20B(4) Temporary Barrier System (City)

Temporary barrier system (City) must conform to Manual for Assessing Safety Hardware (MASH) (AASHTO, 2009) standards. Temporary barrier systems used on City streets posted with a 25 mph speed limit must be rated MASH TL-1 or higher. Temporary barrier systems for use on City streets posted with a 30-mph speed limit or higher shall be rated TL-2 or higher. Temporary barrier systems on City streets posted with a 45-mph speed limit or higher must be Type K.

Water-filled polyethylene temporary barrier systems proposed for use must have been issued an Eligibility Letter from the Federal Highway Administration.

Acceptable temporary barrier systems for City right-of-way include TrafFix Water-Wall Water-Filled Barrier, TritonBarrier, and OTW Safety 42” Jersey Shaped LCD Barricade.

12-3.20C Construction

12-3.20C(1) General

Install the minimum length of application for temporary barrier systems, including:

1. Approach zone
2. Work area
3. Departure zone

Clean temporary barrier segments at time of installation and at least every 6 months thereafter.

Install temporary barrier systems based on the requirements shown in the following table:

Minimum Clear Area Width

Barriers	Configuration	Height differentials 3 feet or less (ft)	Height differentials greater than 3 feet up to 8 feet (ft)	Edge of deck or height differentials greater than 8 feet (ft)	Fixed objects, falsework members, or temporary supports[a] (ft)
10-foot & 30-foot temporary concrete barrier with cross bolt	Freestanding	1	2	5	5
	3 stakes or anchor bolts per segment traffic side	1	1	2	3
20-foot temporary concrete barrier with cross bolt	Freestanding	1	2	5	5
	4 stakes or anchor bolts per segment traffic side	1	1	2	3
12-foot temporary concrete barrier CAL F-23	Freestanding	4	5	8	8
	3 stakes or anchor bolts per segment traffic side	1	1	2	3
20-foot temporary concrete barrier CAL F-23	Freestanding	4	5	8	8
	4 stakes or anchor bolts per segment traffic side	1	1	2	3
12.5-foot temporary concrete barriers with "J" hook	Freestanding	3	4	8	7
	3 stakes per segment traffic side	1	1	2	3
	2 anchor bolts per segment traffic side	1	1	2	3
20-foot temporary concrete barriers with "J" hook	Freestanding	3	4	8	7
	4 stakes per segment traffic side	1	1	2	3
	3 anchor bolts per segment traffic side	1	1	2	3

Minimum Clear Area Width

Barriers	Configuration	Height differentials 3 feet or less (ft)	Height differentials greater than 3 feet up to 8 feet (ft)	Edge of deck or height differentials greater than 8 feet (ft)	Fixed objects, falsework members, or temporary supports[a] (ft)
50-foot temporary steel barriers	Staked or anchored at both ends only	6	7	9	10
	Staked or anchored every 250 feet	5	6	8	9
	Staked or anchored every 33 feet	1	1	3	4
19-foot temporary steel barriers	Freestanding	4	5	7	8
12-foot-9-inch temporary steel barriers	Staked every 30 feet	1	2	4	5
20-foot Type K temporary railings (NCHRP 350)	Freestanding	2	3	8	7
	2 stakes or 2 anchor bolts per segment traffic side	1	1	3	4
	4 stakes or 4 anchor bolts per segment	N/A	N/A	3	3

[a]The minimum clear area width to a falsework or temporary support footing can be 2 feet less than the clear area width shown. Measure clear area width to the footing edge closest to traffic.

Place temporary barrier systems on concrete or asphalt concrete pavement.

When required, stake temporary barrier systems placed on asphalt concrete pavement.

When required, anchor temporary barrier systems placed on concrete pavement. For bridge decks, confirm the anchor will not penetrate closer than 1-1/2 inches from the bottom of the deck before placement. When temporary barrier is not shown, request the Engineer to verify the bridge deck thickness.

For installations on concrete pavement, drill holes and bond anchor bolts, threaded rods, or dowels under section 51-1.03E(5). Do not drill the top of supporting beams or girders, bridge expansion joints, or drains.

Install stakes and anchor bolts so the heads do not project above the top of the temporary barrier pocket profile.

Offset the approach zone of temporary barrier systems a minimum of 15 feet from the edge of an open traffic lane and stake or anchor barrier ends as shown. Taper the temporary barrier approach zone toward the edge of the open traffic lane at the rate shown in the following table:

Temporary Barrier System Taper Rate

Posted speed (mph)	Rate[a]
0 to 45	10:1
46 to 60	15:1
61 to 65	20:1

[a]Rate is longitudinally to transversely with respect to the edge of the traveled way

When a 15-foot minimum tapered offset cannot be achieved, offset temporary barrier systems the maximum distance available, place the first segment at the approach end parallel to the road, and install an authorized temporary crash cushion system at each barrier approach end. Ensure the temporary barrier approach zone length is a minimum:

1. 60 feet on facilities with a posted speed of 45 mph or less
2. 100 feet on facilities with a posted speed greater than 45 mph

Place a minimum 60 feet temporary barrier departure zone length.

Install a reflector on the top or face of barrier segments placed within 10 feet of a traffic lane. Space reflectors at approximately 20-foot intervals. Apply adhesive for mounting the reflector under the reflector manufacturer's instructions.

Install a Type P marker panel complying with section 82 at:

1. Each end of a temporary barrier system placed adjacent to a two-lane, two-way highway
2. The end facing traffic for a temporary barrier system installed adjacent to a one-way roadbed
3. The end of the skew nearest the traveled way when a temporary barrier system is placed on a skew
4. As shown.

Maintain a minimum height of 31-1/2 inches above pavement for temporary barrier systems. For paving activities adjacent to temporary barriers, do not pave within 2 feet of the barrier segments unless authorized. For paving under the temporary barrier, remove and reset the barrier.

Remove temporary barrier systems when no longer required for the work. Remove stakes and anchor bolts so that minimal damage is done to pavement.

After removing the temporary barrier systems:

1. Restore the area to its previous condition or construct it to its planned condition if temporary excavation or embankment was used to accommodate the temporary barrier.
2. Remove all threaded rods or dowels to a depth of at least 1 inch below the top of concrete pavement. Fill the resulting holes with mortar under section 51-1 except cure the mortar by the water method or by the curing compound method using curing compound no. 6.
3. Repair damaged asphalt pavement by providing a clean, smooth edge around the damaged area. Repair any heaving caused by stake removal to provide a uniform surface. Remove loose debris and use compressed air to clean out the stake hole. Comply with manufacturer's requirements except fill the stake hole with grout to existing pavement elevation under section 51-1.

If the Engineer orders a lateral move of a temporary barrier system and repositioning is not shown, the lateral move is change order work except for work area access, clear area width compliance, or because of your means and methods to perform the work.

12-3.20C(2) Temporary Concrete Barriers

12-3.20C(2)(a) General

Before placing temporary barrier systems on the job site and after each described relocation, paint the exposed surfaces of the segments with white paint complying with specifications for acrylic emulsion paint for exterior masonry.

Place and maintain the abutting ends of segments in alignment without substantial offset from each other.

For freestanding temporary barrier systems, you may extend the taper by 60 feet beyond the required 15-foot tapered offset instead of anchoring the barrier ends.

Install stakes or anchors as shown and maintain a minimum 1-foot set back distance on both sides of barrier, when temporary barrier systems are placed with traffic on both sides.

12-3.20C(2)(b) Temporary Concrete Barriers with Cross Bolt

Intermix segments of different lengths within a temporary barrier system when necessary.

For temporary barrier systems placed on a curved layout, maintain the minimum curve radius shown in the following table:

Minimum Curve Radius

Segment length (ft)	Curve radius (ft)
10	125
20	265
30	400

12-3.20C(2)(c) Temporary Concrete Barriers with Loop and Pin

12-3.20C(2)(c)(i) General

Not Used

12-3.20C(2)(c)(ii) Temporary Concrete Barriers CAL F-23

Intermix segments of different lengths within a temporary barrier system when necessary.

For temporary barrier systems placed on a curved layout, maintain the minimum curve radius shown in the following table:

Minimum Curve Radius

Segment length (ft)	Curve radius (ft)
12	100
20	165

12-3.20C(2)(c)(iii) Type K Temporary Railings

Do not install Type K temporary railings on projects advertised after December 31, 2026.

Install a minimum 160 feet of Type K temporary railing.

Excavate and backfill under section 19-3.

Do not compact earth fill placed behind Type K temporary railings in a curved layout.

Place temporary barrier systems on a firm, stable surface. Grade the area to provide a uniform bearing surface throughout the entire length of the system.

12-3.20C(2)(d) Temporary Concrete Barriers with "J" Hook

When temporary barrier systems are placed with traffic on both sides, install on each side:

1. 2 anchors or stakes for 12.5-foot segments
2. 3 anchors or stakes for 20-foot segments

12-3.20C(3) Temporary Steel Barriers

12-3.20C(3)(a) General

Install temporary barrier systems under manufacturer's instructions.

12-3.20C(3)(b) 50-Foot Temporary Steel Barriers

Use 50-foot temporary steel barriers with or without rubber pads.

Install a minimum 250 feet of 50-foot temporary steel barrier.

Maintain a minimum radius of 800 feet for segments placed on a curved layout. For tighter curves down to a 250-foot radius, contact the manufacturer before installation and provide manufacturer's written recommendation for the installation.

Stake or anchor segments every 33 feet and maintain a minimum 2-foot set back distance on both sides of barrier, when temporary barrier systems are placed with traffic on both sides.

12-3.20C(3)(c) 19-Foot Temporary Steel Barriers

Install a minimum 323 feet of 19-foot temporary steel barrier.

Maintain a minimum radius of 262 feet for segments placed on a curved layout.

Maintain a minimum 5-foot set back distance on both sides of barrier, when temporary barrier systems are placed with traffic on both sides.

12-3.20C(3)(d) 12-Foot-9-Inch Temporary Steel Barriers

Install a minimum 260 feet of 12-foot-9-inch temporary steel barrier.

Maintain a minimum radius of 755 feet for segments placed on a curved layout.

Stake or anchor segments and maintain a minimum 2-foot set back distance on both sides of barrier, when temporary barrier systems are placed with traffic on both sides.

12-3.20C(4) Temporary Barrier System (City)

Temporary barrier systems to be placed on asphalt pavement must be:

1. Connected to adjacent barriers per manufacturer’s instructions
2. Filled with water or sand per manufacturer’s instructions
3. Inspected and refilled at least weekly

Refilled when needed.

12-3.20D Payment

The payment quantity for temporary barrier systems is the length measured along the top of the barrier segments.

12-3.22 TEMPORARY CRASH CUSHIONS

12-3.22A General

12-3.22A(1) Summary

Section 12-3.22 includes specifications for installing, repairing, replacing, maintaining, and removing temporary crash cushions.

12-3.22A(2) Definitions

Not Used

12-3.22A(3) Submittals

At least 10 days before installation, submit as informational submittal for each temporary crash cushion model:

1. Certificate of compliance
2. Two copies of the following:
   2.1. Manufacturer’s installation and maintenance manual
   2.2 Department approved manufacturer’s drawings from the Department’s Division of Safety Programs website
3. Record of training provided by manufacturer for each person installing the temporary crash cushion

12-3.22A(4) Quality Assurance

12-3.22A(4)(a) General

Not Used

12-3.22A(4)(b) Quality Control

Temporary crash cushion must be installed under the manufacturer's instructions by personnel trained by the manufacturer.

Keep a copy of the manufacturer's drawings, and installation and maintenance manual for each temporary crash cushion model at the job site during installation.

12-3.22B Materials

12-3.22B(1) General

Temporary crash cushion must:

1. Be on the Authorized Materials List for highway safety features
2. Comply with MASH:
   2.1. Test Level 3 (TL-3) for a posted speed limit 45 mph or greater
   2.2. Test Level 2 (TL-2) for a posted speed limit less than 45 mph

Water-filled temporary crash cushion must:

1. Include all components required for attachment to temporary barrier or protected obstacle
2. Comply with the manufacturer's drawings shown on the Department's Division of Safety Programs website

Each sand-filled temporary crash cushion module must be:

1. Colored standard yellow with a black lid
2. Free from structural flaws and objectionable surface defects

Sand for filling module must:

1. Be commercial quality, washed concrete sand
2. Contain no more than 5 percent water under California Test 226
3. Be clean when placed in the module

12-3.22B(2) Temporary Crash Cushions TL-3

Temporary crash cushion TL-3 must:

1. Comply with MASH TL-3
2. Be one of the following:
   2.1. Water-filled temporary crash cushion gating, non-redirective system
   2.2. Sand-filled temporary crash cushion module array

12-3.22C Construction

12-3.22C(1) General

When activities expose traffic to fixed obstacles, protect traffic from the obstacles with temporary crash cushions. The crash cushion must be in place before opening to traffic the lanes adjacent to the obstacle.

You may use NCHRP Report 350 compliant temporary crash cushions before December 31, 2026.

Install temporary crash cushions under the manufacturer's instructions before:

1. Starting activities requiring the crash cushions.
2. Opening to traffic lanes adjacent to the protected obstacles.

Temporary crash cushions must not impede the flow of traffic or encroach on the traveled way.

Attach a Type R or Type P marker panel to the front of temporary crash cushions if the closest point to the traveled way is within 12 feet of the traveled way. Fasten marker panels firmly to crash cushions with commercial quality hardware or by other authorized methods.

Maintain temporary crash cushions in place at each location, including when work is not in progress. Keep the area behind the temporary crash cushions clear of obstructions.

Repair damaged temporary crash cushions immediately. Remove and replace temporary crash cushions damaged beyond repair. Repair and replacement of temporary crash cushions damaged by traffic is change order work.

12-3.22C(2) Water-Filled Temporary Crash Cushions

Place temporary crash cushions and a minimum 20 feet of temporary barrier at a parallel 2-foot offset from edge of traveled way.

Install temporary crash cushions adjacent to a:

1. Barrier at an offset distance 1 to 2 feet or 7 feet or greater from the barrier
2. Dike or curb at an offset distance 0 to 4 feet or 7-1/2 feet or greater from the dike or curb

12-3.22C(3) Sand-Filled Temporary Crash Cushions

Use sand-filled crash cushions only for temporary installations shown.

Use the same type of sand-filled modules for each array. Fill each sand-filled module with sand under the manufacturer's instructions.

Securely fasten the top edge of a seal to the wall of the sand-filled module with a continuous strip of heavy-duty tape, when a seal is required.

You may place sand-filled temporary crash cushion modules on movable pallets or frames complying with the dimensions shown. The pallets or frames must provide a full-bearing base beneath the modules. Do not move the modules and supporting pallets or frames by sliding or skidding along the pavement or bridge deck.

Attach a Type R marker panel such that the top of the panel is 1 inch below the module lid. Attach a Type P marker panel such that the bottom of the panel rests upon the roadway surface or pallet surface when used.

You may remove sand-filled modules during the work shift for access to the work area if the exposed fixed obstacle is 15 feet or more from the nearest lane carrying traffic. Reset the modules before the end of the work shift.

A lateral move of a temporary crash cushion module is change order work if ordered and the repositioning is not shown.

Remove sand-filled temporary crash cushion modules, including sand, pallets or frames, and marker panels, at Contract acceptance.

12-3.22D Payment

The payment quantity does not include:

1. Temporary crash cushions placed for public safety
2. Modules placed in excess of the number described

Add to the beginning of section 12-3.32C:

Place PCMSs at the locations shown and in advance of the 1st warning sign for each:

1. Stationary lane closure
2. Off-ramp closure
3. Connector closure
4. Shoulder closure
5. Speed reduction zone

Add between the 9th and 10th paragraphs of section 12-3.32C:

Start displaying the message on the sign 15___ minutes before closing the lane or shoulder or when directed by the Engineer.

Add to section 12-3.32D:

The payment quantity for PCMS (ea) is the number of PCMS locations with each location counting as 1 measurement unit.

Add to section 12-4.01A:

The location of traffic control signing, barricades, and other facilities placed on or adjacent to City streets shall be monitored frequently (four to five times per day) by you to verify their proper location. All traffic signal and other traffic control devices shall be maintained at all times.

You shall conduct these operations so as to cause the minimum obstruction and inconvenience to traffic and to places of business, multiple dwelling units and residences adjacent to the work. You shall notify the Engineer of his planned work and utility service interruption at least five working days in advance to allow time to notify residents and businesses.

When construction activities prevent vehicle access to individual driveways you shall notify and receive permission from the affected businesses and residents. Attention is directed to Section 7-1.03, "Public Convenience". Full access shall be provided to all driveways during non-working hours.

At locations where traffic is routed perpendicular to trench excavation, the excavation shall be conducted in a manner to provide a surface reasonably satisfactory for traffic at all times. Substructure installation or construction shall be conducted on only one-half the width of the roadway at a time, and that portion of the roadway being used by traffic shall be kept open and unobstructed until the opposite side of the roadway is ready for use. Upon completion of the rough grading, the surface of the roadbed shall be brought to a smooth, even condition free from humps and depressions and made satisfactory for traffic.

You shall submit a trucking route along with the traffic controls plans for approval by the Engineer. The route must minimize traffic on residential streets that are not part of the project.

Existing pavement damaged by your operations and not shown to be replaced shall be replaced at your expense, per City Standards and to the satisfaction of the Engineer.

Add to section 12-4.02A(2):

special days: the 3rd Monday in January

Add between the 1st and 2nd paragraphs of section 12-4.02A(3)(c):

Submit a contingency plan for each of the following activities:

1. Activity requiring a complete roadway closure
2. Bridge work
3. Falsework Erection or removal
4. Striping or temporary striping
5. Temporary lane or street closures on local streets

Add to the end of section 12-4.02C(1):

Keep the full width of the traveled way open to traffic when no active construction activities are occurring in the traveled way or within 6 feet of the traveled way.

Keep the full width of the ramp traveled way open for use by traffic on designated holidays and special days.

For each 10-minute interval or fraction thereof past the time specified to open the closure, the amount for liquidated damages per interval shown in the table below is deducted. Liquidated damages are limited to 5 percent of the total bid per occurrence. Liquidated damages are not assessed if the Engineer orders the closure to remain in place beyond the scheduled pickup time.

Type of facility	Route	Direction or segment	Period	Liquidated damages/interval
Mainline	US-101	College Avenue to Steele Lane	1st half hour 2nd half hour 2nd hour and beyond	$1,000/10 minutes $1,000/10 minutes $1,300/10 minutes

Add to the end of section 12-4.02C(3)(a):

If work vehicles or equipment is parked on the shoulder within 6 feet of a traffic lane of a freeway or expressway, close the shoulder area as shown.

Replace section 12-4.02C(3)(b) with:

12-4.02C(3)(b) Complete Freeway or Expressway Closure Requirements

You may close Route 101 to traffic at 1 location in each direction of travel at a time as shown on charts no. H1 – H2.

A complete freeway or expressway closure is allowed for the following activities:

1. Steel deck installation
2. Installation of temporary facilities used during stay cable installation operations and other construction operations over Route 101 requiring protection of the public.

Replace section 12-4.02C(3)(d) with:

12-4.02C(3)(d) City Street Closure Requirements

Exact locations of Project Identification signs and Advance Notice signs (7-1.03, "Public Convenience") shall be determined in the field by the Engineer.

You shall maintain vehicle access to homes and other properties at all times while work is in progress.

You shall not park construction vehicles, contractor employee vehicles, stage materials or stockpiles in front of any business or residential driveway access and you shall maintain access to private parking lots within the block where work is in progress. Construction vehicles shall not be left running for any length of time if parked in front of a business or residential unit.

On identified local/residential streets you will normally be allowed use of each block (between nearest intersections) for their sole use, without the need to provide 2-way traffic through that block. You will be required to maintain vehicle access to homes and other properties within the block where work is in progress.

You shall keep the City of Santa Rosa Fire Department informed regarding the closure of any traveled way. At a minimum, you shall call the Fire Department at 543-3535 and the Communications Center at 543-3666 daily to report any traveled way closure. This means immediately upon closure for that day and again immediately after removal of the closure. For closures over multiple days, the daily notification still applies. This requirement does not apply for single lane closures on multiple lane streets.

You shall notify Sonoma County Transit at (707) 585-7516, Superintendent of Golden Gate Transit at (415) 257-4442, Santa Rosa City Bus at (707) 543-3922, Sonoma County Airport Express at (707) 837-8700, the local Postal Service at (707) 526-0113 and Recology at (800) 243-0291 5 calendar days prior to any lane closures or restrictions in turning movements.

If you have been given an approved Traffic Control Plan that includes road closures, they shall maintain vehicular access to homes and other properties where work is in progress within the closure area.

Where necessary, and only after receiving written authorization, you may temporarily suspend curb side parking in their immediate work zone. Notification to businesses and residents shall be hand delivered at least 72 hours prior to construction in the affected areas.

Notification shall be as follows:

1. A notice placed on the front door of each home or business where curb side parking will be suspended and attempt made to notify each business or resident verbally that work will be underway within the block and that curb side parking will be suspended during stated working hours and request that vehicles be parked out of the roadway by 8:00 a.m. on the first day where parking will be suspended Service of notice shall not bar use of cars within the block, as individual plans change and emergencies arise.

2. Type 1 barricades every 50 -100 feet (depending on street) feet adjacent to the curb where parking will be suspended with a notice posted on the barricade stating specific dates and times that curb side parking will be temporarily suspended. If work will not take place in the posted area, then Contractor shall remove “No Parking” notices.

You shall maintain vehicle access to all homes and other properties along the work zone. During paving operations, you will be allowed to temporarily suspend vehicle access to a limited number of driveways when authorized. When authorized and at least 72 hours prior to suspending access to any driveway, you shall give both written and verbal notice to the affected businesses and residents and place barricades adjacent to the driveways with posted notices stating the specific dates and times of the suspension for that area. The notice shall also indicate an alternate parking location. Suspension of access to a driveway will be permitted only as authorized and only between the hours of 8:00 am and 4:30 pm.

Barricades and flaggers shall be positioned to allow safe turns at intersections and curves.

You shall maintain traffic control as necessary and as directed for "cat-tracking" operations by City Forces. Flaggers, barricades, signing, etc., shall remain in place for protection of City personnel until such time as all temporary lane delineation is complete.

Do not perform work on the south side of Elliot Avenue from 9:00 p.m. to 7:00 a.m.

You may completely close Cleveland Avenue and Armory Drive during the hours shown on chart no. M1 and M2 for steel Bridge deck installation. When completely closed, detour traffic as shown on the traffic handling plans.

You may completely close Armory Drive during the hours shown on chart no. M2 for bridge stay cable erection. When Armory Drive is completely closed, detour traffic as shown on the traffic handling plans.

You may completely close Edwards Avenue during the hours shown on chart no. M3 for steel bridge deck erection. When Edwards Avenue is completely closed, detour traffic as shown on the traffic handling plans.

You may close city-street lanes using a one-way-reversing traffic-control lane closure on Edwards Avenue, Armory Drive, and Cleveland Avenueas shown on chart no.-M1-M3.

Replace section 12-4.02C(3)(f) with:

12-4.02C(3)(f) Closure Restrictions for Designated Holidays and Special Days

Closure restrictions for designated holidays and special days are shown in the following table:

Lane Closure Restrictions For Designated Holidays And Special Days											
Thu	Fri	Sat	Sun	Mon	Tues	Wed	Thu	Fri	Sat	Sun	Mon
x	**H** xx	xx	xx								
	SD xx										
x	xx	**H** xx	xx								
		SD xx									
	x	xx	**H** xx	xx							
			SD xx								
	x	xx	xx	**H** xx	xxx						
	x	xx	xx	**SD** xx	xxx						
				x	**H** xx						
				x	**SD** xx						
					x	**H** xx					
						SD xx					
						x	**H** xx	xx	xx	xx	
							SD xx				

Legend:

	Refer to lane requirement charts.
x	The full width of the traveled way must be open for use by traffic after 6:00 a.m.
xx	The full width of the traveled way must be open for use by traffic.
xxx	The full width of the traveled way must be open for use by traffic until 7:00 p.m.
H	Designated holiday
SD	Special day

Replace section 12-4.02C(3)(g) with:

12-4.02C(3)(g) Freeway or Expressway Lane Requirement Charts

Freeway lane closures must comply with the requirements shown in the following charts:

Chart No. G1
Freeway **Lane Requirements**

County: Sonoma	Route/Direction: NB US 101	Post Mile: 20.76 to 21.75

Closure limits: From College Avenue to Steele Lane

Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon–Thu	1	1	1	1	1	2															3	3	2	1	1
Fri	1	1	1	1	1	2	3														3	3	3	2	2
Sat	1	1	1	1	1	1	2	2	3											3	3	3	2	2	2
Sun	1	1	1	1	1	1	1	2	2	3	3								3	3	3	2	2	2	1

Legend:

1	Provide at least 1 through freeway lane open in the direction of travel.
2	Provide at least 2 adjacent through freeway lanes open in the direction of travel.
3	Provide at least 3 adjacent throughfreeway lanes open in the direction of travel.
	Work is allowed within the highway where a shoulder or lane closure is not required.

REMARKS:

Chart No. G2
Freeway **Lane Requirements**

County: Sonoma	Route/Direction: SB US 101	Post Mile: 20.76 to 21.75

Closure limits: From Steele Lane to College Avenue

Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon–Thu	1	1	1	1	1	2	3													3	2	2	2	1	
Fri	1	1	1	1	1	2	3													3	3	2	2	2	
Sat	1	1	1	1	1	1	2	2	3											3	3	2	2	2	
Sun	1	1	1	1	1	1	1	2	2	3									3	3	2	2	2	1	

Legend:

1	Provide at least 1 through lane open in the direction of travel.
2	Provide at least 2 adjacent through lanes open in the direction of travel.
3	Provide at least 3 adjacent through freeway lanes open in the direction of travel.
	Work is allowed within the highway where a shoulder or lane closure is not required.

REMARKS:

Replace section 12-4.02C(3)(h) with:

12-4.02C(3)(h) Complete Freeway or Expressway Closure Hour Charts

Comply with the requirements for the complete freeway closure shown in the following charts:

Chart No. H1
Complete Freeway Closure Hours

County: Sonoma	Route/Direction: NB US 101	Post Mile: 20.76 to 21.75

Closure limits: From College Avenue to Steele Lane

Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon–Thu	C	C	C	C	C																				C
Fri	C	C	C	C	C																				
Sat	C	C	C	C	C																				
Sun	C	C	C	C	C	C	C																		C

Legend:

C — Northbound freeway may be closed completely.

(blank) — No complete closure is allowed.

REMARKS: See Detour Plan No. 7, 8, and 9 on MI-4 plan sheet. This closure chart to be used a maximum of six times.

Chart No. H2
Complete Freeway Closure Hours

County: Sonoma	Route/Direction: SB US 101	Post Mile: 20.76 to 21.75

Closure limits: From Steele Lane to College Avenue

Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon–Thu	C	C	C	C	C																				C
Fri	C	C	C	C	C																				
Sat	C	C	C	C	C																				
Sun	C	C	C	C	C	C	C																		C

Legend:

C — Southbound freeway may be closed completely.

(blank) — No complete closure is allowed.

REMARKS: See Detour Plan No. 4, 5, and 6 on MI-3 plan sheet. This closure chart to be used a maximum of six times.

Replace section 12-4.02C(3)(j) with:

12-4.02C(3)(j) Complete Ramp Closure Hour Charts and Ramp Lane Requirement Charts

Comply with the requirements for the complete ramp closure shown in the following charts:

Chart No. J1
Complete Ramp Closure Hours

County: Sonoma	Route/Direction: US 101 NB	Post Mile: 20.76

Closure limits: College Avenue on-ramp

Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon–Thu	C	C	C	C	C																				C
Fri	C	C	C	C	C																				
Sat	C	C	C	C	C																				
Sun	C	C	C	C	C	C	C																		C

Legend:

C Ramp may be closed completely.

Work is allowed within the highway where a shoulder or lane closure is not required.

REMARKS: See Detour Plan No. 7, 8, and 9 on plan sheet MI-04.

Chart No. J2
Complete Ramp Closure Hours

County: Sonoma	Route/Direction: US-101 SB	Post Mile: 21.75

Closure limits: Steele Lane on-ramp

Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon–Thu	C	C	C	C	C																				C
Fri	C	C	C	C	C																				
Sat	C	C	C	C	C																				
Sun	C	C	C	C	C	C	C																		C

Legend:

C Ramp may be closed completely.

Work is allowed within the highway where a shoulder or lane closure is not required.

REMARKS: See Detour Plan No. 4, 5, and 6 on MI-3 plan sheet.

Replace section 12-4.02C(3)(m) with:

12-4.02C(3)(m) City Street Closure Hour Charts and City Street Lane Requirement Charts

Comply with the requirements for a city street lane or complete closure shown in the following chart:

Chart No. M1
City Street Lane or Complete Closure Requirements

Location: Cleveland Avenue	Direction: Full	

Closure limits: Cleveland Avenue North of Edwards Ave

Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon–Thu	C	C	C	C	C	C	C	R	R	R	R	R	R	R	1	1	1	1	R	R	R	C	C	C
Fri	C	C	C	C	C	C	C	R	R	R	R	R	R	R	1	1	1	1	R	R	R	C	C	C
Sat	C	C	C	C	C	C	C	R	R	R	R	R	R	R	1	1	1	1	R	R	R	C	C	C
Sun	C	C	C	C	C	C	C	R	R	R	R	R	R	R	1	1	1	1	R	R	R	C	C	C

Legend:

1	Provide at least 1 city street lane open in each direction of travel.
C	Street may be closed.
R	Provide at least 1 through traffic lane not less than 10 feet in width for use by both directions of travel. (Reversing Control)

REMARKS: See Detour Plans 2 and 3 on plan sheet MI-2
The number of through traffic lanes in each direction of travel is 1 .

Chart No. M2
City Street Lane or Complete Closure Requirements

Location: Armory Drive	Direction: Full	

Closure limits: Armory Drive South of Elliot Ave

Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon–Thu	C	C	C	C	C	C	C	R	R	R	R	R	R	R	R	R	R	R	R	C	C	C	C	C
Fri	C	C	C	C	C	C	C	R	R	R	R	R	R	R	R	R	R	R	R	C	C	C	C	C
Sat	C	C	C	C	C	C	C	R	R	R	R	R	R	R	R	R	R	R	R	C	C	C	C	C
Sun	C	C	C	C	C	C	C	R	R	R	R	R	R	R	R	R	R	R	R	C	C	C	C	C

Legend:

1	Provide at least 1 city street lane open in the direction of travel.
C	Street may be closed.
R	Provide at least 1 through traffic lane not less than 10 feet in width for use by both directions of travel. (Reversing Control)

REMARKS: The number of through traffic lanes in each direction of travel is 1.
See Detour plans 10 and 11 on plan sheet MI-5.

Chart No. M3
City Street Lane or Complete Closure Requirements

Location: Edwards Avenue	Direction: Full	

Closure limits: Edwards Avenue West of Cleveland Ave

Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon–Thu	C	C	C	C	C	C	C	R	R	R	R	R	R	R	1	1	1	1	R	R	R	C	C	C	
Fri	C	C	C	C	C	C	C	R	C	R	R	R	R	R	1	1	1	1	R	R	R	C	C	C	
Sat	C	C	C	C	C	C	C	R	R	R	R	R	R	R	1	1	1	1	R	R	R	C	C	C	
Sun	C	C	C	C	C	C	C	R	R	R	R	R	R	R	1	1	1	1	R	R	R	C	C	C	

Legend:

1	Provide at least 1 city street lane open one-way in the eastbound direction.
C	Street may be closed or operate with one lane one-way.
R	Provide at least 1 through traffic lane not less than 10 feet in width for use by both directions of travel (Reversing Control) or operate with one lane one-way eastbound.

REMARKS: __See Detours 1, 2 and 3 on plan sheets MI-1 and MI-2.

Replace the 1st paragraph of section 12-4.02C(7)(a) with:

Control traffic using stationary closures, except you may use a moving closure during traffic striping and pavement marker placement using a bituminous adhesive. Do not use a moving lane closure when grinding for recessed striping and recessed markers.

Add to the end of section 12-4.02C(7)(b):

For multilane freeway or expressway lane closures, do not place the 2L tangent section shown along lane lines between the lane closure tapers.

For a stationary one-way-reversing traffic-control lane closure, you may stop traffic in 1 direction for periods not to exceed 2_____ minutes. After each stoppage, all accumulated traffic for that direction must pass through the work zone before another stoppage is made.

Transport bicyclists through the one-way-reversing traffic-control work zone.

Add to section 12-4.02C(7)(b):

Provide a stationary impact attenuator vehicle for:

1. Pavement marking installation and removal

Add to the end of section 12-4.02C(8)(a):

For a complete freeway closure, install the closure signs at least 7 days before closing the freeway. Notify the Engineer at least 5 business days before installing the signs. If the freeway is not closed on the posted day, change the closure to allow for a 3-business-day advance notice before closure.

Add to the end of Section 12-4.02C(9)(c)(ii)(A):

Provide flaggers where shown to guide users through work during adjacent active daytime and nighttime construction operations.

Replace Section 12-4.02C(9)(d) with:

Payment for flaggers where shown is included in lump sum price paid for traffic control system.

Replace section 12-4.02C(12) with:

12-4.02C(12) Construction Work Zone Speed Limit Reduction

12-4.02C(12)(a) General

Section 12-4.02C(12) includes specifications for providing, installing, maintaining, and removing traffic control devices for reducing the speed limit for the construction work zones.

Speed limit reduction is limited to 10 mph from the posted speed limit in construction work zones unless a greater speed limit reduction is specified. Construction work zone speed limit reduction can either be required when construction activities are active in a closure as a temporary condition or 24 hours a day, 7 days a week based on the roadway conditions when specified.

Temporary construction work zone speed limit reduction is required for lane closures when construction activities require workers to be present within the lane closures. Construction work zone speed limit reduction is not required for short duration closures of 1 hour or less or when the length of lane closure is 1/2 mile or less.

Construction work zone speed limit reduction is required 24 hours a day, 7 days a week when construction activities affect the roadway around the clock 24 hours a day, 7 days a week as shown on the traffic handling plans.

For divided highways, the construction speed limit reduction zone for 24 hours a day, 7 days a week applies only to the direction of travel where the roadway conditions require lower vehicle speeds.

12-4.02C(12)(b) Materials

For construction work zone speed limit reduction for 24 hours a day, 7 days a week, construction area signs must comply with the requirements for stationary-mounted signs in section 12-3.11. When the duration of construction work zone speed limit reduction for 24 hours a day, 7 days a week is 7 days or less, you may use portable signs that comply with the requirements for portable signs in section 12-3.11.

For temporary construction work zone speed limit reduction, signs must comply with the requirements for portable signs in section 12-3.11.

The PCMS must comply with section 12-3.32.

Radar feedback sign LED displays must have LED:

1. Character of at least 18 inches in height for freeways and expressways
2. Character of at least 14 inches in height for conventional highways
3. Character's width-to-height ratio from 0.7 to 1.0
4. Character's stroke width-to-height ratio of 0.2

Portable radar speed feedback sign must comply with section 12-3.37.

Portable radar speed feedback sign trailers must have a minimum of 9 cones placed on a taper in advance of the device and along the edge of shoulder or edge of the traveled way at 25-foot intervals to a point not less than 25 feet past the device.

Temporary radar speed feedback sign system must comply with the specifications for:

1. Temporary electrical system in section 87-20
2. Radar speed feedback sign system in section 87-14 except the LED character display must remain blank when no vehicles are detected or when the detected vehicle speed is 10 miles or less than the pre-set speed

12-4.02C(12)(c) Construction

Advise motorists of construction work zone speed limit reductions starting 14 days in advance of implementing the speed limit reduction using a PCMS displaying the alternating messages *Reduced Speed* and *Starting XX/XX/XX (Date).*

When construction work zone speed limit reduction is in effect, the PCMS message must be *XX ZONE AHEAD* and *WILL BE ENFORCED*. Mount a 48-by-48-inch W3-5 XX "SPEED LIMIT" ahead symbol sign on the PCMS trailer.

Cover all existing speed limit signs while the construction work zone speed limit reduction is in effect. Remove covers when construction work zone speed limit reduction is no longer in effect. For construction work zone speed limit reduction for 24 hours a day, 7 days a week, you may remove the existing speed limit signs and replace the signs when the construction activities that required the 24 hours a day, 7 days a week speed limit reduction are completed.

For construction work zone speed limit reduction for 24 hours a day, 7 days a week, install temporary radar speed feedback systems. In addition to the temporary radar speed feedback system shown, place a portable radar speed feedback system 400 feet upstream of active work areas. Portable radar speed feedback system must include a R2-1 sign with G20-5aP "WORK ZONE" plaque.

For temporary construction work zone speed limit reduction for lane closures, install portable radar speed feedback system as shown. In addition to the portable radar speed feedback system shown, place a portable radar speed feedback system 400 feet upstream of active work areas. The portable radar speed feedback system must include a R2-1 sign with G20-5aP "WORK ZONE" plaque.

For on-ramps within the limits of a construction work zone speed limit reduction, place R2-1 signs with G20-5aP "WORK ZONE" plaque within 500 feet of entrance ramps. You may use the strap and saddle method for mounting these sign panels on the entrance ramp lighting standard at the merge point.

For freeway to freeway connector ramps, install signs and devices as shown for construction work zone speed limit reduction.

For expressways, place a R2-1 sign with G20-5aP "WORK ZONE" plaque approximately 500 feet downstream from intersections within the limits of a construction work zone speed limit reduction.

For conventional highways, place a R2-1 sign with G20-5aP "WORK ZONE" plaque approximately 500 feet downstream from major intersections within the limits of a construction work zone speed limit reduction.

Within the limits of a construction work zone speed limit reduction, place intermediate R2-1 signs with G20-5aP "WORK ZONE" plaque at intervals not exceeding three miles.

You may use variable speed limit signs where R2-1 signs are described.

For chip seal projects, place construction work zone speed limit reduction signs and devices as shown except place additional intermediate signs, W8-7 "LOOSE GRAVEL" sign, and a W13-1 (35) plaque every 2000 feet.

12-4.02C(12)(d) Payment

For construction work zone speed limit reduction for 24 hours a day, 7 days a week, signs are paid for as construction area signs, PCMS is paid for as portable changeable message sign, temporary radar speed feedback sign is paid for as temporary radar speed feedback sign system, and portable radar speed feedback sign is paid for as portable radar speed feedback sign systems. Covering and removing covers of existing speed limit signs are included in the price paid for construction area signs.

For construction work zone speed limit reduction only during lane closures, signs are included in the bid item for traffic control system, PCMS is paid for as portable changeable message sign, and portable radar speed feedback sign is paid for as portable radar speed feedback sign systems. Covering and uncovering existing speed limit signs for each lane closure are included in the price paid for traffic control system.

Add to the end of Section 12-4.04A(1):

Pedestrians shall be provided with a safe convenient and accessible path that, at a minimum, replicates the most desirable characteristics of the existing sidewalk, path or footpath as authorized. At no point along the road shall the sidewalks on both sides of the road be closed at the same time.

You shall construct and maintain temporary pedestrian pathways through the work zone, where required, that shall be in compliance with the requirements of the Americans with Disabilities Act (ADA), and the CA MUTCD.

Pedestrian routes shall not be impacted for the purposes of any non-construction activities such as parking of vehicles or equipment, or stock piling of materials. Pedestrians shall not be led into conflicts with work site vehicles, equipment or operations.

Pedestrian routes shall be open and accessible at the end of the work day unless an alternate ADA compliant route has been approved by the Engineer. The construction of curb ramps and/or long sections of sidewalk do not alleviate you from this requirement.

Add between the 1st and 2nd paragraphs of section 12-4.04C:

A pedestrian facility closure on the same side of a local street is limited to no more than 1 block. When working on one side of the highway, the pedestrian facility on opposite side of the highway within the same block must be open.

Concurrent pedestrian facility closures on the same side of a local street must be spaced at least 2 blocks apart.

Provide a temporary pedestrian access route as shown on Sheet SC-2. Provide and maintain temporary lighting for the temporary pedestrian access route. Maintain the required illuminance criteria per the Caltrans Roadway Lighting Manual for the adjacent facility or City of Santa Rosa standards for local streets. Maintain the required illumination during all construction activities where temporary pedestrian access routes are provided, except when shutdown is permitted to allow for alterations or final removal of the system as authorized.

^^

13 WATER POLLUTION CONTROL

Add to the end of section 13-3.01A:

This project's risk level is 2.

Add between the 4th and 5th paragraphs of section 13-3.01C(2)(a):

The following RWQCBs will review the authorized SWPPP:

1. North Coast

Add to section 13-3.01D:

13-3.01D(7) Qualifications

The QSD must comply with the requirements provided in the Construction General Permit for QSD except section V.F.4.(e). You may propose alternative qualifications in compliance with section V.F.4.(e) with documentation of six years of construction stormwater experience for the Engineer's approval.

Add between the 1st and 2nd paragraphs of section 13-4.03G:

Dewatering must comply with Order No. R1-2009-0045 adopted by the North Coast RWQCB (General NPDES Permit No. CA 0024902, *Waste Discharge Requirements for Low Threat Discharges to Surface Waters in the North Coast Region*). For the permit, go to the North Coast RWQCB's website.

^^

14 ENVIRONMENTAL STEWARDSHIP

Replace the list in the 2nd paragraph of section 14-6.03D(1) with:

1. Monitor the following regulated species within the project area:
   1.1 Nesting or attempted nesting migratory birds

Add to section 14-6.03D(1):

A Contractor-supplied biologist who performs specialized activities must have demonstrated field experience working with the regulated species or performing the specialized task. The biologist must have experience that complies with the requirements shown in the following table:

Specialized activity/species	Requirements
Nesting and attempted nesting migratory birds	Survey identification

Within 30 days before starting job site activities, submit protocols for species protection surveys. Use protocols required in the PLACs.

Survey the job site for regulated species and submit a preconstruction survey report within 14 days before starting work.

The preconstruction survey report must include one of the following:

1. Detailed observations and locations where regulated species were observed
2. Statement that no regulated species were observed

Submit an initial monitoring report as an informational submittal within 12 hours after starting ground-disturbing activities.

Submit a biological resource incident report within 24 hours of the incident.

The incident report must include:

1. Description of any take of regulated species or any violation of a biological resource PLAC
2. Species name and number taken
3. Details of required notifications with contact information
4. Corrective actions proposed or taken
5. Disposition of taken species

Submit an annual monitoring report no later than January 15 during each year of construction.

The annual monitoring report must include:

1. Start and end dates of construction
2. Project impacts on the regulated species
3. Species protection measures and implementation details
4. Incidental take details, including species name, number taken, people contacted, contact information, and disposition of taken species
5. Assessment of the effectiveness of the species protection measures in mitigating project impacts
6. Recommendations for improving species protection measures

Submit a final monitoring report no later than 20 days after completion of the project. If the report requires revisions, the Department provides comments. Submit a revised report within 7 days of receiving comments. The final monitoring report must be a cumulative report including:

1. Start and end dates of construction
2. Project impacts on the regulated species
3. Species protection measures and implementation details
4. Incidental take details, including species name, number taken, people contacted, contact information, and disposition of taken species

5. Assessment of the effectiveness of the species protection measures in mitigating project impacts
6. Recommendations for improving species protection measures

Replace *Reserved* section 14-6.06 with:

14-6.06 TREE PROTECTION

Section 14-6.06 includes specifications for protection of trees to remain.

Verify locations of trees to be protected in field with City Parks Planner. Before starting work, meet with City Parks Planner at the site to review work procedures, access routes, storage areas and tree protection measures

Prior to removal of trees or vegetation verify removals in field with Engineer, in the presence of Project Landscape Architect and City Parks Planner.

Throughout the construction period conduct regular observations to monitor any occurrence of dieback, appearance of pests or pathogens.

Submit a site work plan showing access and haul routes, construction trail and storage areas, etc.

Obtain authorization for work access around trees protected with fencing. Use authorized haul routes and storage areas.

If removal of fencing is authorized for work access, replace fencing between construction operations.

Establish tree protection zones. The radius of the Tree Protection Zone (TPZ) begins at the center of the trunk and shall be 2-feet behind the proposed edge of grading.

Before starting construction work, install tree protection fence under section 16 around trees to be preserved.

Tree protection fences must remain until site work has been completed. Do not remove without authorization.

Protect on-site trees and offsite trees with canopies extending over the property or with roots in the property.

Fell trees to be removed so that they fall away from tree protection zone and avoid pulling and breaking of roots of trees to remain. If roots are entwined, Engineer may direct you to first sever the major woody root mass before extracting the trees or grinding the stump below ground.

Prevent construction activity and placement of materials and equipment inside TPZ fence.

Provide a 3-inch depth of compost inside the tree protection fence.

Provide and maintain a 6-inch depth of wood mulch (tree trimmings) inside the tree protection fence. Keep wood mulch 1-foot back from tree trunk.

Thoroughly spray leaves with water once each week to prevent buildup of dust and other pollution that would inhibit leaf transpiration.

Grading, construction, demolition or other work that is expected to encounter tree roots must be monitored by the City Parks Planner. Provide 48 hours notice to City Parks Planner in advance of work that may impact tree roots.

Hand dig areas of excavation where the City Parks Planner determines there is a risk of injuring protected tree roots.

Obtain authorization of City Parks Planner for cutting of roots or branches larger than 1-inch diameter. Notify Engineer if a tree is damaged during construction. Engineer will arrange for City Parks Planner to evaluate the damage and determine mitigations.

Attach no signs, ropes, cables (other than those which may be recommended by a certified arborist to provide limb support) or other items to on-site trees or off-site trees which extend onto the site.

Prune trees per City Parks Planner recommendations, prior to starting site improvements. Tree pruning must be performed by an ISA certified arborist tree worker.

Additional tree pruning needed for clearance during construction must be performed by a qualified arborist and not by construction personnel.

Irrigate trees on a schedule determined by the City Parks Planner. Each irrigation cycle must wet the soil within the tree protection zone to a depth of 30-inches.

If roots are damaged by grading or construction, expose root to sound tissue and prune at that point. If roots are torn or broken by equipment, prune back to healthy, undamaged tissue.

Except for tree protection fence, payment for tree protection is included in payment for various items of work.

Add to section 14-8.02:

The use of concrete saws, hoe rams, jack hammers and pile driving equipment will not be allowed:

1. Before 7:00 a.m. and after 7:00 p.m. Monday through Friday
2. Before 7:00 a.m. and after 5:00 p.m. on Saturday
3. On Sunday

Pre-drill foundation pile holes to minimize number of hammer impacts required to seat piles.

Shield pile driving activities located within 100 feet of the receptors listed below by:

1. Installing acoustical blankets, or
2. Using a noise-attenuating shroud on pile driving hammer

Receptors

Business Name	Address
Patelco Credit Union	1965 Cleveland Avenue
Dick's Sporting Goods	1975 Cleveland Avenue
Professional Building	1955 Cleveland Avenue
Colonial Apartments	900 Edwards Avenue
SRJC Pedroncelli Center	North corner of Elliott Avenue and Armory Drive
SRJC Student Housing	South corner of Elliott Avenue and Armory Drive
Private Residences	Along Illinois Avenue

Locate stationary noise-generating equipment as far as possible from sensitive receptors and screen with temporary noise barrier fences. Install temporary noise barrier fences to interrupt line-of-sight between noise source and receptors. Minimize cracks and gaps. Openings or venting must face away from sensitive receptors. You may request in writing not to install temporary noise barriers because of construction limitations.

Noise from construction workers' radios must not exceed 50 decibels in the vicinity of existing residences within the project limits.

Add to section 14-8.02:

Submit a noise control plan (NCP) to minimize construction noise including back up alarm.

Include the following information in the NCP:

1. List of the locations and construction activities to be monitored
2. Description of the construction activities and anticipated noise levels at these locations
3. Operating sound levels of construction equipment at specified distances and locations
4. Sound control measures to maintain noise levels within specified limits

5. Corrective actions if specified sound levels are exceeded
6. List of sound level meters and calibrators with current calibration certifications
7. Names, qualifications, and resumes of:
   7.1. Person who prepared NCP
   7.2. Personnel who will perform noise monitoring
8. Notification letter for residents that includes:
   8.1 Project location
   8.2 Project start and completion date
   8.3 Project contact person information
   8.4 Activities and duration of activities that could contribute to an increase in noise levels in the area
9. A detailed construction schedule for major noise-generating construction activities.
10. The name and contact information for a “disturbance coordinator” whose telephone number would be posted conspicuously at the construction site.

The disturbance coordinator must:

1. Respond to complaints about construction noise
2. Determine the cause of the noise complaint and be responsible for the implementation of reasonable measures to correct the problem
3. Report resolution to the Engineer

The NCP must be prepared by a qualified person that meets one of the following requirements:

1. Board Certified by the Institute of Noise Control Engineering of the USA with 2 years of noise control experience
2. Registered Civil engineer with 3 years of full-time noise control experience
3. Bachelor’s or higher degree from an ABET accredited institution of higher education in a relevant field of engineering, environmental science, or earth science and 5 years of full-time noise control experience
4. Bachelor’s or higher degree from an ABET accredited institution of higher education and 10 years of full-time noise control experience

Conduct noise monitoring by a person with at least 2 years of experience in conducting field noise measurements. Submit the qualifications of each of the individuals who will be performing the noise monitoring.

Fourteen days before starting construction activities described in the NCP, notify:

1. The Engineer
2. Entities or residents within 500 feet from the job site activity with the NCP letter delivered in person

Monitor noise on the project continuously.

Measure Noise levels with a Type 1 or Type 2 sound level meter. The sound level meter must:

1. Be calibrated and certified by the manufacturer or an independent acoustical laboratory
2. Be capable of taking A-weighted measurements and have slow response settings
3. Have a microphone fitted with a windscreen
4. Be recalibrated annually by the manufacturer or an independent NIST certified acoustical laboratory

Submit a noise monitoring report within 24 hours of completing noise monitoring for each of the activities. The report must include A-weighted noise levels, measurement location, types of noise measuring equipment including model number and identification number, time of day, temperature and wind speed.

Conduct noise monitoring to investigate noise complaints that are attributed to a particular construction operation. If the operation exceeds the sound level submit a list of authorized contingency measures from the NCP that will be implemented.

The noise level requirements apply to the equipment on the job or related to the job, including impact pile driver, trucks, transit mixers or transient equipment used on the project.

Furnish 1 Type 1 or Type 2 sound-level meter and 1 acoustic calibrator to the Department for use until contract acceptance to monitor noise.

The sound-level meter must:

1. Be calibrated and certified by the manufacturer or an independent acoustical laboratory before delivery to the Department
2. Be capable of taking A-weighted measurements and have slow response settings
3. Have a microphone fitted with a windscreen
4. Be recalibrated annually by the manufacturer or an independent acoustical laboratory

Provide noise monitoring equipment training by the authorized noise monitor to 1 Department employee.

The Department returns the equipment to you at contract acceptance.

Replace section 14-8.03 with:

14-8.03 VIBRATION MONITORING

14-8.03A General

14-8.03A(1) Summary

Section 14-8.03 includes specifications for vibration monitoring to protect facilities adjacent to the job site from vibration during paving, demolition, earthwork and pile installation operations.

Vibratory rollers and tampers are not allowed within 20 feet of the facilities noted below.

The work includes:

1. Furnishing, installing, and maintaining vibration monitoring instrumentation and portable vibration sensors
2. Repairing or replacing damaged or inoperable sensors immediately to ensure continuous monitoring
3. Collecting, interpreting, and reporting vibration data
4. Implementing precautionary and mitigation measures
5. Inspecting and documenting existing facilities from damage caused by vibration

Monitor vibration at the following facilities:

Facilities

Business Name	Address	Assessor's Parcel Number (APN)	Maximum peak particle velocity threshold
Patelco Credit Union	1965 Cleveland Avenue	012-490-052	0.30 in/sec

14-8.03A(2) Data Confidentiality

Communicate and post at all times in the field office that no personnel will disclose any instrumentation data to 3rd parties nor publish data without the Department's written consent.

14-8.03A(3) Submittals

14-8.03A(3)(a) General

Submit qualification records for the vibration monitoring personnel.

14-8.03A(3)(b) Notifications

Notify the Engineer and facility owners 5 days before installing vibration monitoring sensors.

14-8.03A(3)(c) Vibration Sensor Product Data

Submit a copy of the instructions and maintenance manual, product data, other pertinent information; and laboratory calibration record and certification within 5 days of receipt of each portable vibration sensor at the site.

The certificate of calibration must show that the vibration sensors are calibrated and maintained as specified by the equipment manufacturer's calibration requirements and that calibrations are traceable to the U.S. National Institute of Standards and Technology (NIST).

14-8.03A(3)(d) Report of Baseline Vibration Levels

Submit baseline vibration levels before the start of construction work and include date of existing baseline condition for each vibration monitoring area. Include a summary of facility conditions and the maximum single-component and resultant peak particle velocities for one-minute intervals and additional documentation necessary for each vibration monitoring area.

Before paving, demolition, earthwork and pile installation operations conduct photo and video surveys of residences and buildings, facilities, sidewalks and retaining structures within 200’ of the work location under 14-8.06.

Submit a hard copy and an electronic report documenting the results at all vibration sensor locations within 14 days after the completion of the baseline vibration monitoring. Submit additional documentation necessary for each vibration monitoring area.

14-8.03A(3)(e) Vibration Monitoring and Mitigation Plan

Submit 4 copies of the vibration monitoring and mitigation plan at least 30 days before any work requiring vibration monitoring.

Revise and resubmit the plan within 7 days of receipt of comments if revisions are required.

Submit 4 copies of the vibration monitoring and mitigation plan incorporating the required changes. Allow 7 days for review of the revisions.

Minor changes or clarifications to the initial submittal may be made and attached as amendments to the plan.

The monitoring plan must include:

1. The name of the qualified vibration monitoring specialist providing the vibration monitoring services
2. Type of operation requiring monitoring
3. Description of the instruments and equipment to be used, including model number
4. Measurement locations that includes photo and caption
5. Methods for mounting the vibration sensors
6. Procedures for data collection and analysis
7. Means and methods of providing warning when the peak particle velocity equals or exceeds specified threshold
8. Name of the designated responsible person; the responsible person must have the authority to stop the work causing the vibration
9. The resumes of the vibration instrument personnel and technical support personnel

The mitigation plan must include:

1. Measures to protect the area adjacent to the job site
2. Plan of action to be implemented in the event the peak particle velocity equals or exceeds specified threshold

14-8.03A(3)(f) Vibration Data Report

Submit 1 hard copy and 1 electronic weekly report summarizing data collected, including logged data chart at each of the sensor locations . If peak particle velocity exceeds the maximum peak particle velocity threshold, submit report for review within 24 hours after each monitoring period until authorized to submit weekly. Prepare a report to tabulate the measured vibration levels of three orthogonal axes and maximum resultant and associated frequencies.

Submit summary tables indicating the date, time, magnitude, and frequency of maximum single component and resultant peak particle velocity daily.

Vibration instrumentation personnel must sign all vibration data reports. The reports must include:

1. Project identification, including county, route, post mile, and project name as shown.
2. Location of the vibration sensors (clearly label image and identify latitude and longitude location).
3. Location of vibration sources (i.e., pile driving).
4. Summary tables indicating the date, time, magnitude, and the frequency of the maximum single-component and resultant peak particle velocities for one-minute intervals for each vibration sensor. Include the relationship of the measurement to the threshold value.
5. Field data forms (construction vibration monitoring only).
6. Appendix graphs of the time history charts created during the monitoring periods.

14-8.03A(4) Quality Assurance

14-8.03A(4)(a) General

Not Used

14-8.03A(4)(b) Qualifications

Vibration monitoring personnel must have the following minimum qualifications:

1. A geologist, structural engineer, or civil engineer who is registered in the State, or a person with a Bachelor of Science or higher degree from a qualified program in engineering, physics, acoustics, or geology from an accredited university or college, and at least 5 years of experience in the installation and use of vibration monitoring instruments and data interpretation.
2. Professional experience in preparing and implementing construction vibration monitoring plans and analyzing vibration impacts.

Vibration instrumentation personnel must be onsite, supervise the installation of vibration monitoring instruments and interpretation of monitoring date.

14-8.03A(4)(c) Preconstruction Meeting

Before starting vibration monitoring installation, schedule a preconstruction meeting

Attendees must include:

1. Engineer
2. Department’s vibration competent person
3. Vibration monitoring personnel
4. Vibration instrument personnel
5. Project Superintendent

The meeting agenda must include:

1. Review of the job site personnel vibration monitoring requirements
2. Emergency contacts
3. Notification plan
4. Submittals
5. Any other issues pertinent to the execution of the vibration monitoring-related work

14-8.03B Materials

Not Used

14-8.03C Construction

14-8.03C(1) General

Comply with section 14-8.06 in documenting the existing facility’s apparent deficiencies of each facility listed and adjacent to the construction activity at the job site during pre-construction and post-construction.

14-8.03C(2) Equipment

14-8.03C(2)(a) General

Not Used

14-8.03C(2)(b) Vibration Monitoring Equipment

Provide vibration sensors for monitoring the velocities of ground vibrations resulting from construction activities.

Portable vibration sensors must have the following minimum features:

1. Seismic range: 0.01 to 4 inches per second with an accuracy of ±5 percent of the measured peak particle velocity or better at frequencies between 10 Hertz and 100 Hertz and with a resolution of 0.01 inch per second or less
2. Frequency response ±3 dB points: 2 to 200 Hertz
3. Three channels for simultaneous time-domain monitoring of vibration velocities in digital format on 3 perpendicular axes and capable of calculating peak particle velocity resultant
4. Battery must be capable of supplying power to monitor vibrations continuously for a minimum of 24 hours
5. Capable of internal, dynamic calibration
6. Capable of transferring data from sensor memory to an external device
7. Be capable of producing time history chart recordings of readings on site within 1 hour of obtaining the readings
8. Provide computer software to perform analysis and produce reports of continuous monitoring
9. Continuous monitoring mode capable of automatic recording of single-resultant peak particle velocities and frequencies of peaks with an interval of 1 minute or less
10. Able to give warning immediately when threshold peak particle velocity is exceeded
11. Be waterproof and capable of downhole stationing

14-8.03C(2)(c) Calibration

Calibrate and maintain all equipment in working order under the equipment use specifications at the manufacturer’s product maintenance schedule or certified calibration laboratory within 1 year of use onsite.

14-8.03C(3) Vibration Monitoring

Determine baseline vibration levels before start of work and vibration monitoring of the facilities identified, and when there is a break in the construction activities. Collect data using vibration sensors to document baseline vibrations at each monitoring location. Monitoring must consist of a continuous recording of the maximum single-component and resultant peak particle velocities for one-minute intervals. Perform the baseline monitoring for a minimum of two nonconsecutive workdays, spanning the hours during which construction activities will take place.

The instrument must be in place and functioning properly before any construction activities adjacent to the identified facilities. The vibration monitoring instrument must be stationed on the side of the facility facing the work site.

Install the vibration sensors:

1. As close to the exterior face of specified facility on the side facing construction activity while still remaining within the public right of way or within areas covered by a dedicated temporary construction easement, or at a location designated by the qualified vibration instrumentation personnel or the Engineer. Use a minimum of 1 vibration sensor for each facility with a dimension of less than 200 feet along the side facing construction. For facilities with a dimension along the side facing construction of 200 feet or more, the spacing between the vibration sensors must be less than 200 feet or as determined by the Engineer
2. To monitor vibration at specified facilities
3. Firmly attach on the surface of concrete slabs or asphalt, or firmly set in undisturbed soil
4. Align the vibration sensors longitudinal direction of measurement parallel to the building's alignment
5. Align the vibration sensors transverse direction of measurement perpendicular to the building's alignment

Monitor and record vibration data continuously during paving, demolition, earthwork and pile installation.

The equipment must provide immediate warning when peak particle velocity equals or exceeds maximum peak particle velocity threshold at any location.

When the resultant peak particle velocity on the vibration sensor equals or exceeds the maximum peak particle velocity threshold or when the facility is visually impacted, stop work immediately and notify the Engineer, followed immediately by performing survey documentation of impacted facilities. Survey documentation of impacted existing facilities is change order work.

Immediately implement vibration monitoring and mitigation plan to reduce the vibrations within 24 hours. Do not resume work unless authorized.

14-8.03D Payment

Not Used

Replace section 14-8.06 with:

14-8.06 PHOTO AND VIDEO SITE DOCUMENTATION OF EXISTING NON-HIGHWAY FACILITIES

14-8.06A General

14-8.06A(1) Summary

Section 14-8.06 includes specifications for performing photo and video documentation and reporting results of the existing properties specified in section 14-8.03A(1).

14-8.06A(2) Notifications

Notify the Engineer and facility owners 5 days before starting photo and video survey work.

14-8.06A(3) Submittals

14-8.06A(3)(a) General

Submit a copy of the photo and video equipment specifications, and other pertinent information of each photo and video monitoring instrumentation for use at the job site before the pre-construction documentation begins.

14-8.06A(3)(b) Qualifications

Submit qualifications to the Engineer.

14-8.06A(3)(c) Pre-Construction Survey Report

Submit 3 copies of the pre-construction photo and video survey report for each location before the start of construction to allow for review.

Revise and resubmit the report within 5 days of receipt of comments, if revisions are required.

Allow 3 days for review of the revisions.

14-8.06A(3)(d) Post-Construction Survey Report

Submit 3 copies of the post-construction photo and video survey report for each location.

Revise and resubmit the report within 5 days of receipt of comments, if revisions are required.

Allow 3 days for review of the revisions.

14-8.06A(3)(e) Survey Report

Submit 3 copies of the continuous survey photo and video survey report for the paving, demolition, earthwork and pile installation activities.

Revise and resubmit the report within 5 days of receipt of comments, if revisions are required.

Allow 3 days for review of the revisions.

14-8.06A(4) Quality Assurance

14-8.06A(4)(a) General

Not Used

14-8.06A(4)(b) Qualifications

Photo and video personnel must have a degree or qualifications in photography and videography and must meet the minimum qualifications:

1. Proficient in professional video and photo editing software
2. Strong technical knowledge of cameras
3. Understanding of lighting
4. Setup, operate cameras, video, and audio documentation for interior and exterior video capture
5. Organize and maintain photo and video images

14-8.06A(4)(c) Usage Rights

Obtain and transfer copyright usage rights from photographer and videographer to the Department for unlimited reproduction of photographic documentation.

14-8.06A(4)(d) Preconstruction Meeting

Attendees of the preconstruction meeting must include:

1. Engineer
2. Department's structure representative
3. Vibration monitoring personnel
4. Photo monitoring personnel
5. Video monitoring personnel
6. Crack monitoring personnel
7. Elevation surveyor monitoring personnel
8. Project Superintendent

The meeting agenda must include a review of the job site pre-construction photo and video monitoring, and logistic requirements; pre-construction survey, and post-construction survey requirements; emergency contacts and notification plan; submittals; and any other issues pertinent to the execution of survey and monitoring of existing non-highway facilities-related work.

14-8.06B Materials

Not used

14-8.06C Construction

18-8.06C(1) General

Personnel must work with the Engineer and project superintendent to schedule and arrange photo, video, andsurveys during pre, post and any additional surveys required.

14-8.06C(2) Photo and Video Equipment

The photo and video survey must be recorded on a USB drive or other Engineer-authorized data-storage device viewable on any PC with an operating system of Windows 7 or newer.

Photo and video resolution and lighting must be able to capture the deficiencies in the structure.

Provide images in JPEG format, produced by a digital camera with minimum sensor size of 8 megapixels, and at an image resolution of not less than 3200 by 2400 pixels. Use additional light sources in low light levels or backlit conditions if necessary.

Digital video in high definition (HD) 1080 resolution and 30 frames per second resolution.

14-8.06C(3) Monitoring Survey

Perform pre-construction and post-construction photo and video survey on the outside of the existing facility, including cracks, settlement, leakage, and other apparent deficiencies of the:

1. Foundation
2. Floor
3. Wall
4. Ceiling
5. Roof
6. Building element
7. Retaining wall

All surveys shall be conducted entirely within the public right of way or within areas covered by a dedicated temporary construction easement.

Perform pre-construction survey at least 30 days before the start of construction.

Perform post-construction survey within 20 days after the last significant vibration-related construction operation.

Perform continuous survey during the paving, demolition, earthwork and pile installation activities.

14-8.06C(4) Photo Monitoring Survey Report

Photo survey report must be delivered in a digital storage media organized in 3-ring binder with a photo protective sleeve, building layout, and summary sheets indexing all photographs. Photo documentation must include the following:

1. Photo documentation survey of the foundation, floor, walls, ceiling, roof, and building outside of designated facilities, including property boundary walls
2. Photos in a high resolution, well-lit condition capable of documenting architectural cracking in structures
3. Condition of the facility, including cracks, settlement, leakage, and other apparent deficiencies

14-8.06C(5) Video Monitoring Survey Report

Video monitoring survey report must be delivered in a digital storage media organized in 3-ring binder with a protective sleeve, building layout, and summary sheets indexing all videos. Video documentation must include the following:

1. Video recordings must accompany photo monitoring survey of the foundation, floor, walls, ceiling, roof, and building elements outside of designated facilities, including property boundary walls
2. Condition of the facility, including cracks, settlement, leakage, and other apparent deficiencies
3. Narrated contemporaneously by the camera operator, documenting the location, orientation, time and date of the scene
4. Each video 10 minutes in length, labeled, and indexed

14-8.06D Payment

Not used

Add after the 2nd paragraph of section 14-11.12A:

This project includes removal of yellow thermoplastic traffic stripe that will produce hazardous waste residue.

Add after the 1st paragraph of 14-11.12E:

After the Engineer accepts the analytical test results, dispose of yellow thermoplastic and yellow paint hazardous waste residue at a Class 1 disposal facility located in California 45 days after accumulating 220 lb of residue.

If less than 220 lb of hazardous waste residue and dust is generated in total, dispose of it within 45 days after the start of accumulation of the residue.

^^^

15 EXISTING FACILITIES

Replace Reserved section 15-1.03D with:

15-1.03D Remove Gas Line

Contact the Engineer twenty (20) days in advance of removal of the gas line to coordinate with PG&E.

Excavate and expose the line.

PG&E will install a fitting, tap the line and confirm the line is abandoned, prior to removal of the line

^^

16 TEMPORARY FACILITIES

Add to section 16-2:

16-2.06 TREE PROTECTION FENCE (TEMPORARY HIGH-VISIBILITY CHAIN LINK FENCE)

16-2.06A General

16-2.06A(1) Summary

Section 16-2.06 includes specifications for constructing tree protection fence (temporary high-visibility chain link fence).

Constructing a tree protection fence (temporary high-visibility chain link fence) includes the installation of signs specified.

16-2.06A(2) Definitions

Reserved

16-2.06A(3) Submittals

Submit a certificate of compliance for the high-visibility fabric.

16-2.06A(4) Quality Assurance

Reserved

16-2.06B Materials

High-visibility fabric must be manufactured from polypropylene, polyethylene, or a combination of both.

Identify, store, and handle the fabric under ASTM D4873.

The fabric must be orange, contain UV inhibitors, and have a width of at least 48 inches and openings from a minimum 1 by 1 inch to a maximum 2 by 4 inches.

The minimum roll weight for a 4-by-100-foot roll of fabric must be 12 lb.

Temporary chain link fence must comply with section 80.

Posts must be steel.

Post brace footing may be 16-inch by 36-inch tubular metal panel stand with sandbag.

Tree protection signs must be made of a durable weather proof material. Text must be capitalized, centered, and read as follows:

TPZ (in Header size letters)

TREE PROTECTION ZONE (in Sub-header letter size)

(all text to follow in Standard size lettering)

THE TPZ MUST REMAIN CLEAR AND FREE OF ALL CONSTRUCTION MATERIALS AND PEDESTRIAN OR VEHICULAR TRAFFIC

THIS FENCE MUST REMAIN IN PLACE AND SIGN MUST REMAIN ATTACHED DURING THE ENTIRE DEMOLITION AND CONSTRUCTION PERIOD

OBTAIN APPROVAL OF CITY PARKS PLANNER PRIOR TO REMOVAL OF SIGN OR FENCE

(PHONE NUMBER OF GENERAL CONTRACTOR)

(PHONE NUMBER OF CONSTRUCTION PROJECT MANAGER)

16-2.06C Construction

Install tree protection fencing prior to start of construction.

Install posts at a maximum 8-foot center-to-center spacing.

Do not embed posts in ground.

Fasten high visibility fabric to outside face of chain link fabric with tie wires at 1-ft intervals.

Install tree protection signs at center of each fence panel.

Maintain posts in a vertical position.

Reattach any detached fabric.

Replace any damaged fabric.

Perform daily inspections of tree protection.

Fencing may be moved or adjusted as needed to accommodate construction with approval from City Parks Planner . Replace fencing in original position.

Fencing to remain in place until completion of construction. Obtain approval from City Parks Planner prior to removal.

16-2.06D Payment

Not Used

^^

DIVISION III EARTHWORK AND LANDSCAPE
17 GENERAL

Replace the 4th paragraph in section 17-2.03A with:

Clear and grub vegetation only within the excavation and embankment slope lines.

Add to the 4th paragraph in section 17-2.03A:

6. As shown.

Add to section 17-2.03B:

17-2.03B Clearing

Cutting of tree branches must be performed by ISA certified tree worker arborist in accordance with ISA standards. Notify Engineer 48 hours before cutting branches. Cooperate with City Parks Planner.

Add to section 17-2.03C:

In planting area, removal of existing plants includes removing their roots 2 inches or larger in diameter to a minimum depth of 12 inches below finished grade. Backfill holes resulting from root removal to the finished grade with material obtained from adjacent areas.

Do not remove stumps or roots if not in the foundation area. Cut stumps flush with existing grade.

^^

19 EARTHWORK

Replace the 2nd, 3rd, and 4th paragraphs of section 19-2.03B with:

Dispose of surplus material. Ensure enough material is available to complete the embankments before disposing of it.

Add to the end of section 19-3.01A:

Structure backfill includes constructing the geocomposite drain system. The systems must comply with section 68-7.

Earthwork for minor structures includes geocomposite drain systems.

Replace section 19-3.03A with:

19-3.03A General

Where shown, remove material below the bottom of bridge footings. Replace the material with Class 2 AB and compact it as specified for structure backfill in section 19-3.03E.

Where shown, remove material below the bottom of retaining wall footings. Replace the material with Class 2 AB and compact it as specified for structure backfill in section 19-3.03E. The relative compaction must be at least 95 percent.

A relative compaction of at least 95 percent must be attained to at least 0.5 foot below the bottom of excavated unstable material at the locations shown in the following table:

Bridge name and number	Abutment number	Bent number
Edwards Avenue POC	West Approach Walls	N/A
(Br. No. 20-0307)	Abutment 11	N/A
	East Approach Walls	N/A

Add to the beginning of section 19-3.03B(1):

For footings at locations with structure excavation (Type D), ground or surface water is expected to be encountered but seal course concrete is not needed. Structure excavation (Type D) is anticipated at West Approach Walls, Bents 7 and 8, Abutment 11, and East Approach Walls.

Add to section 19-3.04:

Class 2 aggregate base placed below footings is paid for as structure backfill.

Add to section 19-6.03D:

Settlement periods and surcharges are required for bridge approach embankments as shown in the following table:

Bridge name or number	Abutment number	Bent number	Surcharge height (feet)	Settlement period (days)
Br. No. 20-0307	West Approach Walls	N/A	10	30
Br. No. 20-0307	Abutment 11	N/A	15	30
Br. No. 20-0307	East Approach Walls	N/A	15	30

Surcharge at West Approach Walls must consist of compacted fill with a unit weight of 120 pcf. Surcharge limit must extend from the western face of Abutment 1 cap to a distance of at least 80 feet westward

measured along the "EE" Line and a width at top of surcharge of at least 15 feet centered at the "EE" Line.

Surcharge at Abutment 11 and East Approach Walls must consist of compacted fill with a unit weight of 120 pcf. Surcharge limit must extend from the west face of Abutment 11 to a distance of at least 100 feet eastward measured along the "EE" Line and a width at top of surcharge of at least 15 feet centered at the "EE" Line.

^^

20 LANDSCAPE

Replace section 20-1.01D(3) with:

20-1.01D(3) Soil Testing

Provide an agronomic soil test from a laboratory that uses methods of soil analysis approved by the American Society of Agronomy and the Soil Science Society of America.

Collect soil samples at a depth from 8 to 14 inches from the surface every 250 feet.

Use sample locations that best represent areas that will be used for planting and seeding work. Sample locations must be authorized. Collect testing samples after the finished grade is achieved.

Test Results must include the following:

Test Element	Method
pH	Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc., 1996 Chapter 16 or USDA Agricultural handbook No. 60, Diagnosis and Improvement of Saline and Alkali Soils, Method 21a
Saturation Extract	Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc., 1996 Chapter 14 or USDA Agricultural handbook No. 60, Diagnosis and Improvement of Saline and Alkali Soils, Method 2
Sodium Adsorption Ratio	Methods of Soil Analysis, Part 3 chemical Methods, Soil Science Society of America, Inc., 1996 Chapter 14 or Inductively Coupled Argon Plasma Optical Emissions, EPA Method 6010B
Water Infiltration Rate	USDA Agricultural handbook No. 60, Diagnosis and Improvement of Saline and Alkali Soils, Method 34B
Base Saturation	Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc., 1996 Chapter 40 or USDA Agricultural handbook No. 60, Diagnosis and Improvement of Saline and Alkali Soils, Method 18, 19 and 20
Exchangeable Ammonium cation	Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc., 1996 Chapter 38
Cation Exchange Capacity	Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc., 1996 Chapter 40 or USDA Agricultural handbook No. 60, Diagnosis and Improvement of Saline and Alkali Soils, Method 18, 19 and 20
Electrical Conductivity	Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc., 1996 Chapter 14 or USDA Agricultural handbook No. 60, Diagnosis and Improvement of Saline and Alkali Soils, Method 2
Soil Texture	Methods of Soil analysis, Part 1, Physical and Mineralogical Methods, Soil Science Society of America, Inc.,1986, Chapter 15
Organic Content	Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc., 1996 Chapter 37
Boron	Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc., 1996 Chapter 38 or Inductively Coupled Argon Plasma Optical Emissions, EPA Method 6010B
Calcium	Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc., 1996 Chapter 40 or USDA Agricultural handbook No. 60, Diagnosis and Improvement of Saline and Alkali Soils, Method 18, 19 and 20 or Inductively Coupled Argon Plasma Optical Emissions, EPA Method 6010B
Chloride	Methods of Soil Analysis, Part 3 chemical Methods, Soil Science Society of America, Inc., 1996 Chapter 14 or USDA Agricultural handbook No. 60, Diagnosis and Improvement of Saline

Test Element	Method
	and Alkali Soils, Method 2 or Inductively Coupled Argon Plasma Optical Emissions, EPA Method 6010B
Copper	Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc., 1996 Chapter 26, Ammonium Bicarbonate-Diethylenetriaminepentaacetic Acid (AB-DTPA) Method
Iron	Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc., 1996 Chapter 23, Ammonium Bicarbonate-Diethylenetriaminepentaacetic Acid (AB-DTPA) Method
Magnesium	Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc., 1996 Chapter 20, Ammonium Bicarbonate-Diethylenetriaminepentaacetic Acid (AB-DTPA) Method
Calcium/Magnesium Carbonate	Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc., 1996 Chapter 34
Manganese	Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc., 1996 Chapter 24, Ammonium Bicarbonate-Diethylenetriaminepentaacetic Acid (AB-DTPA) Method
Molybdenum	Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc., 1996 Chapter 27, Ammonium Bicarbonate-Diethylenetriaminepentaacetic Acid (AB-DTPA) Method
Nitrate	Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc., 1996 Chapter 31, Ion Selective Electrodes (ISE), Method
Phosphorus	Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc., 1996 Chapter 32, Ammonium Bicarbonate-Diethylenetriaminepentaacetic Acid (AB-DTPA) Method
Potassium	Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc., 1996 Chapter 19, Ammonium Bicarbonate-Diethylenetriaminepentaacetic Acid (AB-DTPA) Method
Sodium	Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc., 1996 Chapter 19, Ammonium Bicarbonate-Diethylenetriaminepentaacetic Acid (AB-DTPA) Method
Sulfate/Sulfur	Communication Soil Science Plant Analysis, Chapter 33, 2002 Ammonium Bicarbonate-Diethylenetriaminepentaacetic Acid (AB-DTPA) Method, Optimization of a Method for soil sulfur extraction,
Zinc	Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc., 1996 Chapter 26, Ammonium Bicarbonate-Diethylenetriaminepentaacetic Acid (AB-DTPA) Method
Aluminum	Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc., 1996 Chapters 25, 27, 28, 29, 30, Ammonium Bicarbonate-Diethylenetriaminepentaacetic Acid (AB-DTPA) Method
Selenium	Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc., 1996 Chapters 25, 27, 28, 29, 30, Ammonium Bicarbonate-Diethylenetriaminepentaacetic Acid (AB-DTPA) Method

Laboratory interpretation data must cite low, medium, and high nutrient concentrations, nutritional deficiencies, excesses, and potential toxicities. Test results must include Organic Materials Review Institute (OMRI) certified amendment recommendations for new and existing planting and seeding.

Submit test results and any recommended design modifications as a result of the test 15 days before any planting, seeding, or soil amendments activities.

Excessive feeding will harm the plant species used (natives and succulents). Do not add amendments other than compost even if recommended by soil testing.

Do not plant if the soils testing report shows toxicities as present in the planting area.

Hydroseed planting area where toxicities were found with the following mix:

Lbs/acre	Seed
8.0	Achillea millefolium, Common Yarrow
2.0	Deschampsia cespitosa, Tufted Hairgrass
8.0	Festuca microstachys, Pacific Fescue
2.0	Festuca rubra, Molate Fescue
2.0	Juncus effusus, Soft Rush
8.0	Mimulus aurantiacus, Sticky Monkey Flower
4.0	Stipa pulchra, Purple Needlegrass
8.0	Muhlenbergia rigens, Deergrass

Hydroseeding is change order work.

Replace the 1st through 5th paragraphs of section 20-1.02C with:

Do not use pesticides.

Replace the 3rd paragraph of section 20-1.02C with:

Do not use rodenticides.

Add to section 20-1.02C:

Do not use herbicides.

Delete the 4th paragraph of section 20-1.03A.

Replace *Reserved* section 20-2.01A(4)(a) with:

Cooperate with Dick's Sporting Goods for POC, field verification, testing and operation of new irrigation system. All irrigation within Dick's Sporting Goods ROW to be served separately the from City of Santa Rosa irrigation system through new private irrigation service from Edwards Ave.

Cooperate with the City of Santa Rosa staff shown below for POC, field verification, testing and operation of new irrigation system. All irrigation within city ROW to be served separately from Dick's Sporting Goods irrigation system through new irrigation service from Edwards Ave.

Scott Wilkinson
Parks Planner
swilkinson@srcity.org
(707)543-3953

Tim Finegan
Parks Crew Supervisor
tfinegan@srcity.org
(707)543-3776

Cooperate with the SRJC staff shown below for POC field verification, testing and operation of new irrigation system.

David Liebman
Energy and Sustainability Manager
707-522-2836
dliebman@santarosa.edu

Hank Lankford
Facilities Operations
707-527-4231
hlankford@santarosa.edu

Replace section 20-2.01B(3) with:

Irrigation components used for recycled water must be manufactured purple. Comply with the requirements of Santa Rosa Junior College for identification of recycled water components, including pipes and drip valve assemblies.

Add to section 20-2.01B(7):

Valve Box Covers located in City of Santa Rosa right-of-way must be:

Item	***Manufacturer / Provider***	***Model***
Valve Boxes	*Carson*	*Site specific*

Add to section 20-2.01C(1):

Cooperate with SRJC for proper installation of new stations in irrigation controller C. SRJC will provide:

1. Nine controller stations
2. Two gate valves
3. Wiring from two controller stations to a gate valve on the west side of the parking lot
4. Wiring from seven controller stations to a gate valve on the east side.
5. As-built plans of SRJC's irrigation system

You make the connections to the two gate valves provided by SRJC.

Add between 1st and 2nd paragraph of section 20-2.02B(1):

Pipe used for backflow preventer assembly manifold must be copper.

Add to the list in the 1st paragraph of section 20-2.02B(2):

4. Be lead free
5. Must not use galvanized fittings.

Add to the item list in the1st paragraph section 20-2.02B(3):

4. Be of green color.

Replace item 1 in the list in the 1st paragraph of section 20-2.02B(4) with:

1. Be hot-dipped galvanized steel

Add to the list in the 1st paragraph of section 20-2.02B(4):

7. Be powder coated by the manufacturer to be black in color.

Add to section 20-2.02B(4) Backflow Preventer Enclosures

Backflow Preventer Enclosures located on City of Santa Rosa right-of-way must be:

Item	*Manufacturer / Provider*	*Model*
1" Flow Sensor	*Irritrol*	*Site specific*

Add to section 20-2.04B:

You may use conductors that are not armor-clad if installed in a conduit.

Conductors located on City of Santa Rosa right-of-way must be:

Item	*Manufacturer / Provider*	*Model*
Conductors	*Paige*	*Direct burial*

Add to section 20-2.05B Materials

Flow sensors located on Santa Rosa Junior College right-of-way must be:

Item	*Manufacturer / Provider*	*Model*
1-1/2" Flow Sensor	*Rain Bird*	*FS-150-P*

Flow sensors located on City of Santa Rosa right-of-way must be:

Item	*Manufacturer / Provider*	*Model*
1" Flow Sensor	*Irritrol*	*Site specific*

Add to the list in the 1st paragraph of section 20-2.06B(2)(a):

17. Be EPA WaterSense® approved.
18. Be capable of communicating with a cell phone
19. Not be installed in enclosure cabinet (wall mounted)

Add to section 20-2.06B(2)(a):

Controllers located on City of Santa Rosa right-of-way must be:

Item	*Manufacturer / Provider*	*Model*
6-station Controller	*Irritrol*	*Rain Master Eagle*

Add after the 1st paragraph of section 20-2.06B(2)(a):

Before the irrigation system functional test begins, furnish 3 remote access devices.

Add to section 20-2.06C:

Install door locks under the manufacturer's instructions. Furnish 2 keys for each door lock before Contract acceptance.

Mount irrigation controller and enclosure securely to structure.

Replace section 20-2.07B(5) with:

20-2.07B(5) PVC Pipe Conduit and Sleeve

PVC Pipe Conduit and PVC Pipe Conduit Sleeve must be class 315.

Replace 4th paragraph of section 20-2.08B(4) with:

Drip irrigation tubing located in Dick's right-of-way must comply with the following requirements:

1. In-line emitters must include 4.3 psi check valve
2. Drip tubing must have a maximum OD of 0.66 inches and a minimum ID of 0.53 inches
3. Emitter flow rate must be 0.4 gph.

Drip irrigation tubing located in Santa Rosa Junior College right-of-way must be:

Item	***Manufacturer / Provider***	***Model***
Non-potable On-Surface Landscape Dripline	*Rain Bird*	*XFS-CV-04-18-NP*

Drip irrigation tubing located in City of Santa Rosa right-of-way must be:

Item	***Manufacturer / Provider***	***Model***
17mm" inline emitter tubing	*Netafim*	*TECHLINE CV*

Replace paragraphs 1 and 2 of section 20-2.08C(3) with:

Install drip irrigation tubing on grade in parallel lines 18 inches on center and under manufacturer's instructions.

Lay out with emitters in alternating pattern.

Pin loosely to soil with heavy duty rounded wire pins every 24 inches. Allow for expansion.

Replace the paragraph of section 20-2.10B(2) with:

Each ball valve must be PVC or chlorinated PVC and must comply with the requirements shown in the following table:

Quality characteristic	Requirement
Nonshock working pressure for 3/4 to 4 inch valves (min, psi)	235
Nonshock working pressure for 6 inch valves (min, psi)	150
Seats	PTFE
O-ring seals	EPDM or fluoroelastomer

Replace *200* in item 2.2 in the list in the 1st paragraph of section 20-2.10B(4) with:

150 mesh.

Replace item 2 in the list in the 1st paragraph of section 20-2.10B(10)(a) with:

2. Be PVC

Add to the list in 1st paragraph of section 20-2.10B(10)(a):

12. Be equipped with a self-flushing feature for recycled water.
13. Not have external tubing.

Add to the end of section 20-2.10B(10)(a):

Each remote control valve must be capable of operating at 0.5 gpm

Replace section 20-2.10B(4) with:

Each drip valve assembly located on Santa Rosa Junior College must be:

Item	***Manufacturer / Provider***	***Model***
Low Flow Drip Control Kit	*Rain Bird*	*XCZ-100-PRF*

Drip valve assemblies located in Santa Rosa Junior College Right-of-Way must include:

1. Unions upstream and downstream
2. Schedule 80 PVC pipes and fittings
3. Recycled water ID handle
4. Recycled water ID tag
5. Valve box with purple lid for recycled water
6. Certificate of conformance with recycled water application

Each drip valve assembly located in City of Santa Rosa Right-of-Way must be:

Item	***Manufacturer / Provider***	***Model***
Low Flow Drip Control Kit	*Toro*	*Site specific*

Drip valve assemblies located in City of Santa Rosa Right-of-Way must include unions upstream and downstream, schedule 80 pipes and fittings, and valve boxes.

Each drip valve assembly located in Dick's Right-of-Way must include:

1. Manual shut-off Ball valve / Isolation valve
2. Remote control valve must operate at flows of 0.10 gpm
3. Filter: 150 mesh stainless steel screen
4. Pressure regulator capable of maintaining a consistent preset outlet pressure of 25 or 40 psi.
5. Unions upstream and downstream
6. Schedule 80 PVC pipes and fittings
7. Valve box

Replace section 20-2.10D with:

Payment for recycled water identification tags in SRCC is included in payment for drip valve assembly (purple recycled water)

Replace item 2 of paragraph 1 of section 20-2.10B(6) with:

Bronze body

Replace section 20-2.10B(7) with:

The pressure regulating valves at the points of connection, on the upstream side of the control valves, must be:

1. Lead free
2. Cast bronze
3. Capable of reducing high inlet pressure to a lower outlet pressure.
4. Of the balanced piston design and shall reduce pressure in both flow and no-flow conditions using an adjusting bolt
5. Using only corrosion-resistant internal parts inside a replaceable cartridge

Add to section 20-2.10B(9):

Each quick coupling valve located in the City of Santa Rosa ROW must be:

Item	*Manufacturer / Provider*	*Model*
1" Brass Quick-Coupling Valve	*Rain Bird*	*44-LRC*

Each quick coupling valve located on Santa Rosa Junior College must be:

Item	*Manufacturer / Provider*	*Model*
1" Brass Quick-Coupling Valve	*Rain Bird*	*44-NP*

Add to section 20-2.10B(10):

20-2.10B(10)(d) Remote Control Valve (Master Valve)

Each master remote control valve must:

1. Be brass
2. Have no minimum flow requirement
3. Provide dirty and recycled water protection
4. Be equipped with a self-flushing feature for recycled water.
5. Have no external tubing.

Replace section 20-2.11B with:

Each wye-strainer assembly must:

1. Be low lead cast bronze
2. Include 20 mesh 300 series stainless steel screen which is accessible for maintenance without removing the device from the line

Replace *Reserved* section 20-2.12:

20-2.12 ADDITIONAL IRRIGATION DRIP ZONE COMPONENTS

20-2.12A General

Irrigation drip zone components include drip zone transition and drip zone flush valve.

20-2.12B Materials

20-2.12B(1) Irrigation Drip Zone Transition

Irrigation drip zone transition to drip zone must include:

1. PVC to PVC Tee fitting
2. Vertical nipple
3. PVC to polyethylene Tee fitting
4. Blank drip tubing
5. Valve box

20-2.12B(2) Irrigation Drip Zone Flush Valve

Irrigation Drip zone flush valve must include:

1. Blank tubing
2. Straight connector
3. Cobra tubing
4. Ball valve / manual shut-off

5. Valve box

20-2.12C Construction

Install drip zone transition and drip zone flush valve as shown.

20-2.12D Payment

Not used.

Replace section 20-2.14 with:

20-2.14 TEMPORARY IRRIGATION SYSTEMS (WATER TRUCK)

20-2.14A General

20-2.14A(1) Summary

Section 20-2.14 includes specifications for landscape irrigation water truck service of existing trees during construction until plant establishment work begins.

20-2.14A(2) Definitions

Not Used

20-2.14A(3) Submittals

Submit an irrigation schedule for authorization.

20-2.14A(4) Quality Assurance

Not Used

20-2.14B MATERIALS

Not Used

20-2.14C CONSTRUCTION

Provide temporary irrigation by water truck for seven existing trees between STA "EE" 18 + 49.00 and STA "EE" 21 + 28.00, and the planting area at the footing of the column located at STA "EE" 15 +28.00.

20-2.14D PAYMENT

Not Used

Add to section 20-3.01A(3)(b):

Some plants required may not be readily available and substitutions may be required. Submit a statement within 30 days after Contract approval of proposed plant substitutions. Do not proceed with plant order until you have received approval of the order, signed by Engineer and Landscape Architect.

Add to section 20-3.01A(3)(c):

Submit pruner's ISA certification.

Add to section 20-3.01B(3)(a):

Soil amendment must be compost. Do not use fertilizers.

Add to section 20-3.01C(2):

Pruning must be performed by ISA certified arborist tree worker per ISA pruning standards and BMPs and meet the following industry standards:

1. American National Standard for Tree Care Operations: Tree, Shrub, and Other Woody Plant Management - Standard Practices parts 1 through 10
2. ANSI Z133.1 safety standards and local regulations.

Notify Engineer 48 hours before pruning operations. Cooperate with City Parks Planner.

Delete 5th paragraph of section 20-3.02C(3)(a).

Add to section 20-3.02C(3)(e):

Do not mow these varieties of native grasses:

1. Deschampsia cespitosa
2. Festuca californica
3. Festuca rubra ‘Molate’
4. Juncus patens
5. Muhlenbergia dubia
6. Muhlenbergia rigens
7. Nasella pulchra

Add to section 20-4.01A:

This project has a Type 2 plant establishment period.

Replace the 1st paragraph of section 20-4.01C(1) with:

Submit the following seasonal watering schedules for use during the plant establishment period:

1. March through May
2. June through August
3. September through October
4. November through February

Submit the first season's watering schedule within 10 days after the start of the plant establishment period. Submit subsequent watering schedules at least 5 business days before start of the next seasonal period. Remote irrigation control system watering schedule must use the remote irrigation control system software program.

Add to the beginning of the 1st paragraph of section 20-4.03A:

Maintain a neat and presentable job site during plant establishment including areas not visible to the public.

Replace the 3rd paragraph of section 20-4.03A with:

Replace the 1st paragraph of section 20-4.03B with:

You are not required to trim or mow turf, sod or biofiltration swale or strip areas.

Add to section 20-4.03D:

Dispose of weeds under section 20-1.03C(4).

Add to section 20-4.03G

During PEP, provide water truck service to irrigate:

1. The three new trees between STA “EE” 19+ 51.00 and 20 + 73.00
2. The planting area at the footing of the column at STA “EE” 15 +28.00
3. The seven existing trees between STA “EE” 18 + 49.00 and STA “EE” 21 + 28.00

Add to section 20-5.02B:

20-5.02B(6) Tree Grates

Tree grates must be:

1. Neenah Metropolitan Collection R-8815-1 or approved equal
2. Cast iron
3. 48” x 72”
4. Rectangular
5. Tree opening size: 18” dia.
6. Slot size: .25’

Do not order tree grate until the submittal has been reviewed and stamped by the Project Architect with a stamp marked “No Exceptions Taken” or “Make Corrections Noted” and returned to you by the Engineer.

Add to section 20-5.02C:

20-5.02C(5) Tree Grates

Install cast iron tree grates per manufacturer's instructions.

1. Excavate tree pit
2. Place wood frame within excavation. Set at proper grade. Make form outside dimension 45.75" x 69.75 for 48' X 72" grate.
3. Assemble the R-8500 Type U tree grate frame using the hardware provided. Tighten the countersunk flathead screws so they are flush or below the bearing surface of the frame.
4. Place frame on wood form. Place both tree grate halves within the frame.
5. Wire the grates, frames and form together. Check and adjust frame alignment and elevation if needed.
6. Install #3 rebar through lugs on frame and support as required. Ensure there is a .1875" spacing between vertical faces of the frame and grate.
7. Pour and finish concrete. Do not remove tree grate or trim alignment wires until concrete has set up.

Add to section 20-5.04C:

Spread tree trimmings mulch evenly over the planting areas in a 4-inch layer.

Replace section 20-5.05 with:

20-5.05 SITE FURNISHINGS

20-5.05A General

20-5.05A(1) Summary

Section 20-5.05 includes specifications for site furnishings including obtaining products, preparing the site for installation, assembling, installing, and testing the products.

20-5.05A(2) Definitions

Not Used

20-5.05A(3) Submittals

At least 30 days before delivery to the job site, submit:

1. Manufacturer's product data sheets, shop drawings and installation instructions
2. Maintenance and cleaning instructions, including spare parts list
3. Certificate of compliance

20-5.05A(4) Quality Assurance

Notify the Engineer at least 5 business days before collapsible bollards are delivered to the job site.

20-5.05B Materials

20-5.05B(1) General

Minor concrete must comply with section 90-2.

Bar reinforcing steel must comply with section 52.

20-5.05B(2) Collapsible Bollard

Collapsible bollard must be one of the following or approved equal:

1. Collapsible bollard is a single post fold-down bollard manufactured by TrafficGuard, Inc.. The collapsible bollard is available from the distributor:

Address	Telephone no.
TRAFFICGUARD, INC. PO Box 201 GENEVA, IL	(877) 727-7347

2. MaxiForce Bollard is a single post fold-down bollard manufactured by MaxiForce Bollards. The collapsible bollard is available from the distributor:

Address	Telephone no.
MaxiForce Bollards 7560 Main Street Sykesville, MD 21784	(410) 552 9888

3. Innoplast Bollard is a single post fold-down bollard manufactured by Innoplast. The collapsible bollard is available from the distributor:

Address	Telephone no.
Innoplast 5718 Transportation Blvd., Garfield Heights, OH 44125	(800) 516-9287

20-5.05C Construction

Mark the location of site furnishings and minor concrete on the ground with spray paint or flagging, as determined by the Engineer, for approval prior to beginning work on that item.

Install site furnishing products per the manufacturer's instructions.

Set site furnishing products true to line and as shown.

20-5.05D Payment

Not Used

Replace section 20-5.06 with:

20-5.06 DECORATIVE BOULDERS

20-5.06A General

20-5.06A(1) Summary

Section 20-5.06 includes specifications for placing decorative boulders.

20-5.06A(2) Definitions

Not Used

20-5.06A(3) Submittals

At least 30 days before delivery to the job site, submit the name, address, and telephone number of the boulder source. Submit digital photographs of the front, back, and side of each boulder.

20-5.06A(4) Quality Assurance

Not Used

20-5.06B Materials

Notify the Engineer at least 5 business days before delivery of the boulders to the job site.

Boulders must:

1. Be clean
2. Obtained from a single source
3. Be the color sand.
4. Be composed of Napa Basalt
5. Not have blast holes.

Boulders must comply with the minimum requirements shown in the following table for each axis measurement:

Size Requirements

Size (feet)	Quantity
2 x 2 x 2	9
3 x 3 x 3	9
4 x 4 x 4	9

Boulders may show surface chipping or scaring if the boulder is placed such that the chipped or scarred areas are not visible.

Anti-graffiti coating must comply with section 78-4.06.

20-5.06C Construction

Mark proposed locations for placement of boulders. Final location and orientation of the boulder, including prevention of suitable seating surfaces, must be authorized at least 5 business days prior to installation. Apply anti-graffiti coating to all exposed surfaces of the boulder. Place surplus excavated material throughout the job site under section 19-2.03B. Compact subgrade under the boulder to not less than 90 percent relative compaction.

Place boulder at an angle such that it is not suitable for seating and is as shown or so that approximately 1/3 of the boulder height is buried below the finished grade. Backfill and tamp remaining soil voids around the boulder until finished grade is level with the surrounding area. If backfill area has settled, refill with additional soil and tamp.

20-5.06D Payment

Not Used

Replace *Reserved* section 20-5.07 with:

20-5.07 STEPPING STONES

20-5.07A General

20-5.07A(1) Summary

Section 20-5.07 includes specifications for placing stepping stones.

20-5.07A(2) Definitions

Not Used

20-5.07A(3) Submittals

At least 30 days before delivery to the job site, submit the name, address, and telephone number of the stepping stone source. Submit digital photographs showing surface, size and thickness.

20-5.07A(4) Quality Assurance

Not Used

20-5.07B Materials

Notify the Engineer at least 5 business days before delivery of the stepping stones to the job site.

Stepping stones must:

1. Be clean
2. Have no sharp edges, or cracks
3. Obtained from a single source
5. Be the color brown beige
6. Be composed of Napa basalt
7. Not have blast holes

Stepping stones must be a minimum of 30” x 30” x 2” thick

Stepping stones may show surface chipping or scarring if the stone is placed with the chipped or scarred face down.

Bedding for stepping stones must be clean washed sand conforming to ASTM C33 with <1% passing 0.080 mm.

20-5.07C Construction

Lay out stones as shown on plan and detail.

Excavate soil to a depth of 6 inches. Allow 1 inch around perimeter of stone.

Fill bottom of excavation with 3-4 inches of bedding sand.

Set stones firmly and level, with surface set at 1 inch above adjacent grade.

Fill perimeter with bedding sand.

Do not use filter fabric or weed cloth.

Ensure that surrounding mulch is kept flush with top of stone.

20-5.07D Payment

Not Used

Replace *Reserved* section 20-5.08 with:

20-5.08 WIRE ROPE TRELLIS SYSTEM

20-5.08A General

Section 20-5.08 include specifications for providing wire rope trellis system.

20-5.08B Materials

Wire rope and standoffs must be marine-grade stainless steel.

Cross clamps must be UV-resistant plastic or metal complying with section 75.

Mounting hardware must comply with section 75.

20-5.08C Construction

Place the anchor bolts in holes filled with a 2-component epoxy mixture complying with the specifications for load bearing applications.

Install wire rope trellis system under manufacturer's instructions.

Replace section 20-10.02C(2) with:

20-10.02C(2) Check and Test Existing Irrigation Facilities

Check and test existing irrigation system facilities that will remain in place or will be relocated before performing clearing and grubbing, earthwork, or other construction activity that will affect the existing irrigation system.

When available, use existing irrigation control software program and flow sensors to conduct the test. Clear obstructions in strainers and filters before conducting tests. The Engineer determines the test watering cycle lengths and controller information to be utilized during the tests.

Check for deficiencies in the existing irrigation systems including:

1. Missing, damaged or malfunctioning irrigation components
2. Leaks on supply line and irrigation components
3. Electrical continuity between irrigation controller and irrigation components
4. Electrical power at the irrigation controller
5. Communication between irrigation controller and remote access devices

Correct deficiencies as ordered. The correction of deficiencies is change order work.

Replace 2nd paragraph of section 20-10.02C(3) with:

Operate existing irrigation facilities within the Dick's right-of-way, except for water meters, underground supply lines, control and neutral conductors, and electrical conduits

Add to section 20-10.03A(1):

Provide a water truck service to irrigate the existing trees to remain during construction.

Provide a water truck service to irrigate the three new trees during PEP along Elliott Avenue on the north side of the project, and the planting area at the footing of the column located in the Caltrans Route 101 ROW at the intersection of Cleveland Avenue and Edwards Avenue.

Add to section 20-10.03A(3):

Submit an irrigation schedule for authorization.

Add to section 20-10.03C(2):

Prune existing tree #35 as shown.

Verify location of existing tree #35 in field.

Prune branch of overhanging travelled way to provide 10’ minimum vertical clearance on tree #35.

Chip wood on-site and spread at a 6-inch depth around tree #35.

Keep chipped wood mulch (tree trimmings) 3 ft from base of tree #35 trunk.

Prune existing trees under section 20-3.01.

Existing trees to remain may require pruning prior to construction. The City Parks Planner will make this determination, as noted in section 14-6.06.

Delete paragraphs 2-5 of section 20-10.03C(4).

Replace last paragraph of section 20-10.03C(4) with:

Water existing plants in Dick’s right-of-way as needed to keep them in a healthy growing condition until contract acceptance.

**^^^

21 EROSION CONTROL

Add to the end of section 21-2.02K:

The particle size must comply with the requirements shown in the following table:

Compost Gradation

Quality characteristic	Test method[a]	Requirement	
		Min	Max
Gradation fine (dry weight % passing): 1-inch sieve 3/8-inch sieve	TMECC 02.02-B	 99 95	 -- --
Gradation medium (dry weight % passing): 2-inch sieve 3/8-inch sieve	TMECC 02.02-B	 95 30	 -- 75
Gradation coarse (dry weight % passing): 2-inch sieve 3/8-inch sieve	TMECC 02.02-B	 95 --	 -- 50

[a]TMECC refers to *Test Methods for the Examination of Composting and Compost*, published by the United States Department of Agriculture and the United States Compost Council (USCC).

Replace the 1st sentence in section 21-2.03I with:

Spread compost evenly over the planting areas in a 3-inch layer.

^^

DIVISION V SURFACINGS AND PAVEMENTS

36 GENERAL

Replace section 36-4 with:

36-4 RESIDUE CONTAINING LEAD FROM PAINT AND THERMOPLASTIC

36-4.01 GENERAL

Section 36-4 includes specifications for performing work involving residue from grinding and cold planing that contains lead from paint and thermoplastic.

36-4.02 MATERIALS

Not Used

36-4.03 CONSTRUCTION

The residue from grinding or cold planing contains lead from paint and thermoplastic. The average lead concentrations are less than 1,000 mg/kg total lead and 5 mg/L soluble lead. This residue:

1. Is a nonhazardous waste
2. Does not contain heavy metals in concentrations that exceed thresholds established by the Health and Safety Code and 22 CA Code of Regs
3. Is not regulated by the Federal Resource Conservation and Recovery Act, 42 USC § 6901 et seq.

Management of this material exposes workers to health hazards that must be addressed in your lead compliance plan.

36-4.04 PAYMENT

Not Used

^^

39 ASPHALT CONCRETE

Replace *Reserved* in section 39-2.02B(3) with:

The grade of asphalt binder for Type A HMA must be PG 64-16.

For Type A HMA using RAP substitution of greater than 15 percent of the aggregate blend, the virgin binder grade must comply with the PG binder grade specified above with 6 degrees C reduction in the upper and lower temperature classification.

For Type A HMA using RAP substitution of 15 percent or less of the aggregate blend, the grade of the virgin binder must comply with the PG binder grade specified above.

^^

DIVISION VI STRUCTURES
48 TEMPORARY STRUCTURES

Add to section 48-2.01C(2):

The review time for shop drawings for specific structures or portions of structures is shown in the following table:

Structure or portion of structure	Total review time
Steel principal span	35 days
Steel pylon	35 days

Replace the 2nd paragraph of section 48-2.01C(2) with:

The falsework shop drawings and calculations must be sealed and signed by the temporary-structure engineer.

Replace the 3rd paragraph of section 48-2.01C(2) with:

Shop drawings and calculations for falsework piles must be signed by an engineer who is registered as a civil engineer in the State.

Add to section 48-2.02B(1):

The falsework design must be in conformance with the current edition of the State of California Department of Transportation Falsework Manual and all permit requirements established for the project.

Replace the 5th paragraph of section 48-2.03C with:

Use camber strips to compensate for falsework deflection, vertical alignment, and anticipated structure deflection. Submit calculations, details, dimensions, and locations for camber strips to be used in constructing the falsework.

^^

49 PILING

Add to section 49-1.03:

Expect difficult pile installation due to the conditions shown in the following table:

Pile location		Conditions
Bridge no.	Support location	
20-0307	All supports	Loose to very dense sands and gravels, caving soils, temporary and permanent casing, high ground water, underground utilities, overhead utilities, noise control, staged construction, and traffic control

Add to section 49-3.02A(3):

49-3.02A(3)(l) Experience Qualifications

At least 15 days before the start of CIDH concrete pile construction, submit as an informational submittal the following experience qualifications in compliance with section 49-3.02A(4)(f):

1. List of CIDH concrete pile installations performed by the drilling contractor. The submittal must include:
   - 1.1. Project description
   - 1.2. Name and phone number of the owner
   - 1.3. CIDH pile plans
   - 1.4. Log of test borings
   - 1.5. Estimated dates of major CIDH pile installation activities
   - 1.6. CIDH pile acceptance testing reports
2. List of on-site foremen and drill rig operators who will perform the CIDH concrete pile work and a summary of each individual's experience. The submittal must include:
   - 2.1. Detailed summary of each individual's experience in CIDH pile excavation operations and placement of assembled reinforcing cages and concrete
   - 2.2. Experience from at least 3 relevant projects, including:
     - 2.2.1. Project Description
     - 2.2.2. Date of work
     - 2.2.3. Actual work performed
     - 2.2.4. Name and phone number of a reference person for each project
   - 2.3. Proof of on-site foremen and drill rig operators experience qualifications

Add to section 49-3.02A(4):

49-3.02A(4)(f) Experience Qualifications

The drilling contractor must have successfully constructed at least 3 separate foundation projects in the last 5 years. The foundation projects must:

1. Have CIDH piles of similar or larger diameter and depth, and installed under similar substructure conditions to this contract
2. Demonstrate experience with drilling fluids and successful construction of CIDH piles under the wet conditions

Each on-site foremen and drill rig operator must have 2 years of experience installing CIDH concrete piles on at least 3 projects. The CIDH pile foundations must be of similar or larger diameter and depth, and installed under similar subsurface conditions to this contract.

On-site foremen experience must be supervising construction of CIDH concrete pile foundations. Indirect supervision of on-site CIDH concrete pile construction operations is not acceptable.

Drill rig operator experience must be in construction of CIDH concrete pile foundations.

Add to section 49-3.02B(6)(c):

The synthetic slurry must be one of the materials shown in the following table:

Material	Manufacturer
SlurryPro CDP	KB INTERNATIONAL LLC 735 BOARD ST STE 209 CHATTANOOGA TN 37402 (423) 266-6964
Super Mud	PDS CO INC 105 W SHARP ST EL DORADO AR 71731 (870) 863-5707
Shore Pac	CETCO 2870 FORBS AVE HOFFMAN ESTATES IL 60192 (800) 527-9948
Terragel or Novagel Polymer	GEO-TECH SERVICES LLC 220 N. ZAPATA HWY STE 11A-449A LAREDO TX 78043 (210) 259-6386
BIG FOOT	MATRIX CONSTRUCTION PRODUCTS 50 S MAIN ST STE 200 NAPERVILLE IL 60540 (877) 591-3137
POLY-BORE	BAROID INDUSTRIAL DRILLING PRODUCTS 3000 N SAM HOUSTON PKWY EAST HOUSTON TX 77032 (877) 379-7412

Use synthetic slurries in compliance with the manufacturer's instructions. Synthetic slurries shown in the above table may not be appropriate for a given job site.

Synthetic slurries must comply with the Department's requirements for synthetic slurries to be included in the above table. The requirements are available from:

OFFICES OF BRIDGE DESIGN
P.O. BOX 168041
MS# 9-4/11G
SACRAMENTO, CA 95816-8041

SlurryPro CDP synthetic slurry must comply with the requirements shown in the following table:

SlurryPro CDP

Quality characteristic	Test method	Requirement
Density: During drilling (pcf) Before final cleaning and immediately before placing concrete (pcf)	Mud weight (density), API RP 13B-1, section 5	 ≤ 67.0[a] ≤ 64.0[a]
Viscosity: During drilling (sec/qt) Before final cleaning and immediately before placing concrete (sec/qt)	Marsh funnel and cup, API RP 13B-1, section 7.2	 50–120 ≤ 70
pH	Glass electrode pH meter or pH paper	6.0–11.5
Sand content, percent by volume: Before final cleaning and immediately before placing concrete (%)	Sand, API RP 13B-1, section 10	 ≤ 1.0

NOTE: Slurry temperature must be at least 40 °F when tested.
[a]If authorized, you may use slurry in a salt water environment. The allowable density of slurry in a salt water environment may be increased by 2 pcf.

Super Mud synthetic slurry must comply with the requirements shown in the following table:

Super Mud

Quality characteristic	Test method	Requirement
Density: During drilling (pcf) Before final cleaning and immediately before placing concrete (pcf)	Mud weight (density), API RP 13B-1, section 5	 ≤ 64.0[a] ≤ 64.0[a]
Viscosity: During drilling (sec/qt) Before final cleaning and immediately before placing concrete (sec/qt)	Marsh funnel and cup, API RP 13B-1, section 7.2	 32–60 ≤ 60
pH	Glass electrode pH meter or pH paper	8.0–10.0
Sand content, percent by volume: Before final cleaning and immediately before placing concrete (%)	Sand, API RP 13B-1, section 10	 ≤ 1.0

NOTE: Slurry temperature must be at least 40 °F when tested.
[a]If authorized, you may use slurry in a salt water environment. The allowable density of slurry in a salt water environment may be increased by 2 pcf.

Shore Pac synthetic slurry must comply with the requirements shown in the following table:

Shore Pac

Quality characteristic	Test method	Requirement
Density: During drilling (pcf) Before final cleaning and immediately before placing concrete (pcf)	Mud weight (density), API RP 13B-1, section 5	 ≤ 64.0[a] ≤ 64.0[a]
Viscosity: During drilling (sec/qt) Before final cleaning and immediately before placing concrete (sec/qt)	Marsh funnel and cup, API RP 13B-1, section 7.2	 33–132 ≤ 118
pH	Glass electrode pH meter or pH paper	8.0–11.0
Sand content, percent by volume: Before final cleaning and immediately before placing concrete (%)	Sand, API RP 13B-1, section 10	 ≤ 1.0

NOTE: Slurry temperature must be at least 40 °F when tested.
[a]If authorized, you may use slurry in a salt water environment. The allowable density of slurry in a salt water environment may be increased by 2 pcf.

Terragel or Novagel Polymer synthetic slurry must comply with the requirements shown in the following table:

Terragel or Novagel Polymer

Quality characteristic	Test method	Requirement
Density: During drilling (pcf) Before final cleaning and immediately before placing concrete (pcf)	Mud weight (density), API RP 13B-1, section 5	 ≤ 67.0[a] ≤ 64.0[a]
Viscosity: During drilling (sec/qt) Before final cleaning and immediately before placing concrete (sec/qt)	Marsh funnel and cup, API RP 13B-1, section 7.2	 45–104 ≤ 104
pH	Glass electrode pH meter or pH paper	6.0–11.5
Sand content, percent by volume: Before final cleaning and immediately before placing concrete (%)	Sand, API RP 13B-1, section 10	 ≤ 1.0

NOTE: Slurry temperature must be at least 40 °F when tested.
[a]If authorized, you may use slurry in a salt water environment. The allowable density of slurry in a salt water environment may be increased by 2 pcf.

BIG-FOOT synthetic slurry must comply with the requirements shown in the following table:

BIG-FOOT

Quality characteristic	Test method	Requirement
Density: During drilling (pcf) Before final cleaning and immediately before placing concrete (pcf)	Mud weight (density), API RP 13B-1, section 5	 ≤ 64.0[a] ≤ 64.0[a]
Viscosity: During drilling (sec/qt) Before final cleaning and immediately before placing concrete (sec/qt)	Marsh funnel and cup, API RP 13B-1, section 7.2	 30–125 55–114
pH	Glass electrode pH meter or pH paper	8.5–10.5
Sand content, percent by volume: Before final cleaning and immediately before placing concrete (%)	Sand, API RP 13B-1, section 10	 ≤ 1.0

NOTE: Slurry temperature must be at least 40 °F when tested.
[a]If authorized, you may use slurry in a salt water environment. The allowable density of slurry in a salt water environment may be increased by 2 pcf.

POLY-BORE synthetic slurry must comply with the requirements shown in the following table:

POLY-BORE

Quality characteristic	Test method	Requirement
Density: During drilling (pcf) Before final cleaning and immediately before placing concrete (pcf)	Mud weight (density), API RP 13B-1, section 5	 62.8–65.8[a] 62.8–64.0[a]
Viscosity: During drilling (sec/qt) Before final cleaning and immediately before placing concrete (sec/qt)	Marsh funnel and cup, API RP 13B-1, section 7.2	 50–80 50–80
pH	Glass electrode pH meter or pH paper	7.0–10.0
Sand content, percent by volume: Before final cleaning and immediately before placing concrete (%)	Sand, API RP 13B-1, section 10	 ≤ 1.0

NOTE: Slurry temperature must be at least 40 °F when tested.
[a]If authorized, you may use slurry in a salt water environment. The allowable density of slurry in a salt water environment may be increased by 2 pcf.

Replace the 1st paragraph of section 49-3.02C(7) with:

Section 49-3.02C(7) applies to CIDH concrete piles if an optional construction joint is shown and you choose to construct the optional construction joint.

Replace item 5 in the list in the 2nd paragraph of section 49-3.02C(7) with:

5. Be corrugated metal pipe and placed in a drilled hole. Casings placed in a drilled hole must comply with section 49-3.02C(6).

^^

51 CONCRETE STRUCTURES

Add to section 51-1.01A:

The concrete at concrete pavement (pavement treatment 3) must be integrally pigmented colored concrete. The color must match color no. Davis 'Pewter' 860 (www.daviscolors.com) to match existing Santa Rosa Community College paths.

Precast mortar blocks used to hold reinforcement in position in integrally pigmented colored concrete must be fabricated using the same integrally pigmented colored concrete.

The portions of the bridges shown in the following table must be constructed as mass concrete under section 51-6:

Bridge name and number	Portion of bridge
Edwards Avenue POC Br. No. 20-0307	Bent 7 pile cap; Bent 8 pile cap; Bent 8 column

Add to section 51-1.01C(1):

If the methacrylate crack treatment is applied to a bridge deck within 100 feet of a residence, business, or public space, submit a public safety plan. Include with the submittal:

1. Copy of public notification letter with a list of delivery addresses and posting locations. The letter must describe the work to be performed and state the treatment work locations, dates, and times. Deliver copies of the letter to residences and businesses within 100 feet of the treatment work and to local fire and police officials, at least 7 days before starting treatment activities. Post a copy of the letter at the job site.
2. Airborne emissions monitoring plan. Plan must include monitoring point locations. A CIH certified in comprehensive practice by the American Board of Industrial Hygiene must prepare and execute the plan.
3. Action plan for protecting the public if levels of airborne emissions exceed permissible levels.
4. Copy of the CIH's certification.

After completing methacrylate crack treatment activities, submit results from monitoring production airborne emissions as an informational submittal.

Submit 3 copies of shop drawings for forms for the column at Bent 8. Include in the submittal:

1. Layout plan
2. Cross section views of the top and bottom of column and at least 3 intermediate cross sections along the height of the column with geometric dimensions for each
3. Grade of steel, if steel forms are used
4. Physical and section properties of members
5. Method of support and adjustment to the geometry, slope, and location
6. Methods of sealing against grout leaks

Replace the 2nd paragraph of section 51-1.01C(1) with:

Submit a deck placement plan for concrete bridge decks. Include in the placement plan your method and equipment for ensuring that the concrete bridge deck is kept damp by misting immediately after finishing the concrete surface.

Add to section 51-1.01C:

51-1.01C(8) Cast-in-Place Concrete Bollards

Shop drawings for cast-in-place concrete bollards at seat wall ends must show anchor bolts, surface light mounting and conduit.

Replace section 51-1.01D(1) with:

51-1.01D(1) General

The job site must have at least 4 airborne emissions monitoring points, including the mixing point, application point, and point of nearest public contact. Monitor airborne emissions during methacrylate crack treatment activities.

Add to section 51-1.01D(2):

51-1.01D(2)(d) Test Section

Construct test sections of each seat wall condition, retaining wall at bent 8, and variable height retaining wall. Test sections must:

1. Be constructed at an authorized location
2. Be at least 4 feet long
3. Include lighting
3. Be constructed and finished using the personnel, materials, equipment, and methods to be used in the work
4. Be authorized before starting work

The Engineer may request that additional test sections be constructed until the specified finish and texture are attained.

The Engineer uses the authorized test section to determine acceptability of the work.

Replace the 1st sentence of the 1st paragraph of section 51-1.01D(3)(b)(ii) with:

Test the surface smoothness of the following in the presence of the Engineer:

The 2nd paragraph of section 51-1.01D(3)(b)(ii) is deleted.

Add to section 51-1.02B:

Aggregate for structural concrete bridge (polymer fiber) must be the 1/2-inch combined aggregate gradation complying with section 90-1.02C(4)(d).

Aggregate for the columns at Bent 7 and Bent 8 must be the 1/2-inch combined aggregate gradation complying with section 90-1.02C(4)(d).

Add to section 51-1.03C(2)(a):

Construct concrete reveals at locations shown on the plans. Attach formed inserts so as to produce smooth, straight recesses with sharp edges into the concrete per the dimensions shown.

Add to the list in the 2nd paragraph of section 51-1.03F(3):

9. Undersurface of superstructure

Replace the 2nd paragraph of section 51-1.03F(6) with:

Set deck elevation control points for use in establishing the grade and cross section of the deck surface. The grade established by the deck elevation control points includes all camber allowances. Except for landings, elevation control points include the beginning and end of the ramp and must not be farther apart than approximately 8 feet longitudinally and 4 feet transversely to the POC centerline. Landing elevation control points must be at the beginning and end of the landing.

Add to section 51-1.03G(1):

Concrete surface texture A must simulate vertical running wood board pattern with irregular widths and alternating forward-and-behind appearance similar to form no. 2/25 Eder by Reckli (www.reckli.com). Board widths must vary from 2.3 inches to 4.3 inches. Differential between faces of forward-and-behind boards must be no more than 0.25-inch.

Add to section 51-1.03G:

51-1.03G(3) Concrete Surface Texture B

Section 51-1.03G(3) includes specifications for finishing seat walls, bollards, and retaining walls shown as receiving concrete surface texture B. Concrete surface texture B must be smooth and have consistent color, without irregularities in texture.

Forms must not impart any pattern to concrete.

Align pour joints with reveals, rustication joints, or control joints.

Patching mortar mixture must be made of the same materials and of approximately the same proportions as used for the concrete, except that the coarse aggregate must be omitted and the mortar must consist of one part cement to not more than two and one-half parts sand by damp loose volume. Use no more mixing water than necessary for handling and placing. Mix the patching mortar in advance and allow it to stand, with manipulating frequently with a trowel, without addition of water, until it has reached the stiffest consistency that permits placing.

Repair and patch defective areas with cement mortar immediately after removing forms, to allow patches and surrounding concrete to age together and reduce the possibility of color variation.

Make patches with materials from the same sources as the concrete. Add enough color to create the same color/cement mix rate used on the job.

Cut out honeycombs, rock pockets, voids over 1/4-inch in any dimension, and holes left by tie rods and bolts down to solid concrete but in no case to a depth less than 1 inch. Make edges of cuts perpendicular to the concrete surface. Thoroughly clean, dampen with water, and brush-coat the area to be patched with bonding agent. Place patching mortar before bonding agent has dried.

Remove and replace concrete having defective surfaces if defects cannot be repaired to satisfaction of the Engineer. Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning. Flush out form tie holes and fill with dry-pack mortar or precast cement cone plugs secured in place with bonding agent.

Repair isolated random cracks and single holes 1 inch or less in diameter by dry-pack method. Groove top of cracks and cut out holes to sound concrete and clean of dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding compound. Place dry-pack before bonding agent has dried. Compact dry-pack mixture in place and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.

Repair methods not specified above may be used, subject to acceptance of the Engineer.

Add to section 51-3.03B(2):

Except for stainless steel surfaces, clean and paint metal bearing surfaces after fabrication under the specifications for new structural steel in section 59-2. SSPC-QP 1, SSPC-QP 2, and AISC-420-10/SSPC-QP 3 certifications are not required.

Add to the list in the 1st paragraph of section 51-6.01C:

9. Methods and equipment for determining:
   9.1. Theoretical volume of concrete to be placed
   9.2. Actual volume of concrete placed if different from theoretical due to forming system or other factors

10. Concrete sequence and placement plan
11. If cooling pipes are required, methods for ensuring the cooling pipes remain straight, undamaged, and properly aligned during concrete placement
12. Concrete batching, delivery, and placing systems, including time schedules and capacities. Time schedules must include the time required for each concrete placing operation
13. Concrete placing rate calculations.

Add to section 51-7.03:

Cast-in-place concrete bollards at seat wall ends must have surface texture B.

Coordinate installation of cast-in-place bollards with lighting installation.

Add to section 51-7.04:

Cast-in-place concrete bollards at seat wall ends will be measured and paid for as concrete seat wall (minor structure).

Variable height concrete retaining wall will be measured and paid as concrete seat wall (minor structure).

**^^^

52 REINFORCEMENT

Replace section 52-1.01C(1) with:

52-1.01C(1) General

Before handling or installing column or pile bar reinforcing steel cages at a location closer than the length of the reinforcing steel cage being handled or installed to any of the following locations, submit a work plan of the measures to be used to provide for the safety of traffic, property, and the public:

1. Public parking
2. Residential property
3. Commercial property
4. The edge of a traveled way open to public use

Add to section 52-1.01C(2):

Submit shop drawings and design calculations for a temporary support system for the bar reinforcing steel assemblage and anchorage at Bent 8 column and pylon pedestal.

Replace the 2nd paragraph of section 52-1.01C(3) with:

Submit the following:

1. Copy of the certified mill test report for each heat and size of reinforcing steel showing:
   1.1 Physical and chemical analysis
   1.2 Manufacturing location
2. Two copies of shop drawings of all reinforcement before starting reinforcement fabrication.
3. Allow 30 days for the review.

Add to section 52-1.01C:

52-1.01C(4) Grade 80 Reinforcement Test Samples

For each heat and size of Grade 80 reinforcing steel, submit one test sample per 40,000 lbs or fraction thereof.

Submit Department acceptance test samples to METS.

Include copies of certificates of compliance with the test samples.

Replace section 52-1.01D with:

52-1.01D Quality Assurance

52-1.01D(1) General

Not Used

52-1.01D(2) Grade 80 Reinforcement Test Samples

Grade 80 reinforcement Department acceptance test samples must be a minimum length of 6.5 feet of bar reinforcing steel for each bar size. A test sample consists of 2 bars.

Before transporting test samples to METS:

1. Securely bundle and package the test samples for each test in a way that preserves their condition during transportation
2. Identify each test sample by heat number and Contract number using weatherproof markings
3. Attach a completed Sample Identification Card to each bundle

If a sample shows signs of tampering before testing, the sample is rejected.

Add between the 1st and 2nd paragraphs of section 52-1.02B:

Where Grade 80 reinforcement is shown, reinforcing bars must be deformed bars complying with ASTM A706/A706M, Grade 80, including S1 supplementary requirements.

Add to the end of section 52-1.03C:

Do not bend Grade 80 reinforcement larger than no. 14.

Add to section 52-6.01A:

Weldable mechanical couplers must be service splices.

You must design the welded connection of weldable mechanical coupler to face plate.

For Grade 80 reinforcement, reinforcing bar splices must be lap splices.

Add to section 52-6.01C:

52-6.01C(7) Weldable Mechanical Coupler Shop Drawings

Submit shop drawings with supporting calculations for design of welded connection of weldable mechanical coupler to face plate.

Shop drawings and calculations must be signed by an engineer who is registered as a civil engineer in the State.

The shop drawings must include:

1. Sequence of shop and field assembly and erection.
2. Welding sequences and procedures.
3. Layout drawing of the face plate with locations of welded mechanical couplers.
4. Locations of temporary supports and welds.
6. Match-marking diagrams.
7. Details for connections not shown or dimensioned on the plans.
8. Details of allowed options incorporated into the work.
9. Dimensional tolerances. Include measures for controlling accumulated error to meet overall tolerances.
10. Material specification and grade listed on the bill of materials.
11. Identification of tension members and fracture critical members.
12. Proposed deviations from plans, specifications, or previously submitted shop drawings.
13. Contract plan sheet references for details.

Add to section 52-6.01D(2)(c):

Welding of weldable mechanical couplers must comply with AWS D1.5.

Before performing any welds for weldable mechanical couplers, qualify welders and welding procedures under AWS D1.5.

Add to section 52-6.01D(3)(a):

Test samples for weldable mechanical couplers must include a plate of the same thickness and material as the face plate used in the work, welded to the coupler using the same weld size and profile, operators, location, equipment, and procedures used in the work. The dimensions of the plate must be sufficient for performing QC testing for the weldable mechanical couplers.

Add to section 52-6.01D(4)(b)(i):

QC testing for weldable mechanical couplers includes total slip testing, service splice testing, and testing the tensile strength of the welded connection to the face plate.

Add to section 52-6.01D(4)(b)(iii):

In addition to NDT requirements in AWS D1.5, ultrasonically test weldable mechanical coupler welded connections as follows:

1. Before tensile testing the weldable mechanical coupler test samples
2. On 25 percent of weldable mechanical couplers from a production lot

The Engineer determines the location of all NDT testing for welding of weldable mechanical couplers.

Replace the 1st sentence in the 3rd paragraph of section 52-6.02B(1) with:

Except for weldable mechanical couplers, mechanical couplers must be on the Authorized Material List for steel reinforcing couplers.

Add to section 52-6.02B(1):

Weldable mechanical couplers must be internally taper threaded on one end, with the other end prepared for welding to face plate.

Weldable mechanical couplers must be manufactured from a weldable grade of steel.

Add to section 52-6.02B(2):

Design welded connections of weldable mechanical couplers under *AASHTO LRFD Bridge Design Specifications, Eighth Edition with California Amendments*.

Welded connections of weldable mechanical couplers must develop a minimum tensile strength of the connected reinforcement of 80,000 psi.

Add between the 3rd and 4th paragraphs of section 52-6.03B:

For Grade 80 uncoated and galvanized reinforcing bars complying with ASTM A706/A706M, ASTM A1035/A1035M, or ASTM A767/A767M, the length of lap splices must be at least:

1. 55 diameters of the smaller bar spliced for reinforcing bars no. 8 or smaller
2. 80 diameters of the smaller bar spliced for reinforcing bars nos. 9, 10, and 11

Add to section 52-6.03C(2):

Welding for weldable mechanical couplers must comply with AWS D1.5 and section 55-1.02E(7).

^^

55 STEEL STRUCTURES

Add to list in 2nd paragraph of section 55-1.01C(2):

16. Identification of grinding, finish, and profile of welds for members that must receive alternative grinding and finishing under section 55-1.02E(10)
17. Indication of orientation of HSS seams and mill marks for members where applicable.
18. Treatment of exposed edges for members that must receive alternative finishing under section 55-1.02E(10)
19. Special tolerances and erection requirements shown or specified.

Add to the list in the 1st paragraph of section 55-1.01C(3):

4. Gusset plates at HSS stringers
5. Soffit plates
6. Chord plates
7. Plates identified as fracture critical members
8. Cable connection plates of backstay anchor assemblies

Add to section 55-1.01D(3)(a):

Anchor bolts and HS nonheaded anchor bolts must be tested full size complying with ASTM F1554.

Add to section 55-1.01D(3):

55-1.01D(3)(d) Steel Superstructure Mock-Up

Section 55-1.01D(3)(d) includes requirements for construction of steel deck mock-up.

Construct and finish steel superstructure mock-up to the level of detail, craftsmanship, and finish quality specified for final construction, including installation techniques; special grinding, tolerance, and finishing under section 55-1.02E(10); surface finishes; alignment; and overall appearance.

The mock-up must include the following at minimum:

1. Standard eased edges
2. Edges eased to 1/8” smooth radius
3. Continuous fillet weld ground to consistent radius
4. Weld contoured and ground smooth to match adjacent surface
5. Coating under section 59

Notify the Engineer 48 hours before the mock-up is ready for inspection. The mock-up must be authorized before fabrication of steel bridge deck. Deficiencies or deviations must be corrected before the mock-up is authorized.

Do not proceed with steel superstructure fabrication until mock-up authorization is signed by Engineer and Project Architect.

The authorized mock-up is the standard of comparison in determining the acceptability of the steel superstructure fabrication and finishing. Discrepancies in finish quality, materials, or workmanship, and inconsistencies between final construction and the authorized mock-up must be corrected.

The authorized mock-up must remain at the shop during fabrication and at the job site during construction, and be available for comparison until its disposal is authorized.

When authorized, transport the mock-up from shop to field.

Replace 2nd Table in section 55-1.02D(1) with:

Fasteners

Material	Specification
Steel fastener components for general applications:	
Bolts and studs	ASTM A307
Anchor bolts	ASTM F1554, Grade 55, Class 2A [a]
HS bolts and studs	ASTM A449, Type 1 [a]
HS threaded steel rods	ASTM A722, including supplementary requirements [a]
HS nonheaded anchor bolts	ASTM F1554, Grade 105, Class 2A [a]
Nuts	ASTM A563, including appendix X1 [b]
Washers	ASTM F844
Hardened washers	ASTM F436, Type 1, including S1 supplementary requirements
Components of HS steel fastener assemblies for use in structural steel joints:	
Bolts	ASTM F3125, Grade A325, Type 3
Tension control bolts	ASTM F3125, Grade F2280, Type 3
Nuts	ASTM A563, including appendix X1
Hardened washers	ASTM F436, Type 3, Circular, including S1 supplementary requirements
Direct tension indicators	ASTM F959, Type 325-3

[a]Use hardened washers.

[b]Zinc-coated nuts tightened beyond snug or wrench tight must be furnished with a dry lubricant complying with supplementary requirement S2 in ASTM A563.

Add to section 55-1.02D(1):

Nuts for HS threaded steel rods must comply with section 50-1.02H and the 1st paragraph of section 50-1.03B(2)(c).

Blast clean weathering steel surfaces to be painted under SSPC-SP10/NACE no. 2. After blast cleaning, surfaces must have a dense, uniform, angular anchor pattern of 1.5 to 3.5 mils when measured under ASTM D4417.

Add to section 55-1.02D(2):

Steel for fracture critical members must:

1. Comply with welding and welding inspection in "AASHTO/AWS Fracture Control Plan (FCP) for Non-Redundant Members" of AWS D1.5
2. Be produced by a fabricator certified under *AISC Certification Program for Steel Bridge Fabricators, Intermediate Bridges with Fracture-Critical Members*

CVN tests for square and rectangular HSS must be performed in the L-T direction per ASTM E1823 at the mid-thickness.

Replace the introductory clause of the 1st paragraph of section 55-1.02D(6) with:

Except for stay cable assemblies, you may use unidentified stock material on non-fracture critical members if:

Replace the 2nd paragraph of section 55-1.02E(1) with:

Cut and fabricate steel plates such that the primary direction of rolling is parallel to the direction of the main tensile or compressive stress in the member.

Add to section 55-1.02E(1):

Unless otherwise specified, mill tolerances for member straightness, camber, and sweep must be one-half of that specified in ASTM A6/A6M.

Mill tolerances for HSS must comply with ASTM A1085.

Mill tolerances for steel pipe must conform to ASTM A53.

Where shown or described, perform special weld, surface, and edge grinding and finishing under section 55-1.02E(10).

Replace the paragraphs of section 55-1.02E(5) with:

Pins must:

1. Be straight, smooth, and free from flaws
2. Have the final surface produced by a finishing cut

Holes for pins must be:

1. True to the diameter specified.
2. At right angles to the member axis
3. Parallel with each other except for pins where nonparallel holes are required.
4. Smooth and straight with the final surface produced by a finishing cut.

Coat machined surfaces of pins and holes with an easily removed rust inhibitor.

The distance between holes for pins must not vary by more than 1/32 inch from that shown when measured outside-to-outside for tension members and inside-to-inside for compression members.

The diameter of holes for pins must be determined by the cable supplier but must not exceed the pin diameter by more than 1/16 inch.

Use pilot and driving nuts for driving pins. Drive pins such that the members will bear fully on them. For field assembly use a positive locking device to tighten and secure pin nuts and screwed pin caps.

Replace section 55-1.02E(7)(b) with:

55-1.02E(7)(b) Backing for Welds

For welds subject to computed stresses, backing for welds that is left in place in the completed structure must be (1) a single length and (2) the same material as the structural steel being welded.

Single length backing may be either a continuous strip or multiple lengths joined by complete joint penetration butt welds before being installed as backing.

Butt welds in backing material are subject to the same type and frequency of testing as specified for the type of joint in the material being joined. Grind butt welds in backing material flush as necessary to obtain proper inspection and fit-up in the welded joint where backing is used.

Add to section 55-1.02E(9):

Preassemble steel box segments of at least 3 abutting segments, with segments as shown on the Bridge Erection Sequence sheets of the plans, and adjust to line and camber, check for bolt fit and alignment with abutting field spliced members, and prepare for welding before delivery to job site. Drill or ream holes for field connections during preassembly. For holes previously drilled full size, check holes for bolt fit.

Verify steel pylon alignment, camber, and optional field splice fit-up before delivery to job site.

Add to section 55-1.02E:

55-1.02E(10) Special Grinding, Tolerance, and Finishing

Section 55-1.02E(10) applies where described in this section and where plans show special grinding, tolerance, or finishing. Grinding, tolerance, and finishing must match authorized samples.

Orient HSS seams as shown.

Tolerance of misalignment of the abutting soffit plates must be one-half of that specified in AWS D1.5M/D1.5. Measurement of soffit plate offset must be based on the exterior face of the soffit plates.

The matching of abutting chord plates and deck edge plates is required.

For curved steel soffit plates, the variation from the theoretical curvature measured at the middle ordinate must be plus or minus 1/8 inch. The middle ordinate is measured at the centerline of the bridge.

Only where shown, grind smooth and fill welds uniform and continuous to provide smooth transitions to the connected surfaces.

Only where shown, smooth continuous fillet welds to a consistent quarter-circle radius.

If a weld shown as receiving a special grind, tolerance or finish must be repaired, the repair must also receive the same special grind, tolerance, or finish to match.

Remove exposed blemishes or unsightly surfaces resulting from temporary braces or fixtures.

Remove weld spatter, slivers, and similar surface discontinuities on exposed surfaces.

Only where shown, grind exposed butt and plug welds smooth and flush with adjacent surfaces.

A concave contoured weld profile is not allowed.

Exposed fillet welds must be uniform in size and profile.

Add to section 55-1.03A:

Upon delivery, inspect members for twists, kinks, gouges, or other imperfections. Obtain Engineer's authorization for remedial action.

Handle, lift and align pieces using nylon straps or chains with softeners required to maintain the appearance of the special grinding, tolerance and finishing through the process of erection.

Where shown or described, perform special weld, surface, and edge grinding and finishing under section 55-1.02E(10).

Add to section 55-1.04:

Payment for mock-up assembly constructed and finished under section 55-1.01D(3)(d) is included in payment for structural steel (bridge) and will not be measured.

55-2 STEEL PRINCIPAL SPAN STRUCTURE

55-2.01 GENERAL

55-2.01A Summary

Section 55-2 includes specifications for constructing the steel principal span structure.

PTFE spherical bearings must comply with section 51-3.03.

Design and construct falsework for steel pylon and steel principal span under section 48-2.

Non-shrink grout must comply with section 97.

55-2.01B Definitions

Reserved

55-2.01C Submittals

Submit the daily report for stay cable assembly installation activities as an informational submittal after each day of stay cable assembly installation activities.

55-2.01C(1) Shop Drawings

In addition to the listed items that must be included in shop drawings in section 55-1.01C(2), include:

1. Sequence of shop assembly and erection for steel pylon and steel principal span to demonstrate accurate fit up and geometry. Include proposed steel erection procedures with calculations that show steel pylon and steel principal span capacity and geometry, including alignment of steel soffit plates, web plates, and chord plates, will be correct.
2. Details of the assembly of bolted splices as shown.
3. Details, means, and methods of adjusting the superstructure segments for alignment and fit up during erection.
4. Vertical and horizontal alignment of steel pylon and steel principal span at each stage of erection.
5. Means, methods, and equipment used for ensuring the stability of the steel pylon and steel principal span during all phases of construction.
6. Direction of rolling of plates where orientation is specified.
7. Details, means, and methods of adjusting plumbness in the steel pylon.

Submit shop drawings and design calculations for the temporary facilities used to protect the public as specified in section 7-1.04. Include temporary facilities used during stay cable installation operations and all other construction operations requiring protection of the public. Calculations must include dead and live loads used in the design.

55-2.01C(2) Bridge Construction Staging and Erection Plan

Submit a bridge construction staging and erection plan which must include the following at a minimum:

1. Plan showing the location of all roadways, utilities, trees, obstructions, and other appurtenances in areas to be used to fabricate and erect structural steel. Plan must show the as-constructed structure at the time of erection, including bent columns and foundations.
2. Rights-of-way and property lines.
3. Structure staging areas.
4. Complete equipment positioning and storage plan describing construction methods that utilize equipment and warning devices, horizontal and vertical positioning of equipment during construction, operating radii, and equipment storage.
5. The limits of the potential crane influence area, taken as circular areas with radii matching the boom length and radius points located at the boom pivot point.
6. The type, size and arrangements of slings, shackles, and other lifting and connecting devices, including related technical data.
7. Lifting equipment information, including rating data. Information must include counterweights to be used and boom capability. The manufacturer’s rated capacity of the crane and all lifting and connecting devices must be adequate for the total pick load including spreaders and other material.
8. Crane capacity rating charts. The rated capacity of all lifting and connecting devices and the anticipated factors of safety must be clearly shown.
9. Details and locations of proposed foundations, pads, and cribbing for support of outrigger loading.
10. Locations of all utilities and piping in the areas of crane operations and details and methods of how to protect utilities and piping in place.
11. Proposed dates and the hours of operation for fabrication and staging work.
12. The vertical and horizontal geometry of the steel pylon and steel principal span at each stage of erection.
13. Order of lifts, repositioning of equipment and counterweights, and location and method of attaching deadman anchors as required.
14. Detailed description of the methods and equipment, including field use and calibration procedures, that will be used to conduct geometry control and measure deflections at all stages of erection. Indicate how adjustments to geometry and displacements will be made.

15. Stresses caused by the proposed erection procedure. Include descriptive data and design calculations to illustrate the erection, transportation, and handling procedures, including sequence of erection and transfer of loads as applicable.
16. Drawings showing details of required temporary structures, staying, and bracing. Include methods and materials for temporary structures or the strengthening or bracing of a member for erection purposes.
17. Sequence of members installed and how each member will be affixed to the whole. Include structural steel and concrete members. Include details of bolting the web plate splice plates and welding steel members at field splice locations.
18. Details, means, and methods of adjusting the steel box segments for alignment and fit up.
19. Bracing and stability calculations for each structural segment as it is installed and how it affects the whole at that stage of assembly.
20. Stay cable installation work plan under section 55-2.01C(2)(a).
21. Personnel list with history of typical similar tasks performed.
22. A Fabrication and Erection Safety Plan that outlines the measures and procedures that will be employed to provide for the safety of workers, inspectors, and job site personnel, and utility facilities and operations. Include how the proposed fabrication and erection sequence will operate in and around any utilities in the area to meet all safety orders and requirements.

Bridge construction staging and erection plan must be signed and sealed by an engineer who is registered as a civil engineer in the State.

Allow 45 days for the Department's review of the bridge construction staging and erection plan.

Bridge construction staging and erection plan must be authorized before delivery of steel pylon and steel principal span to job site.

55-2.01C(2)(a) Stay Cable Installation Work Plan

Submit a stay cable installation work plan. Include details and substantiating calculations for the following:

1. Installation sequence of each individual stay cable assembly
2. Stressing sequence of each individual stay cable assembly
3. Falsework for steel pylon and steel principal span
4. Locations where work is performed over traffic or utilities
5. Locations and types of temporary facilities used to protect the public
6. Protection of people, property, utilities, and improvements
7. Methods for preventing material, equipment, and debris from falling onto traffic
8. Specifications, details, and exact locations of the stay cable assembly erection and stressing equipment
9. Methods to apply stressing forces to the stay cable assemblies
10. Jacking stresses on supporting members
11. Cable elongation calculations
12. Methods to verify correct alignment of stay cable assemblies
13. Details, means, and methods of adjusting alignment of stay cable assemblies
14. Methods to remove twist of stay cable assemblies
15. Detailed description of the methods and equipment that will be used to measure stay cable assembly tension values
16. All other data pertaining to the stressing operations.

Stay cable installation work plan must be (1) accompanied by substantiating calculations and (2) signed by an engineer who is registered as a civil engineer in the State.

Calculations for stay cable installation work plan must demonstrate the strength and stability of the structure during each stage of stay cable installation, including stressing of stay cable assemblies. Calculations must include:

1. Stresses and deflections in steel pylon after each individual stay cable assembly is stressed.
2. Stresses and deflections in pylon falsework members after each individual stay cable assembly is stressed.

Design pylon falsework under section 48-2.

If the stay cable assembly installation or stressing sequence deviates substantially from that shown on the plans, additional analysis may be required by the Engineer at your expense to ensure that the stresses and deformations caused by this alternate construction sequence will not jeopardize the future load carrying capacity of the structure. If the results of the analysis indicate that the stresses or deformations would not meet the project design criteria, you must modify the alternate construction sequence plan until acceptable results are obtained.

If an unplanned event occurs or the stay cable assembly installation activities deviate from the authorized work plan, immediately submit procedures proposed to correct or remedy this occurrence. The procedures must be signed by an engineer who is registered as a civil engineer in the State.

Allow 30 days for the Department's review of the stay cable installation work plan.

55-2.01C(3) Record of Stay Cable Stresses

Prepare a daily report for stay cable assembly installation activities. The daily report must include:

1. Description of stay cable installation activities for each day.
2. Measured tension values of each stay cable that is stressed (1) before starting stressing operations and (2) after completion of stressing operations.
3. Measured elongation values of each stay cable that is stressed.

55-2.01C(4) Steel Pylon Location Surveys

Before starting stay cable installation operations, submit 2 copies of the initial steel pylon location survey. The initial steel pylon survey must include:

1. Elevations at the top of pylon base plate at:
   1.1. Both edges of base plate along the pylon layout line.
   1.2. All angle points.
2. Elevations at the exterior face of the curved front plate at the centerline of pylon at:
   2.1. The points normal to pylon working points P1, P3, and P7.
3. Angles from vertical measured along the exterior face of the curved front plate at the centerline of pylon from the top of pylon base plate to:
   3.1. The point normal to pylon working point P1. Angles must be measured parallel and perpendicular to pylon layout line bearing.
   3.2. The point normal to pylon working point P7. Angles must be measured parallel and perpendicular to pylon layout line bearing.

Submit a steel pylon location survey after completion of each step of cable stressing operations, with steps defined as shown on the Stay Cable Data sheet of the plans. Steel pylon surveys must include:

1. Elevations at the exterior face of the curved front plate at the centerline of pylon at:
   1.1. The points normal to pylon working points P1, P3, and P7.
2. Angles from vertical measured along the exterior face of the curved front plate at the centerline of pylon from the top of pylon base plate to:
   2.1. The point normal to pylon working point P1. Angles must be measured parallel and perpendicular to pylon layout line bearing.
   2.2. The point normal to pylon working point P7. Angles must be measured parallel and perpendicular to pylon layout line bearing.

After completion of Forestay Stressing - Step 4, as shown on Stay Cable Data sheet of the plans, include in the steel pylon location survey:

1. Elevations at the top of pylon base plate at:
   1.1. Both edges of base plate along the pylon layout line.
   1.2. All angle points.
2. Target elevations and angles for all survey points as shown on the plans.

3. Procedures proposed to correct or remedy any deviation in the elevations and angles from the target elevations and angles shown on the plans. Proposed procedures must be signed by an engineer who is registered as a civil engineer in the State.

Allow 5 days for review of steel pylon location survey submitted after Forestay Stressing – Step 4 and proposed procedures to correct or remedy any deviations of the pylon.

Surveys must be performed before sunrise.

Surveys must be sealed and signed by one of the following:

1. Land surveyor licensed in the State
2. Engineer who is registered as a civil engineer in the State

55-2.01D Quality Assurance

55-2.01D(1) General

Reserved

55-2.01D(2) Qualifications

Fabricator performing the fabrication of the pylon and steel principal span must hold current Certified Bridge Fabricator-Advanced (ABR) certification for steel fabricators.

Erectors performing the erection of the pylon and steel principal span must hold current CSE certification with a bridge endorsement for steel erectors.

55-2.01D(3) Quality Control

The engineer signing the stay cable installation work plan must be present at all times during stay cable installation activities.

55-2.01E Materials

55-2.01E(1) General

Reserved

55-2.01F Fabrication

55-2.01F(1) General

The as-fabricated straightness tolerance of the steel superstructure and steel pylon must be one-half of that specified in ASTM A6/A6M.

55-2.01G Construction

55-2.01G(1) General

Prestress HS threaded steel rods shown as prestressing steel under section 50.

55-2.01G(2) Erection

Cables must be restrained from displacing further than 5 feet horizontally from the final projected plan location of the stay cable assemblies if an unplanned event occurs or the erection equipment releases stay cable assemblies before they are connected to the structure.

Steel pylon must be stabilized with falsework, temporary braces, or holding cranes to maintain the geometry specified in the plans throughout the erection process. Methods of providing stability and maintaining geometry of steel pylon must remain in place until all adjacent steel members are erected and connected and all stay cable assemblies are installed to provide necessary lateral stability. Before removing steel pylon falsework, temporary braces, or holding cranes, survey the steel pylon and adjust as necessary to construct per the details on the plans.

Steel principal span must be stabilized with falsework, temporary braces, or holding cranes to maintain the geometry specified in the plans throughout the erection process. Methods of providing stability and maintaining geometry of steel principal span must remain in place until all adjacent steel members are erected and all stay cable assemblies are installed to provide necessary lateral stability. Before removing

steel principal span falsework, temporary braces, or holding cranes, survey the steel principal span and adjust as necessary to construct per the details on the plans.

The engineer signing the bridge construction staging and erection plan must be present at all times during the erection activities.

Monitor steel pylon and steel principal span displacements during erection.

Perform one additional step of forestay and backstay stressing operations as ordered by the Engineer after review of the steel pylon location survey taken after Forestay Stressing - Step 4, as shown on Stay Cable Data sheet of the plans.

55-2.02 STAY CABLE ASSEMBLIES

55-2.02A General

Section 55-2.02 includes specifications for fabricating and installing stay cables and stay cable assemblies.

55-2.02B Definitions

stay cable assembly: The complete stay cable system including structural strand cable, sockets, fork connectors, spherical nuts and disks, threaded rods, pins, and appurtenances.

55-2.02C Submittals

55-2.02C(1) General

Submit copies of mill orders when orders are placed.

Submit certified mill test reports required by referenced ASTM, EN, and ISO specifications for each heat of steel used for wire manufacture and for each heat of steel used for cable connection hardware before fabrication. Include heat and product analysis reports. Include CVN impact test results if impact testing is specified. Mill test reports must be traceable to individual stay cable assemblies.

Submit certificates of compliance for materials used in the work.

Certificates of compliance for stay cable assemblies must include:

1. Certificate number.
2. Name and address of the manufacturer.
3. Quantity and prestretched length of stay cable assembly.
4. Standard to which the stay cable assembly conforms.
5. Minimum breaking strength.
6. Wire mechanical properties and coating properties.
7. Modulus of elasticity of the stay cable assembly.
8. Date of issue of the certification.

Submit reports from testing performed on stay cable assemblies and components before shipment to the job site.

Submit certified test data of testing performed on stay cables. Certified test data must include:

1. Date of test.
2. Test number. The test number must enable traceability of the cable.
3. Measured dimensions of the stay cable assembly components.
4. Measured modulus of elasticity of the stay cable.
5. Measured breaking strength of the stay cable assembly.

Submit certified test data of testing performed on socketing systems. Certified test data must include:

1. Date of test.
2. Test number. The test number must enable traceability of the socketing system sample.
3. A reference to the test method used.
4. The cable designation, minimum breaking strength of the stay cable assembly and socketing media for which the socket is suitable.

5. Test results.

For socketing system submit:

1. Radiographic shot schedule of castings for each socket type.
2. Results of Radiographic Testing (RT).
3. Certification that RT is performed by approved ASNT-TC-1A personnel.

Submit certification for pre-stretching, measuring, and proof loading.

Certified test data must be signed and sealed by an engineer who is registered as a civil engineer in the State.

Submit certified calibration plot for stressing jack calibrated by an authorized laboratory.

Submit record of jack gage pressures, elongations, and anchorage seating values measured during the stressing operations.

55-2.02C(2) Shop Drawings

Submit detailed shop drawings of stay cable assemblies prior to fabrication showing all information necessary for the fabrication and erection sequence of stay cable assemblies, including the installation of structural strand cables and connection hardware. Copies of the plans will not be considered as meeting the requirements specified herein.

Shop drawings must include member identity, type of finish, weights of members, and critical clearances, and must account for and clearly detail for tolerances and field adjustments.

Shop drawings for stay cable assemblies must include:

1. Indication of all materials used, including specification, grade, and construction.
2. The location, type, and size of all structural strand cables, fittings, anchorages, and connection hardware.
3. Description of the manufacturing procedures for stay cable assemblies, including test methods.
4. Sequence, materials, and procedures for assembling and socketing the ends of stay cable assemblies.
5. Diameter, lay, and length of lay of wires in each cable.
6. Details and dimensions of sockets and connections.
7. Details and dimensions of pins.
8. Dimensional tolerances.
9. Metallic cross-sectional area calculated from supplied wire diameters.
10. Proposed fabricated lengths of stay cable assemblies.
11. Weight per unit length of the manufactured cable and weights of all connections and fittings.
12. Total weight of each stay cable assembly.
13. Minimum breaking strength and modulus of elasticity of all cables.
14. Minimum breaking strength of all end fittings.
15. Locations and marks of all cable Work Points (“WP”), referenced to the specific locations and details shown on the plans.
16. Cable marks.
17. Details of connections to any part of the permanent structure.
18. Methods and equipment for handling, storage, and delivery of all items.
19. Contract plan sheet references for details.
20. Critical clearances.
21. Extent of coatings on all cables, connections, and fittings.
22. Allowable range of the threaded length adjustment device.
23. Fabrication schedule for stay cable assemblies.

Submit design calculations for stay cable assembly sockets, pins, and connections to any parts of the permanent structure with the shop drawings.

Submit calculations showing how lengths of stay cables were established, including the effects due to load, installation sequence, pylon displacements, temperature, sag, girder camber, and any deviation of pylon alignment due to tolerance.

Submit calculations showing how the range of the threaded length adjustment devices were established, including the effects due to load, installation sequence, pylon displacements, temperature, sag, girder camber, and any deviation of pylon alignment due to tolerance.

Shop drawings and calculations must be signed and sealed by an engineer who is registered as a civil engineer in the State.

55-2.02D Quality Assurance

55-2.02D(1) General

Calibrate each jack within 6 months of use and after each repair. Each jack and its gauge must (1) be calibrated as a unit with the cylinder extension in the approximate position that it will be at the final jacking force and (2) accompanied by a certified calibration chart. Each load cell must be calibrated. Calibration must be performed by an authorized laboratory.

Stay cable assembly materials are inspected at the fabrication site.

Notify the Engineer:

1. When materials have been delivered to the fabrication site
2. At least 10 days before starting fabrication

55-2.02D(2) Quality Control

55-2.02D(2)(a) General

Perform quality control testing in the Engineer's presence.

55-2.02D(2)(b) Source Quality Control

55-2.02D(2)(b)(i) Cables

Perform a minimum breaking strength test from a test sample taken from each manufactured length of strand under ASTM A586 before shipment to the job site. The socketing procedures used for the test specimen and the assemblies shipped to the site must be identical.

Perform a test for modulus of elasticity on each manufactured length of strand under ASTM A586 before shipment to the job site.

Perform the pre-stretching process of each cable in the Engineer's presence before shipment to the job site.

55-2.02D(2)(b)(ii) Connections and Fittings

Test the performance of each type of socketing system under Annex D of ISO 17558 before shipment to the job site.

A complete dimensional inspection must be undertaken on the first and all machined areas of each casting lot. All machined, forged or rolled components must be subject to a dimensional inspection.

Perform RT on four forestay socket connections of each type and one backstay socket connection of each type, selected by the Engineer. RT must comply with ASTM E94, ASTM E186, ASTM E280, and ASTM E446, as applicable.

Perform MT on 100 percent of each casting under ASTM E709 and acceptance standard ASTM E125. Discontinuities exceeding the acceptance levels under ASTM E125 in the following table will be cause for rejection of a socket:

Type	Discontinuity	Acceptance Level
I	Linear discontinuities	All linear indications must be removed by griding and blending
II	Shrinkage	2
III	Inclusions	2
IV	Internal chills and unfused chaplets	N/A
V	Porosity	1

Large sand spots, inclusions, and blow holes, as determined by the Engineer, will be cause for rejection of the casting.

If a socket is rejected, all other sockets from the same heat must be radiographically tested at your expense.

Steel for sockets must comply with the CVN testing requirements in ASTM A781, S9. Testing frequency must be on four forestay socket connections of each type and one backstay socket connection of each type, selected by the Engineer. CVN impact value must be 25 ft-lb at 40 degrees F.

55-2.02D(2)(b)(iii) Pins

Steel for pins must comply with the CVN testing requirements in ASTM A673. Use the Frequency P (Piece) testing. CVN impact value must be 25 ft-lb at 40 degrees F. If the material yield strength is more than 65,000 psi, reduce the temperature for the CVN impact value 15 F for each increment of 10,000 psi above 65,000 psi.

55-2.02D(2)(b)(iv) Stay Cable Assemblies

Each socket must be proof loaded to 55 percent of the breaking strength of the attached cable following attachment of the structural cable for a duration of 5 minutes.

55-2.02D(2)(c) Field Quality Control

The stay cable supplier must supervise stay cable installation, stressing, and adjustments and must be on-site during all of these operations. The stay cable supplier supervising these operations must have previous experience with the installation of stay cables of similar or larger size cables.

Any damage to the cables or other components of the stay cable assemblies must be immediately reported to the Engineer.

55-2.02E Materials

55-2.02E(1) General

All components of stay cable assemblies must be supplied by the same manufacturer.

55-2.02E(2) Delivery, Storage, and Handling

Carefully handle, store, transport, and erect stay cable assemblies to avoid twisting, distorting, or damaging the stay cable assemblies. Damaged stay cable assemblies must be replaced.

All stay cables and connections must be stored in a manner to permit easy access for inspection and identification. Cable must be reeled in drums in such a manner that no permanent deformation of individual wires and the cable will occur.

Exercise care to avoid abrasions and other damage to the coatings at all times.

Stay cables must not be dragged over any objects that will scrub or abrade the wires.

Rotating reels must be used to store and transport the cables. Stay cable reels must be supported off the ground. Protect cables and packaged materials from corrosion, direct sunlight, and deterioration.

Materials showing evidence of damage will be rejected and must be immediately removed from the job site.

Stay cables must be delivered in coils with an appropriate packaging to prevent surface damage to the stay cable assemblies during handling, storage, and transport.

Follow the manufacturer's recommended loading, unloading, and handling instructions.

Ship small parts such as fasteners, bolts, nuts, washers, pins, fillers, clips, and small connecting plates and anchors in closed containers, boxes, crates, or barrels. Pack separately each length and diameter of bolt and each size of nut and washer. Plainly mark an itemized list and description of the contents on the outside of each container.

The completed cable must be evenly laid and must be free from injurious imperfections, kinks, loose wires, or other irregularities, and must remain in this condition when unwound from the reel. The ends of the cable must be properly secured.

Kinked, bent, or abrupt deformations will be cause for rejection of the pieces in question.

55-2.02E(3) Stay Cables

Stay cables must be zinc-coated helical steel wire structural strand conforming to ASTM A586, Class A coating, Grade 1.

55-2.02E(4) Connections and Fittings

Cast fittings must comply with ASTM A148/A148M, Grade 105-85.

Socket connections must be zinc-coated in accordance with ASTM A153/A153M, Class A coating or ASTM A123/123M.

The strength of all stay cable connections and fittings must be sufficient to develop the minimum breaking strength of the connected stay cable.

All castings must be heat treated, either by full annealing, normalizing, normalizing and tempering, or quenching and tempering, under ASTM A148/A148M.

End fittings must be open strand spelter type.

Stay cables must be attached to sockets using poured zinc conforming to ASTM B6, High Grade, Zinc Metal (Slab Zinc).

All sockets must have line bored pin holes.

Threaded rods in cast fitting assemblies must comply with ASTM A193, Grade B7, zinc-coated in accordance with ASTM A153/A153M, Class C coating.

55-2.02E(5) Pins

Pins must comply with ASTM A668, Class F.

The strength of the pins must be sufficient to develop the minimum breaking strength of the connected cable.

Pins must be zinc-coated in accordance with ASTM A153/A153M, Class B.

The pin retaining device must be a threaded pin cap.

55-2.02F Detailing Requirements

Unless otherwise indicated, dimensions at expansion joints and similar construction were determined for a temperature of 60 degrees Fahrenheit.

Fabrication and erection procedures must consider the ambient temperature range at the time of the respective operations.

The geometry indicated in the plans is the final stressed geometry of the structure under permanent loading conditions and at the specified temperature.

55-2.02G Fabrication

55-2.02G(1) Stay Cables

You are responsible for determining the required lengths of the stay cable assemblies.

Cable must be fabricated in accordance with best current practice and must achieve the minimum breaking strength specified in the plans. The nominal axial stiffness of the cable must be as specified in the plans, plus or minus three percent.

All wires must be stranded with uniform tension. Stranding must be sufficiently close to ensure no appreciable reduction in diameter when the cable is subjected to a tension of 10 percent of the specified minimum breaking strength.

Splicing of finished stay cables between end fittings is not permitted.

The diameter of the cable after socketing at a distance of three feet from the point of entry of the cable into the socket must be within a tolerance of plus or minus two percent of the cable diameter.

Cutting of cables must only be done using disc cutters or other approved mechanical devices. Thermal cutting is not permitted.

Each cable must be pre-stretched prior to final cutting to length to remove constructional stretch and establish uniform elastic load-deflection properties. The maximum pre-stretch force must be 50 percent of the specified minimum breaking strength of the cable. The cable must be loaded from the unstressed condition to the maximum pre-stretch force, unloaded to 10 percent of the specified minimum breaking strength, and then cycled four times between these two load values (10 percent and 50 percent). The load must then be reduced to the permanent cable load specified in the plans. End-to-end length measurements, striping, and intermediate clamp position measurements must be made at that load prior to returning the cable to the unstressed condition.

Cables must be longitudinally striped while under the specified loadings established for length measurement. Perform measurement and marking of the structural strand under uniform temperature conditions and under cover or at night.

If for any reason the cable is destressed after pre-stretched cycling but before marking to length, then the pre-stretching process must be repeated and the length measurements made.

Upon fabrication of the complete stay cable assembly, the final length of each socketed stay cable must:

1. Be measured between the stay cable assembly work points shown on the plans with the position of the threaded length adjustment device set to the midpoint of the adjustment range
2. Be measured using calibrated steel tapes and recorded to within 1/16 inch while under the specified loadings established for length measurement.
3. Not vary more than plus or minus 1/2 inch from the design length, including any temperature adjustment.

Record the deviation between the design length and actual length for each stay cable assembly and attach a metal stamped tag to each respective bottom socket of the completed stay cable assembly.

Stay cable assemblies with a deviation greater than plus or minus 1/2 inch will be rejected. Rejected stay cable assemblies must be replaced with a new stay cable assembly.

All stay cable assemblies must be preassembled and delivered to the job site as complete units.

After the structural cable is pre-stretched, do not pull the cable into a curve that is less than 30 times the nominal cable diameter.

55-2.02G(2) Connections and Fittings

All castings must be cast with pattern number/part number, material grade, heat number, and foundry symbol.

Sockets must comply with the following:

1. Each socket must be stamped “MT” (indicating magnetic particle inspection) adjacent to a non-machined area.
2. Where a stay cable socket has a threaded length adjustment device, the specified length must be made with the device set to the midpoint of the adjustment range.
3. Sockets must be designed and attached to develop the minimum breaking strength of the cable. The socket manufacturer’s recommendation must be adhered to in the fabrication, handling, and attachment of the sockets.
4. Poured sockets must only be installed in the cable manufacturer’s shop under closely supervised and controlled conditions.

The threaded length adjustment device must have sufficient length to accommodate length variation of the stay cable assembly resulting from installation and stressing operations.

55-2.02G(3) Pins

Pins must be provided with one end headed and must be retained by means of screwed pin caps. The pin retaining device must be capable of sustaining a force along the axis of the pin equal to a minimum of five percent of the strength limit state cable load shown on the plans.

55-2.02H Construction

Temporary devices must be used to prevent damage to cable connections until proper alignment is achieved.

Cables must be erected and installed without twist complying with approved erection procedures and in compliance of recognized standards of good practice.

Hydraulic cylinders must be used for the application of stressing force. Where a stay cable socket has a threaded length adjustment device, the thread must only be used for adjustments and not for the application of stressing forces.

Stressing must be achieved with tension jacks to prevent damage to the threads.

Conduct the stressing operations such that the force being applied and the elongation of the cable can be measured at all times.

Equip each jack with a pressure gauge or load cell for determining the jacking force. Each pressure gauge must have an accurately reading dial at least 6 inches in diameter and graduated in 100 psi increments or less. Each load cell must be provided with an indicator to determine the jacking force.

A record must be kept of jack gage pressures, elongations, and anchorage seating values.

When lifting a cable into position, the attachment must be connected such that no sharp bends are introduced into the cable and the cable is not abraded.

Care must be taken to protect work already installed from damages resulting from cable erection. Cables must be handled with care to prevent denting or knicking of the wires and scratching or scaling to the surface coatings. Dented, kinked, knicked, knotted, deformed, frayed, or otherwise distressed cable and cable connections must be replaced. Cables must not be dragged over any objects that scrub or abrade the wires.

When removing cable from a reel, the reel must rotate freely.

Cable erection must be such that no cable load exceeds 50 percent of the minimum breaking strength of any stay cable.

Bend diameters in cables must not exceed 30 times the nominal cable diameter.

The superstructure structural steel and steel pylon must not be overstressed during erection.

Each cable must be positioned such that the relative turns from one end socket to the other end socket (external turns) are a maximum of 10 degrees. This will establish the theoretical position of the longitudinal stripe line as the line from striped end socket to striped end socket. At any cross-section between sockets, the maximum turns of a point on the actual stripe line relative to a point on the theoretical position of the stripe line must be plus or minus 90 degrees (internal turns).

Before connection of stay cable end-fittings to the superstructure and pylon, all surfaces that will be in permanent contact after assembly must be cleaned and free of laitance.

Stay cable assemblies, in their final condition, must be able to accommodate a plus or minus 1/2-inch future cable length adjustment.

Do not exceed the manufacturer's instructions for loadings and deflections on jacks, brackets, and other manufactured devices.

Immediately after erection, clean damaged areas of zinc coating on stay cables and stay cable connections and repair with a zinc dust-zinc oxide paint. Damage to coating on stay cables must be limited to localized areas of 1/2-inch square.

55-2.02I Payment

The payment quantity of stay cable assemblies is the undeformed, straight line length measured between the stay cable working points shown on the plans.

55-2.03 STRUCTURAL STEEL TUBING

55-2.03A General

Section 55-2.03 includes specifications for structural steel tubing members.

55-2.03B Definitions

circumferential weld length: The length of a continuous weld around the circumference of a tubular member.

55-2.03C Submittals

Reserved

55-2.03D Quality Assurance

55-2.03D(1) General

Reserved

55-2.03D(2) Quality Control

55-2.03D(2)(a) General

The welding QC plan must include the following information for tubular connections:

1. Qualifications of the American Society for Nondestructive Testing (ASNT) NDT Level III demonstrating experience in the UT of tubular structures.
2. Written procedures complying the requirements of Annex O of AWS D1.1 for ultrasonic testing of tubular T-, Y-, and K- groove welds. Written procedures must be prepared and approved by an NDT Level III who is experienced in UT of tubular structures. In addition to the requirements of Annex O, the written procedure must contain the following:
    2.1. Type of weld joint configuration to be examined, including diameter, thickness, and dihedral angle.
    2.2. Surface temperature range.
    2.3. Use of electronic gates, suppression, or alarms.
    2.4. Method of determining acoustical continuity of base metal, and for establishing geometry as a function of local dihedral angle and thickness.
    2.5. Methods for determining effective beam angle (in curved material and HSS corners), indexing root area, and discontinuity requirements.
    2.6. Method of verifying rejectable indications during excavation and repair.
    2.7. Any computerized hardware and/or software used for location and sizing of indications.

55-2.03D(2)(b) Nondestructive Testing of Steel Tubing

55-2.03D(2)(b)(i) General

Perform NDT of steel tubing under AWS D1.1 in accordance with the frequencies in Clause 6.7 of AWS D1.5 and the requirements shown in the following table:

Nondestructive Testing for Steel Tubing

Weld Type	Joint Type	Member Type	Minimum required NDT
CJP groove welds	Circumferential butt joints	Fracture Critical Member or Main Tension Member	100% RT and 100% UT
		Main Compression Member or Secondary Member welded with backing or backgouging	25% UT
		Main Compression Member or Secondary Member welded on one side without backing	100% UT
	Connection to transverse plates	All	100% UT and 100% MT
	T- and Y-connections	All	100% UT
	Longitudinal seam weld, See AWS D1.1, Clause 10.25.2	All	25% UT
	Longitudinal seam weld within 6 inches of a CJP weld for a tension or fracture critical member	All	100% UT
	Longitudinal seam weld within 6 inches of a circumferential weld	All	100% UT
PJP groove welds and fillet welds in primary members			
	T- and Y-connections	All	100% MT
	Transverse plate connections	All	25% MT
	Longitudinal plate connections	All	25% MT
	Any, except as noted above	All	Random 10% MT
PJP groove welds and fillet welds in secondary members	T- and Y-connections	All	MT full length on random 25% of each joint type
	Any, except as noted above	All	Random 10% MT of each joint type and each weld size

55-2.03D(2)(b)(ii) Ultrasonic Testing

For UT of welded joints with tubular sections less than 24 inches in diameter, the acceptance and repair criteria must comply with the following table:

Maximum discontinuity amplitude level obtained	Maximum discontinuity lengths by weld classes			
	Main Compression Member or Secondary Member	Fracture Critical Member or Main Tension Member	Tubular Class R (Fracture critical member connections, including T-, Y-, and K-Connections)	Tubular Class X (T-, Y-, and K- connections for non-fracture critical members)
Level 1- Equal to or greater than SSL (See AWS D1.1, Clause O6.1 and Figure O.14)	Greater than 5 dB above SSL = None allowed. 0 through 5 dB above SSL = 3/4 inch.	Greater than 5 dB above SSL = None allowed. 0 through 5 dB above SSL = 1/2 inch.	See AWS D1.1 Figure 10.24	See AWS D1.1 Figure 10.25 (Utilizes height)
Level 2- Between the SSL and the DRL (See AWS D1.1, Figure O.14)	2 inches	Middle 1/2 weld = 2 inches. Top & bottom 1/4 of weld = 3/4 inch.	See AWS D1.1 Figure 10.24	See AWS D1.1 Figure 10.25 (Utilizes height)
Level 3- Equal to or less than the DRL (See AWS D1.1, Figure O.14)	Disregard. Level 3 discontinuities must be recorded.			
SSL = Standard Sensitivity Level. DRL = Disregard Level.				

When performing UT, use an authorized procedure under AWS D1.1, Annex O.

Ultrasonic testing of tubular T-, Y-, and K- groove welds must comply with a written procedure meeting the requirements of Annex O of AWS D1.1, which has been prepared and approved by an NDT Level III who is experienced in UT of tubular structures. In addition to the requirements of Annex O, the written procedure must contain the following additional information.

1. Type of weld joint configuration to be examined, including diameter, thickness, and dihedral angle.
2. Surface temperature range.
3. Use of electronic gates, suppression, or alarms.
4. Method of determining acoustical continuity of base metal, and for establishing geometry as a function of local dihedral angle and thickness.
5. Methods for determining effective beam angle (in curved material and HSS corners), indexing root area, and discontinuity requirements.
6. Method of verifying rejectable indications during excavation and repair.
7. Any computerized hardware and/or software used for location and sizing of indications.

55-2.03D(2)(b)(iii) Radiographic Testing

The acceptance criteria for radiographic or real time image testing for tubular sections must comply with AWS D1.1 for tensile stress welds.

55-2.03D(2)(b)(iv) Longitudinal Seam Welds

The Engineer selects the random locations for NDT.

Grind the cover pass smooth at the locations to be tested.

If repairs are required in a portion of a tested weld, perform NDT on the repaired portion and on 25 percent of the untested portions of the weld. If more repairs are required, perform NDT on the entire weld.

55-2.03D(2)(c) Personnel Qualifications and Certifications for Tubular Sections

Qualifications of welders and welding operators for tubular members must conform to Part D of Clause 10 of AWS D1.1. Welders and welding operator period of effectiveness for fracture critical tubular members must be in accordance with Clause 12.8.2 of AWS D1.5.

Personnel performing nondestructive testing (NDT) must be qualified and certified in accordance with SNT-TC-1A and the written practice of the NDT firm. The written practice of the NDT firm must comply with or exceed the guidelines of SNT-TC-1A. Only persons certified as NDT Level II technicians or persons certified as NDT Level III technicians and certified to perform the work of Level II technicians may perform nondestructive testing, review the results, and prepare the written reports.

Personnel performing ultrasonic testing (UT) on tubular T-, Y-, and K-connections must demonstrate the techniques required to perform such UT in accordance with Annex O, Clause O4 of AWS D1.1.

55-2.03D(2)(d) Welding Procedures Qualification for Tubular Sections

Welding procedure specifications for tubular steel members are not considered prequalified. Qualification must be in accordance with AWS D1.1, Clause 10, Part C and all the mechanical tests shown therein, excluding CVN tests. Additionally, the following requirements apply:

1. All CJP and PJP T-, Y-, and K- connections without backing or welding from one side only requires mock-ups. Mock-up production and macroetch requirements must be in accordance with AWS D1.1 and must be witnessed by the Engineer.
2. CVN tests and all-weld-metal tension tests must be performed in accordance with AWS D1.5. Groove welds must have a CVN test value equal to, or exceeding that, specified in Table 12.1 of AWS D1.5. A representative test plate weld using one-inch thick plate utilizing the appropriate WPS parameters must be used.
3. Qualification for WPSs must be within the limitation of essential variables outlined in 5.12.4 of AWS D1.5.
4. Welding procedure period of effectiveness for fracture critical members must be in accordance with Clause 12.7.4 of AWS D1.5.
5. For steel tubular members shown on the plans as fracture critical members, welding requirements must be in accordance with “AASHTO/AWS Fracture Control Plan (FCP) for Nonredundant Members” of AWS D1.5.

55-2.03D(2)(e) Repair Work for Tubular Sections

Circumferential welds of tubular members and end plate-to-tubular member welds may be repaired only one time.

If repairs are required in a portion of a tested weld, perform NDT as specified for the original weld on the repaired portion plus at least 2 inches on each side of the repaired area.

55-2.03E Construction

Longitudinal seam welds of structural tubing members must be staggered a minimum of 90 degrees and oriented such that holes, penetrations, welded connections, must not be located on the face of the seam.

Except for fillet and fatigue-resistant welds, exposed circumferential welds of tubular members must be ground flush with the base metal before painting. Ground flush is specified as minus 0, plus 0.08-inch.

Welding details for cyclically loaded tubular members, as specified in AWS D1.1, must be used for steel tubing members shown on the plans as fracture critical members or main tension members.

55-2.04 EXPANSION JOINT ASSEMBLIES

55-2.04A General

Section 55-2.04 includes specifications for fabricating and installing expansion joint assemblies at Hinges 6A and 8A.

Expansion joint assemblies must consist of:

1. Surface-mounted aluminum base frames and cover plates.
2. Seismic centering devices with impact dampers and displacement springs that allow the slide plate to displace and return to its natural position after a seismic occurrence.

3. Flexible fabric-reinforced rubber gutters.
4. High density rubber sound dampers that provide impact resistance and sound damping.

Expansion joint assemblies must:

1. Be in planned position
2. Provide bump-free passage of traffic
3. Be manufactured to the shape of the polyester concrete overlay surface and match-marked in the shop

MR is measured normal to the longitudinal joint axis.

Expansion joint assemblies delivered to the job site must be labeled with:

1. Manufacturer’s name
2. Lot or batch number
3. Dates of manufacturing, packaging, and expiration
4. Manufacturer’s instructions for use and installation

55-2.04B Submittals

55-2.04B(1) General

Submit a work plan for cleaning expansion joints. Include details for preventing material, equipment, or debris from falling onto traffic.

Submit the manufacturer's product data and installation instructions at least 7 days before starting work.

Submit the manufacturer’s maintenance and cleaning instructions.

55-2.04B(2) Shop Drawings

Submit shop drawings including plans, elevations, section details, splices, blockout requirements, entire run of each joint system, and attachment to steel and concrete substrates.

Submit design calculations demonstrating the strength of the expansion joint assemblies under the specified loads.

Shop drawings and calculations must be sealed and signed by an engineer who is registered as a civil engineer in the State.

55-2.04C Quality Assurance

55-2.04C(1) Quality Control

A qualified representative of the assembly manufacturer must be present during the installation of the expansion joint assemblies.

55-2.04D Materials

55-2.04D(1) General

Aluminum base frames must be aluminum alloy 6005-T5 with ADA-compliant beveled edges. Base frames must have continuous end cavities to receive integral high-density rubber dampers.

Cover plate must be aluminum alloy 6005-T5 with ADA-compliant beveled edges. The top surface of aluminum cover plate must have a slip-resistant raised pattern profile and standard mill finish. Surface must comply with ADA Guidelines and ASTM-F1637 Standard Practice for Safe Walking Surfaces.

Aluminum extrusions must comply with ASTM B221, alloys 6063-T5, 6005A-T6, 6061-T6.

Seismic centering bar must have solid aluminum spherical ball ends that lock, slide, and rotate freely in the base frame. A stainless-steel bolt must connect the cover plate through a rubber impact damper secured by a coil tension spring. Spacing of seismic centering bars must not be greater than 18 inches on center.

Provide high-density rubber dampers in base frame to prevent metal to metal vibration and provide impact damping and sound deadening.

Rubber gutter must:

1. Be flexible fabric-reinforced EPDM rubber, Class I, complying with ASTM D4637.
2. Have a minimum thickness of 60 mils.
3. Be continuous for the full length of joint.
4. Have 2 flexible down spouts and drain tubes.

Adhesive, mastic, and sealing tape for rubber gutter must:

1. Be manufactured for use with the rubber gutter material used.
2. Provide a watertight seal between the rubber gutter and steel and concrete substrates.

Fasteners embedded into steel and concrete substrates must be zinc-plated carbon steel.

Provide accessories and hardware required for complete installation in accordance with the manufacturer's recommendations.

55-2.04D(2) Design Criteria

Design expansion joint assemblies for strength loading under *AASHTO LRFD Bridge Design Specifications, Eighth Edition with California Amendments*.

Expansion joint assemblies must be designed to resist dead and live vertical loads and an assumed horizontal load applied concurrently. Live loading for strength design must include a wheel load of 8,000 pounds over an assumed tire area of 11 inches measured normal to the longitudinal joint axis by 10 inches wide. The horizontal load must be 1,600 pounds.

Analyze expansion joint assemblies for strength loading at the maximum MR joint width.

Slide plate cover must remain within the elastic range under dead, live, and horizontal loading conditions at the maximum MR.

Expansion joint assemblies must be engineered to accommodate a seismic movement normal to the longitudinal joint axis as follows:

1. Closing of expansion joint: 6 inches, minimum
2. Opening of expansion joint: 6 inches, minimum

Cover plate must be able to displace and return to its natural position after the specified seismic movements.

The assembly must provide a smooth-riding joint without slapping of components or tire rumble.

55-2.04E Construction

Install expansion joint assembly under the manufacturer's instructions.

Clean the concrete and steel substrates of all contaminants by abrasive blasting immediately prior to installation of expansion joint assembly. Concrete form release agents, water repellents, laitance, surface dirt, rust, old sealants, and other surface treatments and protective coatings must be removed from the substrate surface.

Dimensions for positioning the assembly within the MR during installation must be measured normal to the longitudinal joint axis.

Surfaces of polyester concrete overlay under the expansion joint assembly must be straight and true on both sides of the hinge opening, measured parallel to the centerline of the POC. Grind polyester concrete overlay under section 42-3 to provide a straight and flush surface along the length of the joint that provides full and even bearing under expansion joint assemblies. Grinding must not reduce the thickness of the polyester concrete overlay to less than 3/4 inch.

55-2.04F Payment

Expansion joint assemblies are measured from end to end along the centerline of the completed assembly.

55-2.05 PTFE Surface

55-2.05A General

Section 55-2.05 includes specifications for fabricating and installing PTFE sheet at steel shear key assemblies.

55-2.05B Definitions

Reserved

55-2.05C Submittals

55-2.05C(1) General

Submit certificates of compliance for the materials used in the work.

55-2.05C(2) Shop Drawings

Submit shop drawings of PTFE sheet.

Shop drawings must include a description of the method of mechanical interlocking of PTFE sheet to the metallic substrate.

55-2.05D Materials

55-2.05D(1) General

PTFE sheet must be unfilled fabric made from virgin PTFE oriented multifilament and other fibers. Filament resin must comply with ASTM D4441.

55-2.05D(2) Fabrication

PTFE fabric backing material on steel surfaces must be epoxy bonded and mechanically interlocked to the steel substrate. Bonding must be performed under controlled factory conditions. The mechanical interlock on the steel surface must be integrally machined into the steel substrate. The adhesive material must be an epoxy resin complying with Federal Specification MMM-A-134.

During fabrication, the maximum temperature of bonded PTFE sheet must be 300 degrees Fahrenheit.

After completion of the bonding operation the PTFE surface must be smooth and free from bubbles. The PTFE sheet must show no signs of delamination and must be fully bonded.

55-2.05E Construction

The flatness of the steel edge plates and stainless steel plate elements at the steel shear key assembly must be controlled such that upon completion of the installation, the clear space between the PTFE fabric and stainless steel plate is constant and contact will result in full bearing.

PTFE sheet with scratched surfaces must be returned to the factory for replacement or resurfacing.

Replace *Reserved* in section 55-3 with:

55-3 TUNED MASS DAMPERS

55-3.01 GENERAL

55-3.01A Summary

Section 55-3 includes specifications for designing, fabricating, installing, and testing tuned mass dampers.

55-3.01B Definitions

Lot: six count of tuned mass dampers.

Snubbing System: Component of the TMD to cushion the bridge structure from impact of the TMD mass source in the event of TMD overload.

TMD (Tuned Mass Damper): Passive device used to adjust the damping and vibrations of the bridge structure, consisting of, but not limited to, viscous dampers, a mass source, leaf springs, support assemblies, vertical and transverse snubbing systems, and connections to the steel superstructure.

55-3.01C Submittals

55-3.01C(1) General

Submittals must be submitted in 3 parts in conformance with the schedule shown in the following table:

Tuned Mass Damper Submittal Schedule

Submittal	Time Limit	Review Time
Part 1 Shop drawings Proof test plan QC program TMD manufacturer qualifications	Within 60 days after contract approval.	30 days
Part 2 Certified proof test report Installation manual Inspection and maintenance manual Certificate of compliance Documentation of warranty Performance verification test methods	Within 14 days of completion of proof tests.	45 days
Part 3 As-built performance report	Within 14 days of completion of performance verification tests.	30 days

Except where otherwise described, submit all submittals to OSD, Documents Unit. Notify the Engineer of each submittal.

Submit a certificate of compliance to the Engineer from the TMD manufacturer certifying the TMDs (1) conform to the design and material requirements and (2) were manufactured in accordance with the authorized manufacturing QC program.

55-3.01C(2) Shop Drawings

Submit 6 copies of shop drawings for TMDs for initial review by Engineer of Record. After review, submit 6 to 12 copies, as requested, for final authorization.

Include the following in the shop drawings:

1. All information required for the proper fabrication and construction of the TMDs, including details of the connections to the superstructure. Include any required revisions or additions to the structural steel superstructure or other facilities.
2. Calculations demonstrating that the TMDs will, in combination with the bridge structural system, provide the necessary total effective damping to achieve the target design criteria specified.
3. Calculations of viscous damper performance requirements, including, but not necessarily limited to:
   1.1. Velocity-damping force characteristic curves, including upper and lower bound characteristics.
   1.2. Maximum damper design force.
   1.3. Design rated peak velocity.
   1.4. Range of damper stroke.
   1.5. Maximum power.
   1.6. Energy dissipated per cycle.
4. Complete stress calculations of all structural components for the TMDs. Include complete calculations for the design of the proposed steel superstructure connections, including the steel superstructure components connected to the TMD and any supplemental framing.

5. A list of all materials and components to be used in the TMDs for which test results or certificates will be supplied. Include a complete list of all ASTM or other standards that will be complied with in the fabrication of the TMDs. If standards other than ASTM are used, submit a copy of those standards along with their ASTM equivalents.
6. A list of components that will be permanently deformed during proof testing with calculations showing the anticipated stress in the components at each increment of the maximum axial force or maximum axial displacement.
7. Details of the supporting frames and adapter plates used to attach the viscous dampers to the test apparatus for the proof tests.
8. Details of coating system.
9. Details and design calculations for the temporary bracing.
10. Depiction of available viscous damper strokes by dimension at sliding interface.
11. Locations of designated area for mounting future strain gauges. Also, include net area of cross section and material properties of the designated area to determine the force from measured axial strain.
12. Location of fill ports with dimensions referring to an identifiable point on the viscous damper.

Each shop drawing and calculation cover sheet must be sealed and signed by the TMD engineer.

The Engineer of Record will determine the adequacy of modified and special design proposals of the steel superstructure components connected to the TMD and any supplemental framing to the steel superstructure based upon compliance with structural design parameters. The Department will not be liable to you for failure to accept any modified design or special design you submit.

55-3.01C(3) QC Program

Submit 6 copies of the manufacturing QC program. Include the standards, procedures, and monitoring methods used that ensure the manufacturing process for TMDs achieves the required quality.

55-3.01C(4) Test Reports

55-3.01C(4)(a) Viscous Dampers

Submit 6 copies of the complete test reports for the viscous dampers. For each test performed, test reports must include:

1. Listing of key personnel
2. Test loading equipment
3. Type of viscous damper tested
4. Location of test
5. Complete record and graph of the following:
   5.1. Viscous damper axial force versus axial displacement for each cycle of the test
   5.2. Viscous damper temperature versus time for each cycle of the test
   5.3. Viscous damper displacement versus time for each cycle of the test
   5.4. Viscous damper velocity versus time for each cycle of the test
   5.5. Viscous damper force versus time for each cycle of the test

Test results must be certified correct and signed by the laboratory personnel who conducted the tests and interpreted the test results.

The TMD engineer must submit a letter that is sealed and signed certifying that the test results comply with the authorized shop drawings and design calculations and are satisfactory for the work.

55-3.01C(4)(b) As-Built Performance Report

After completion of the work, including construction of all finishes, fencing, overlays, and cable stay spacers, submit an as-built performance report for the tuning, commissioning, and achieved as-built performance of the combined bridge-TMD system verifying that the correct total damping performance has been achieved in the final as-built work. The methods used to verify the as-built damping performance must comply with the authorized Performance Verification Methods submittal.

The TMD engineer must submit a letter that is sealed and signed certifying that the data in the as-built performance report complies with the design criteria and workmanship requirements of these specifications and the correct total damping performance has been achieved in the final as-built work.

The Department rejects any TMD or group of TMDs that fail to achieve the target design criteria and design total effective damping performance in the final as-built work.

55-3.01C(5) Installation Manual

Submit 6 copies of installation manual for the TMDs for review and authorization. The installation manual must include:

1. Method of installation of the TMDs including installation sequence.
2. Method of adjustment of the TMDs for temperature changes, errors in positioning of the TMD connections, and adjusting the dynamic performance in the field.
3. Requirements for shipping, handling, and storage of the TMDs and details of temporary support of the dampers for shipping and handling.
4. Temporary and permanent attachment of the TMDs to the bridge.
5. Complete step-by-step procedure describing the installation and the removal or replacement of all viscous dampers.

55-3.01C(6) Inspection and Maintenance Manual

Submit 6 copies of the inspection and maintenance manual for review and authorization. The inspection and maintenance manual must include:

1. Complete step-by-step inspection procedures for the TMDs, including recommended frequency of inspection. The manual must include the specific observations to be made and the acceptable range of values.
2. Complete step-by-step maintenance requirements for the TMDs, including recommended frequency of maintenance.
3. Contact and telephone number for maintenance questions.
4. Complete instructions for checking fluid level and adding fluid to each type of viscous damper in-situ must be submitted for authorization with shop drawings.
5. Minimum static operating pressure for all types of viscous dampers.
6. Separate section detailing recommended post-earthquake inspection and maintenance. Complete instructions for installing replacement parts, if any, of the supplemental restraint along with material specifications, fabrication details, and sources of suppliers for the replacement parts.

55-3.01C(7) Performance Verification Test Methods

Submit 6 copies of the proposed means and methods to verify that the correct total damping performance has been achieved in the final as-built work for review and authorization. Include a range of acceptable results of the performance verification methods to verify that the correct total damping performance has been achieved in the final as-built work.

As-built performance verification may include forced excitation of the TMDs and bridge structure to verify that the correct total damping performance has been achieved.

55-3.01C(8) TMD Manufacturer Qualifications

Submit the following documentation for review and authorization:

1. Summary of the TMD manufacturer's experience that demonstrates compliance with section 55-3.01D(2).
2. List of at least 3 projects completed in the last 10 years that demonstrate the TMD manufacturer's experience. For each project include:
   2.1. Project description
   2.2. Name and phone number of the owner
   2.3. Completion date
   2.4. Schematic drawing showing TMD configuration on structure

55-3.01D Quality Control and Assurance

55-3.01D(1) General

Not used

55-3.01D(2) TMD Engineer

The TMD engineer must:

1. Be registered as a civil or mechanical engineer in the State.
2. Have experience in TMD design.
3. Seal and sign the shop drawings and calculations.
4. Propose revisions to the authorized shop drawings to address any unanticipated issues. Do not resume TMD installation activities until the proposed revisions are authorized.

55-3.01D(3) Qualifications

The TMD manufacturer must have experience manufacturing TMDs for bridge structures and must have completed at least 3 projects in the past 10 years involving manufacturing spring-mass type TMDs similar to those used for this project.

55-3.01D(4) Warranty

Manufacturer of the TMDs must provide at least 25-year warranty to the Department against defects in design, materials, and workmanship. Warranted defects include:

1. Cracked welds
2. Broken bolts
3. Fatigue or cracks in steel components
4. Fluid leakage that would result in a loss of normal operating function. Minor seepage associated with normal damper stroking such as thin film on piston rod may be acceptable provided that the damper manufacturer provides a quantifiable field method such as visual indicator, and operating pressure monitor to determine the magnitude of any seepage and its effect on the damping function. The damper manufacturer must provide a minimum of five testing devices to be used in the field to determine that the damper needs replacement.
5. Any damper that is unable to maintain the minimum static operating pressure as identified in the Inspection and Maintenance manual.
6. Fluid leakage resulting in accumulation of fluid beneath the dampers.
7. Loss of operation function

During the warranty period, the TMD manufacturer must repair or replace failed TMDs to restore them to full functionality at no cost to the Department. Repaired or replacement viscous dampers must be proof tested under section 55-3.01D(5)(c)(iii). The Department will remove the failed dampers and install the repaired or replacement dampers. Shipping and handling of repaired or replacement dampers must be at no cost to the Department.

Design the TMD to provide a minimum of 25-year service life. The manufacturer must provide either or both supporting calculations and test documentation to demonstrate excessive movement will not be experienced by the damper during the service life.

The warranty period must commence from the date of installation of the TMD. The warranty period must be permanently stamped on the dampers after installation.

The warranty must not be void if the Engineer installs any exterior mounted monitoring devices and associated clamps on TMDs which do not affect the functionality of the TMDs.

55-3.01D(5) Quality Control

55-3.01D(5)(a) General

A technical representative of the TMD manufacturer must be present during the installation of the TMDs.

55-3.01D(5)(b) TMD QC Program

Develop, implement, and maintain a QC program for TMDs. Include the following:

1. Product identification methods to allow products to be traced to production quality assurance records.
2. Flow chart of the product manufacturing process, including hold points for inspections.
3. List of test for materials, including applicable recognized standard for each test and qualifications of testing agency or personnel.
4. Manufacturing tolerances for each process.
5. All internal inspections and in-process QC, including all forms and checklists used to document inspections, hold points, qualifications of personnel performing the inspections and identifying how inspections are reviewed and approved.

6. QC tolerances and handling for erection of the dampers.

Prepare and maintain QC records, including:

1. Names and qualifications of testers and inspectors
2. Testing laboratories identification and certifications or testing equipment calibrations and certifications
3. Inspection reports
4. Sampling and testing records organized by date and type of material

Allow the Department access to all QC records.

Assign a QC manager for the TMD QC program. The QC manager must be responsible directly to you for the quality of the work, including materials and workmanship performed by you and your subcontractors.

Assign the QC manager before the start of the affected work. The QC manager must be the sole individual responsible for implementing the QC plan and maintaining QC records.

55-3.01D(5)(c) Viscous Damper Testing

55-3.01D(5)(c)(i) General

All viscous dampers must be tested to verify compliance with the physical parameters and energy requirements described in the authorized shop drawings.

Proof testing must be performed at the manufacturer's facility in the presence of the Engineer. The Engineer may ask manufacturer to ship randomly selected dampers to "Seismic Response Modification Device Test System" (SRMD) at University of California, San Diego campus, telephone (858) 534-1432 to perform proof testing. This work is change order work.

Perform tests in the presence of the Engineer.

The ambient temperature of the testing facility must be 70 degrees F +/- 10 degrees at the start of the test.

All testing must follow the numerical sequence described in the testing protocol tables unless otherwise authorized.

For each cycle of the test, continuously record the load, displacement, temperature, and hysteretic behavior of the prototype specimen.

Continuously monitor the temperature of the viscous dampers for all tests. Monitor the temperature of the viscous dampers at a minimum of two locations that best represent the internal fluid temperature. Begin monitoring at least 2 minutes prior to testing and continue at least 15 minutes after testing.

If design rated peak velocity cannot be achieved due to capability of testing apparatus, perform tests up to the maximum velocity of the testing apparatus but in no case less than 80% of the design peak velocity.

If the number of continuous cycles cannot be achieved due to the limit of the test apparatus accumulator, break the test down into a series of continuous cycles using the minimum elapsed time for recharging the fluid of the testing apparatus between cycles. This change must be authorized.

The hysteretic behavior of the specimens for the prototype and proof tests must remain stable, and the specimens must show no signs of distress at all loading conditions.

There must be no visible leakage or signs of physical deterioration observed during and after each test. Viscous dampers must perform within the criteria described in both compression and tension.

All devices of the same type must display dynamic characteristics within the upper and lower bound limits described in the authorized shop drawings for both the Prototype and Proof Test devices.

Permanently stamp all proof tested viscous dampers on 1 side with the following information:

1. Damper production lot number
2. Damper serial number
3. Date of fabrication

4. Damper design force
5. Design rated velocity
6. Range of damper stroke
7. Weight
8. Contract number

Prepare complete test reports for each proof test performed.

55-3.01D(5)(c)(ii) Prototype Testing

Not Used

55-3.01D(5)(c)(iii) Proof Testing

55-3.01D(5)(c)(iii)(A) General

Notify the Engineer at least 30 days before performing proof testing of each lot of production viscous dampers.

Perform the proof tests shown in the following table on each production viscous damper:

Proof Testing Protocols

Test No.	Type of Test	Peak Velocity (in./sec.)	Stroke (in.)	Cycles
1	Pressure Test	0	0	An internal pressure equal to the operating pressure at two times Vmax must be applied to each damper and maintained for a minimum of 5 minutes.
2	Stroke Verification	Not greater than 0.2	Total Stroke*	1

*Reduce the total stroke by 0.25 in to prevent bottoming out damper stroke

55-3.01D(5)(c)(iii)(B) Proof Testing Acceptance Criteria

Each viscous damper test must satisfy the additional requirements listed in the following table:

Proof Testing Acceptance Criteria

Test No.	Type of Test	Property	Requirement
1	Pressure Test	Internal pressure	The pressure maintains stable without any drop within the 5 minutes
2	Stroke Verification	Stroke length	Measured stroke is not less than total stroke

The Department rejects any viscous damper that fails to meet any of the acceptance criteria.

55-3.01D(5)(d) Tuned Mass Damper Testing

Factory acceptance testing must be performed for each TMD to verify the dynamic properties of the TMD, including frequency tuning, internal damping, low static friction, and proper range of motion, as required to provide the correct level of overall damping performance for the combined bridge-TMD system. Acceptance test reports must be submitted to the Engineer for review.

The factory acceptance test reports must be sealed and signed by the TMD engineer.

55-3.02 MATERIALS

55-3.02A General

Not Used

55-3.02B Delivery, Storage, and Handling

Manufacturer must deliver TMDs to the job site in protective packaging for freight, handling and storage purposes. Protect the dampers individually with protective packaging in the shipping crates. Replace any damaged or scratched dampers with new dampers of the same type as directed. The manufacturer must provide written handling, lifting, storing and installation instructions for TMDs.

Store damper shipping crates on wooden cribbing off the ground in an area not prone to any flooding. Damper shipping crates must not be stored by stacking crates on top of each other. Cover the shipping crates by a protective tarp during storage.

55-3.02C Tuned Mass Damper Design Criteria

Design of the TMD components and connections to the steel superstructure must be in accordance with current *AASHTO LRFD Bridge Design Specifications with California Amendments*.

Design TMDs to achieve compliance with AASHTO criteria for peak vertical wind-induced accelerations of the superstructure due to vortex shedding or buffeting, as follows:

1. Less than 5 percent of the acceleration of gravity for steady wind speeds less than or equal to 30 miles per hour.
2. Less than 10 percent of the acceleration of gravity for steady wind speeds greater than 30 miles per hour and less than or equal to 50 miles per hour.

Performance-based design techniques must be used to demonstrate analytically that the TMDs will, in combination with the bridge structural system, provide the necessary total effective damping to achieve the target design criteria. The minimum total effective damping ratio of the fundamental vertical mode of vibration of Span 7 must be 5 percent of critical.

A maximum of 6 TMDs may be used to achieve the design criteria.

Tuned mass dampers must be located within the interior voids of the steel superstructure at the locations shown on the plans. Connections of any TMD component to the steel superstructure deck, soffit, or diaphragm plates must (1) be welded connections, (2) not be visible in the final product, and (3) not inhibit the construction of the polyester concrete overlay.

Design the TMDs and connections to the steel superstructure, including the steel superstructure components connected to the TMD, with sufficient strength and rigidity to support all imposed loads of the TMD. Design must consider the strength and rigidity of steel superstructure components connected thereto and include supplemental framing as necessary to prevent overstressing any member of the structure under all service loads and seismic loads. Seismic loads must be determined from the application of the Safety Evaluation Earthquake (975-year return period) in accordance with *Caltrans Seismic Design Criteria, Version 2.0*, dated April 2019. The proposed connection details and supporting calculations must be submitted to the Engineer of Record for review. No work may be performed prior to the authorization of the proposed connection details.

Configuration of TMDs within the steel superstructure must allow for removal and movement of the soffit access opening cover plates within the superstructure to allow complete clearance of the access opening without damage to the TMD or access cover plate. Location and configuration of viscous dampers must allow for the access, removal, and replacement of the viscous dampers through the soffit access openings.

Tuned mass dampers must be able to operate within their motion envelope while not interfering with other bridge members.

Coordinate with the Engineer of Record to establish the final integration details, position, configuration, and connection details of the TMDs.

Total combined weight of all TMDs, connections, and modifications to the structure system, as required for connecting the TMDs to the steel superstructure, must not exceed 10,000 pounds.

Design viscous dampers to withstand maximum internal pressure resulting from the most adverse combination of design input data.

Design the viscous damper seals to accommodate a total accumulated travel of not less than 5 miles and at least 1 million cycles.

Design end attachments of the viscous damper to accommodate a minimum ± 3-degree transverse rotation without damage to the device. Design the viscous dampers to operate under full loads within the articulated limits specified.

TMDs must be capable of operating as specified for an ambient air temperature range from of 20 to 120 degrees F. Design the dampers to withstand any of the probable combinations of the following atmospheric elements: hail, smoke, ozone, rain, sleet, ice, fog, sunshine, sand, and dust.

The viscous dampers must be capable of resisting at least two times their own weight applied laterally in the fully extended position in combination with the maximum axial load.

The viscous damper must be capable of resisting at least the rated force corresponding to 2.0 times the maximum velocity shown axially in both the fully extended and fully compressed positions.

Design the viscous dampers to withstand the internal pressure developed in the viscous damper at 2.0 times the maximum velocity shown.

Design viscous dampers to accommodate a dynamic leakage level that in no way will affect their performance. Static seals must not leak externally under non-operating conditions.

Provide inspection port on top and bottom of viscous damper guide sleeve and extender.

All monitoring and inspection ports within the viscous damper guide sleeve and extender must be sealed to prevent any leaking into or out of the voided air space within the viscous damper.

Viscous damper must have a designated area for mounting future strain gauges. The designated area must be:

1. At least 12 inch long longitudinally
2. At least 6 inch away from areas of discontinuity

TMD size and configuration shown on the plans are conceptual.

55-3.02D Materials

All materials used in the manufacture of the dampers must be authorized. The manufacturer must substantiate the suitability of materials by furnishing samples, certified test data, or both for all materials so designated on the authorized shop drawings.

Unless otherwise specified, metal parts must comply with section 55-1.02D(3) or with ASTM A36/A36M, except bolts, nuts, and washers must comply with the specifications for components of HS steel fastener assemblies for use in HS joints in section 75-1.

Do not use dissimilar materials, as defined in MIL-STD-889B, in contact with each other unless suitably protected against electrolytic corrosion. Dissimilar metal joints will be allowed only with a non-metallic separator or gasket of at least 0.1 inch thickness or with the use of metallic coatings complying with MIL-STD-889B. The use of aluminum, aluminum alloys, magnesium alloys, and beryllium alloys is prohibited except for bearings.

Steel castings must comply with ASTM A747 except for parts such as covers, handles, and similar items whose failure would not affect the structural integrity or performance characteristics of the damper.

Castings for covers, handles, and similar items must comply with ASTM A27, Class 2.

Steel for main cylinder for dampers must be stainless steel complying with ASTM A564, Type 630 with age hardening heat treatment H925.

Use only materials in dampers that are non-nutrient to fungus.

Operating fluid used in dampers must be non-toxic, non-flammable, and chemically inert silicone complying with Federal Specification: VV-D-1078 (B). Do not use petrochemical fluids.

All non-metallic packing, seals, wipers, or gaskets must be manufactured from non-age sensitive materials.

Piston rods for dampers must be stainless steel complying with ASTM A564, Type 630 with age hardening heat treatment H925, H1075 or H1025.

Active surfaces of the piston rod, i.e. those in sliding contact with bearings and seals, may be nickel or chrome plated to a surface roughness not to exceed 0.00012 inches. Minimum plating thickness on stainless steel substrate must be 0.0016 inches and on other ferrous (not stainless) substrates must be 0.0028 inches. Chromium plating must be applied complying with ASTM B177, ASTM B650, and ASTM B254, or with Aerospace Material Specification AMS 2460. Nickel plating must be applied complying with ASTM B689 and ASTM B254 or must be electroless nickel plating complying with ASTM B733.

Non-metallic bearings and seals must be constructed of high-strength structural polymers to eliminate sticking or compression set during long periods of inactivity. Typical dynamic seal materials may include Teflon, stabilized nylon, and members of the acetyl resin family, or any combinations of those.

Elastomeric or urethane based buffer and rod seals housed in the bearing retainer or additional wiper seals housed in the retainer assembly must perform satisfactorily over the lifespan of the device at elevated temperatures in excess of 230 degrees F and approaching 250 degrees F for extended times.

The combination of polymer seals must be compatible with silicone working fluid and exhibit service resilience at continuous 250 degrees F fluid and/or assembly temperatures while exhibiting a high-pressure sealing capability at the design operating and bursting pressure.

55-3.02E Fabrication

Notify the Engineer at least 14 days before starting damper fabrication. Begin fabrication of production dampers after authorization of Part 1 of the submittals.

Damper removal and replacement must require only the removal and replacement of bolts.

Welding must comply with AWS D1.5. Pressure boundary structural welds are not allowed. Weld joints must be of the AWS D1.5 pre-qualified type. Weld filler material must be of the low-hydrogen type.

Seal cavities of the damper not filled with fluid against external contamination and moisture. Protect the exposed length of piston rod for contamination at all time and at any position within the damper.

55-3.02F Finishes

All materials and components of the dampers will be subject to moisture within the superstructure and must be protected by means of protective coating acceptable for the application. Protective coatings that will crack, chip, or scale with age are not allowed.

Any portion of damper exposed to the atmosphere that is not coated with paint must not be chrome plated.

All metal surfaces of the dampers, except stainless and galvanized steel, must be cleaned and painted under section 59.

Apply paint under the manufacturer's instructions.

Surfaces within the grip of HS bolted connections must be cleaned and painted before assembly under section 59.

55-3.03 CONSTRUCTION

Installation of TMDs must be compatible with the dimensional clearances and tolerances shown.

Installation of TMDs will be authorized only after shop drawings and the proof testing have been completed and authorized.

Install TMDs in conformance with the authorized installation manual.

Furnish and install connections to steel superstructure, including supplemental framing to steel superstructure, consistent with authorized shop drawings.

A qualified representative of the manufacturer must be present during the installation of all TMDs.

After completion the work, including construction of all finishes, fencing, overlays, and cable stay spacers, perform final tuning, commissioning, and as-built performance verification testing to confirm the target design criteria for wind-induced bridge vibrations have been achieved.

55-3.04 PAYMENT

Tuned mass dampers includes designing, furnishing, installing, and testing TMDs, including, but not limited to the following:

1. Furnishing TMDs
2. Proof testing of TMDs
3. Shipping and handling of TMDs
4. Technical representative
5. Installing TMDs into final position in the work.
6. Perform final tuning of TMDs.
7. Perform as-built performance verification to confirm that the correct total damping performance has been achieved.
8. Modifications and retesting as needed to meet performance criteria

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59 STRUCTURAL STEEL COATINGS

Add to section 59-1.01A:

Coating system for the following steel components must be an organic zinc-rich urethane/fluoropolymer coating system manufactured by Tnemec, or approved equal:

1. Exterior surfaces and partially exposed interior surfaces of central pylon, including:
   - 1.1. Back plates, side plates, curved front plates, exterior edges of center stiffener plates and architectural plate cap
   - 1.2. Base plate, including inside surfaces of threaded steel rod holes. The bottom surface of base plate does not require intermediate or finish coats.
   - 1.3. Inside faces of HSS and inside surfaces of curved front plates at forestay openings
   - 1.4. Gusset plates
   - 1.5. Inside faces of drainage openings
   - 1.6. Inside faces of access openings and backstay openings in the back plate
   - 1.7. Exterior faces and edges of tapered plates and access opening cover plates
   - 1.8. Exposed portions of fastener assembly surfaces
2. Exterior surfaces and partially exposed interior surfaces of steel principal span, except deck plates, including:
   - 2.1. Exterior surfaces of soffit plates, the inside faces of drainage holes in the soffit plates, and inside faces of soffit access openings at the tuned mass dampers
   - 2.2. Exterior surfaces of chord plates
   - 2.3. Exterior surfaces of deck edge plates and the inside faces of vent holes and drain holes in the deck edge plates
   - 2.4. Exterior surfaces of HSS outriggers
   - 2.5. Exterior surfaces of HSS stringers, including diaphragm plates and the inside faces of drain holes in the diaphragm plates
   - 2.6. Interior and exterior surfaces of drain pipes at soffit plate drain holes
   - 2.7. Exterior surfaces of column/box connections, including the top and side surfaces of base plates and inside surfaces of anchor bolt holes, drain holes, and conduit holes in the base plates. The bottom surface of base plate does not require intermediate or finish coats.
   - 2.8. Bottom and side surfaces of saddle plates at the hinges
   - 2.9. Exterior surfaces of the architectural soffit plates at the hinge locations
   - 2.10. Exterior surfaces of face plate, curved bottom plate, back plate, and stiffener plates at the hinge shear key assemblies
   - 2.11. Exterior surfaces of jacking HSS and associated cap plates at the hinges
   - 2.12. Bottom and edge surfaces of the soffit access cover plates at the tuned mass dampers, including the inside faces of the vent holes
   - 2.13. Exposed portions of fastener assembly surfaces
   - 2.14. Forestay gusset plates and pin plates, including exposure below HSS stringer (galvanized)
3. Sole plates, masonry plates, and wedge plates at PTFE spherical bearings
4. Exterior surfaces of the hinge seat assembly
5. Exterior surfaces of jacking angles and associated plates at hinge seat assemblies
6. Stanchion anchor plates and fins, including fin bolt holes, except for stainless steel fins
7. Exterior welds where adjacent surfaces are coated
8. Exposed portions of fastener assemblies where adjacent surfaces are coated

Protect the stay cable assemblies from paint, including the structural strand cables, sockets, fork connectors, spherical nuts and disks, threaded rods, pins, and appurtenances.

Do not proceed without Project Architect's authorization, where such authorization is specified.

Add to section 59-1.01C:

Submit exterior coating manufacturer's warranty.

Replace 1ST paragraph of section 59-1.01D with:

Measure coating dry film thickness with a calibrated Type 2 magnetic film thickness gauge under SSPC-PA 2, Level 3.

Add to section 59-1.01D:

Frequency of coating adhesion testing for each area of the structure will be determined at the prepainting meeting. At minimum, adhesion will be tested at the same frequency required for dry film thickness in SSPC-PA 2.

Comply with requirements of coating manufacturer's warranty.

Replace 2nd paragraph of section 59-1.03B with:

Unless otherwise required by manufacturer's surface preparation instructions, do not perform blast cleaning or apply solvent-borne paint if any of the following atmospheric conditions exist:

1. Atmospheric or surface temperature is below 36 degrees F
2. Atmospheric or surface temperature is above 100 degrees F
3. Relative humidity is more than 85 percent
4. Atmospheric or surface temperature is less than 5 degrees F above the dew point

Add to section 59-1.03B:

Do not apply organic zinc coating if any of the following atmospheric conditions exist:

1. Atmospheric or surface temperature is less than 5 degrees F above the dew point
2. Ambient humidity is less than 20 percent
3. Ambient humidity is more than 90%

Do not apply aliphatic acrylic polyurethane intermediate coating if any of the following atmospheric conditions exist:

1. Atmospheric or surface temperature is less than 5 degrees F above the dew point
2. Surface temperature is less than 40 degrees F
3. Surface temperature is more than 120 degrees F

Cure time necessary to resist direct contact with moisture at a surface temperature of 75 degrees F is 8 hours.

Do not apply polyamidoamine epoxy for stripe coat if any of the following atmospheric conditions exist:

1. Atmospheric or surface temperature is less than 5 degrees F above the dew point
2. Surface temperature is less than 50 degrees F
3. Surface temperature is more than 135 degrees F
4. Cure time necessary to resist direct contact with moisture at a surface temperature of 75 degrees F is 8 hours.

Do not apply advanced thermoset solution fluoropolymer finish coating if any of the following atmospheric conditions exist:

1. Atmospheric or surface temperature is less than 5 degrees F above the dew point
2. Surface temperature is less than 40 degrees F
3. Surface temperature is more than 120 degrees F

Cure time necessary to resist direct contact with moisture at a surface temperature of 70 degrees F is 7 hours.

Add to section 59-1.03C(3):

For light cleaning, comply with SSPC-SP WJ 4.

Replace second paragraph of section 59-1.03D with:

Do not thin paint unless thinning is required by manufacturer's instructions and is authorized.

Add after paragraph 9 of section 59-1.03D:

Comply with manufacturer's instructions for surface re-preparation between paint applications if time between applications exceeds manufacturer's instructions.

Add to section 59-2.01A(1):

Blast clean and paint interior surfaces of the steel principal span with the zinc coating system where described. A finish coat is not required.

Replace section 59-2.01A(3)(b) with:

59-2.01A(3)(b) Mandatory SSPC-QP Certifications

Submit proof of each required SSPC-QP certification as specified in section 8-1.04C. Required certifications for field and shop painters are:

1. SSPC-QP 1
2. AISC-420-10/SSPC-QP 3, enclosed shop

Instead of submitting proof of SSPC-QP 1 certification, you may submit documentation with your painting quality work plan showing compliance with the requirements in section 3 of SSPC-QP 1. Regardless of the option you select, submit proof of CAS certifications as specified in section 59-2.01A(3)(c).

Replace reserved section 59-2.01A(4)(a)(i) with:

Field painting must be performed by the shop painting contractor or a subcontractor to the shop painting contractor.

Add to section 59-2.01A(4)(a):

59-2.01A(4)(a)(iv) Test Panels

Prepare test panels for organic zinc-richurethane/fluoropolymer coating system on new steel.

Test panels must be:

1. Shop-coated with undercoat, intermediate coat and both finish coats using the same personnel, materials, equipment, and methods to be used in the work
2. At least 4 by 4 feet
3. Displayed in an upright position for viewing
4. Authorized before proceeding with shop coating work. Authorization must be signed by Engineer and Project Architect.
5. Prepared in the following Tnemec colors, or approved equals, with clear metallic (pearlescent) finish:
   a. Tnemec White
   b. Light Gray, similar to AMS STD 26408 or best match to bridge concrete color

The Engineer may request that up to 4 additional test panels be prepared until the specified finish and color are attained.

Samples coated under section 55-1.01D(3)(d) must not be used as test panels for this section.

The Engineer uses the authorized coated test panels to determine the acceptability of the coated surface.

An authorized test panel may be incorporated into the final work. Dispose of the test panels not incorporated into work after the coating work is complete and authorized. Notify the Engineer before disposing of the test panels.

Add to section 59-2.01A(4)(c):

Prepainting meeting agenda will include determination of frequency of adhesion strength test ASTM D4541 for each area of structure.

Add to section 59-2.01A(4)(d):

59-2.01A(4)(d)(iii) Organic Zinc Coating

Test the organic zinc undercoat before applying final or finish coats. Perform adhesion and hardness testing at least 7 days after application.

Test the organic zinc undercoat as follows:

1. Perform 3 adhesion tests per girder or 1,000 sq ft of painted surface, whichever is less. If less than 1,000 sq ft is painted in a work shift, perform 3 tests. The coating must have an adhesion to steel of at least 600 psi. If 2 or more locations fail adhesion requirements, the area represented by the tests is rejected. If 1 of the locations fails adhesion requirements, test 3 additional locations. If any of the additional locations fail, the area represented by the tests is rejected. Repair rejected areas by blast cleaning and repainting. Repair test locations meeting adhesion requirements by applying organic zinc-rich primer to the specified dry film thickness.
2. Test surfaces where finish coats are to be applied for soluble salts. Soluble salt levels must not exceed the lesser of the coating manufacturer's recommendations or 7 µg/sq cm. Perform 3 tests for the first 1,000 sq ft prepared per day and 1 test for each additional 1,000 sq ft or portion thereof. Perform at least 2 tests when less than 1,000 sq ft is prepared in a shift. Clean and retest areas represented by soluble salt tests exceeding specified limits.
3. The organic zinc coating must exhibit a solid, hard, and polished metal surface when firmly scraped with the knurled edge of a quarter before final or finish coats are applied. Repair areas that are powdery, soft, or do not exhibit a polished metal surface by blast cleaning and repainting.
4. Determine surface hardness under ASTM D2794. Undercoat must show no cracking or delamination after 76 pounds of direct impact. The test rate is 1 test per 500 sq ft or portion thereof. Repair organic zinc coating represented by tests that fail to meet surface hardness requirements by blast cleaning and repainting.

Replace section 59-2.01B(1) with:

Zinc-rich primer used on faying surfaces must comply with the slip coefficient specifications for Class B coatings on blast-cleaned steel in appendix A of *Specification for Structural Joints Using High-Strength Bolts* of the RCSC.

Replace 1st paragraph of section 59-2.01C(1) with:

Unless otherwise shown, clean and paint all exposed structural steel and other metal surfaces.

Add to section 59-2.01C(1):

Field repair damaged coating on pylon access panels, mass damper access panels, and surrounding area after the panels are fastened.

Add to section 59-2.01C(2)(a):

The containment system must provide a vertical clearance of 15 feet and a horizontal clearance of 32 feet for the passage of traffic.

Replace the 1st paragraph of section 59-2.01C(3)(a) with:

Corners must be chamfered and sharp edges rounded.

Add after the 1st paragraph of section 59-2.01C(3)(b)(ii):

Blast clean steel surfaces to be coated with organic zinc under SSPC-SP 10/NACE no. 2. After blast cleaning, surfaces must have a dense, uniform, angular anchor pattern of 1.5- to 3.0 mils when measured under ASTM D4417.

Replace the item 1 in the 1st paragraph of section 59-2.01C(4)(a) with:

1. Apply the undercoat, stripe coat, intermediate coat, and both finish coats in the shop.

Add to 1st paragraph of section 59-2.01C(4)(a):

4. Brush-apply a stripe coat following undercoating on all edges, corners, seams, crevices, interior angles, junctions of joining members, weld lines, bolt heads and nuts, bolt holes, and similar surface irregularities. The stripe coat must be tinted to distinguish it from undercoat and must completely hide the surface being covered.
5. Protect coated members from damage during erection. Clean and spot-paint gouges and scrapes that are visible when viewed from a distance of 10 feet.

Add to section 59-2.01C(4)(a):

Prepare entire surface of steel to be painted. Hold back coatings at weld locations. After welding, steel fabricator must remove weld slag and spatter and prepare weld areas per SSPC-SP11 so that they exhibit a dense, uniform, and angular surface profile of no less than 1.5 mils and no more than 3.5 mils before weld areas are coated.

Replace the 1st paragraph of section 59-2.01C(4)(b)(i) with:

Coating for interior surfaces of the steel principal span must be either:

1. One or more applications of inorganic zinc primer undercoat. The total thickness of undercoat must be from 2.5 to 3.5 mils.
2. One application of organic zinc-rich primer undercoat from the zinc-rich urethane/fluoropolymer system described in section 91. The total thickness of undercoat must be from 2.5 to 3.5 mils.

Coating for exterior surfaces of the steel principal span must comply with section 91 and the requirements shown in the following tables:

Organic Zinc-Rich Urethane/Fluoropolymer Coating System Requirements

Description	Coating	Dry film thickness (mils)
New surfaces, metallic:		
Undercoat	Organic zinc primer	2.5 -3.5
Stripe Coat	Two-component polyamidoamine epoxy or approved equal	2.0 – 3.0
Intermediate Coat	Two-component aliphatic acrylic polyurethane or approved equal	3-5
Finish Coat	Two-component advanced thermoset solution fluoropolymer or approved equal	2.5-3.5
Clear Metallic (Pearlescent) Finish Coat	Thermoset Solution Fluoropolymer or approved equal	2.0-3.0
Total thickness, all coats (metallic)		10-15
New surfaces, non-metallic		
Undercoat	Organic zinc primer	2.5 -3.5
Stripe Coat	Two-component polyamidoamine epoxy or approved equal	2.0 – 3.0
Intermediate Coat	Two-component aliphatic acrylic polyurethane or approved equal	3-5
Finish Coat	Two-component advanced thermoset solution fluoropolymer or approved equal	2.5-3.5
Total thickness, all coats (non-metallic)		8-12

For organic zinc-rich urethane/fluoropolymer coating system, undercoats and finish coat must be from the same manufacturer.

Delete "inorganic" from paragraphs 2 and 4 of section 59-2.01C(4)(b)(i).

Delete "inorganic" where occurs in section 59-2.01C(4)(b)(ii).

Replace the 2nd sentence of section 59-2.01C(4)(b)(ii) with:

Apply the undercoat within 8 hours of starting blast cleaning.

Delete "inorganic" where occurs in section 59-2.01C(4)(b)(iii).

Replace section 59-2.01C(4)(b)(iv) with:

59-2.01C(4)(b)(iv) Intermediate and Finish Coats

Pressure rinse undercoated surfaces to receive intermediate and finish coats. Perform pressure rinsing at least 72 hours after the final application of the undercoat.

Within 48 hours of pressure rinsing, apply intermediate coat for organic zinc-rich urethane/fluoropolymer coating system.

For organic zinc-rich urethane/fluoropolymer coating system, apply intermediate coat under manufacturer's instructions. Apply the finish coat after the intermediate coat has dried for the time required by manufacturer.

Component colors for the intermediate and finish coats are shown in the following table:

Component Colors

Component	Color
1. Pylon-related components, including: 1.1. Pylon, including flat head bolts on pylon 1.2. Pylon access opening 1.3. Exterior field welds on the pylon where adjacent surfaces are coated 1.4. Exposed hardware forpylon 1.5. Pylon base gusset plate 1.6. Pylon base plate	'Tnemec White' or approved equal, with clear metallic finish
Components that are not pylon-related	Tnemec 'Light Gray' or approved equal. No metallic finish.

Replace section 59-3.02 with:

Except for exterior surfaces specified as receiving an organic zinc-rich urethane/fluoropolymer coating, coatings for galvanized metal surfaces must comply with either State Specification PWB-174A or with section 91-2.02.

Coating for galvanized metal surfaces specified as receiving an organic zinc-rich urethane/fluoropolymer coating system must comply with section 91 and the requirements shown in the following table:

Organic Zinc-Rich Urethane/Fluoropolymer Coating System Requirements

Description	Coating	Dry film thickness (mils)
Touch-up of damaged galvanizing	Zinc-rich primer	2.5 to 3.5
Prime/Tie-coat	Two-component polyamidoamine epoxy or approved equal	2.0 to 3.0
Intermediate Coat	Two-component aliphatic acrylic polyurethane or approved equal	2.0 to 3.0

Organic Zinc-Rich Urethane/Fluoropolymer Coating System Requirements

Description	Coating	Dry film thickness (mils)
Finish Coat	Thermoset Solution Fluoropolymer or approved equal	2.0 to 3.0
Total thickness, all coats		6.0 to 9.0

For organic zinc-richurethane/fluoropolymer coating system, all coats must be from the same manufacturer.

Add before the 1st paragraph of section 59-3.03:

59-3.03A General

Section 59-3.03 includes specifications for coating interior and exterior galvanized surfaces.

59-3.03B Interior Galvanized Surfaces

Add to section 59-3.03:

59-3.03C Exterior Galvanized Surfaces

59-3.03C(1) General

Section 59-3.03C includes specifications for preparing and painting exterior galvanized surfaces.

Corners must be chamfered and sharp edges rounded.

Color must comply with section 59-2.01C(4)(b)(iv).

59-3.03C(2) Prepare Exterior Galvanized Surfaces

Solvent clean under SSPC-SP1 before and after subjecting exterior galvanized surfaces to brush-off blast cleaning under SSPC-SP16. In small areas where abrasive-blasting is not practical, surfaces may be cleaned using impacting power tools as an alternative or supplement to abrasive blast-cleaning. Do not use tools that burnish the surface. Do not remove galvanizing.

Resulting galvanized surface must be scarified to exhibit a dense, uniform and angular surface profile of 1.5 mil minimum and must be clean, dry, free of passivation, and of visible and soluble surface contaminants.

59-3.03C(3) Paint Galvanized Surfaces

Apply the touch-up, tie coat, intermediate coat, and finish coats in the shop.

Apply touch-up coat under manufacturer’s instructions.

Brush-apply a tie coat following touch-up coat on all edges, corners, seams, crevices, interior angles, junctions of joining members, weld lines, bolt heads and nuts, bolt holes, and similar surface irregularities. The tie coat must be tinted to distinguish it from touch-up coat and must completely hide the surface being covered.

Apply intermediate and finish coats under section 59-2.01C(4)(b)(iv).

Protect coated members from damage during erection. Clean and spot-paint gouges and scrapes that are visible when viewed from a distance of 10 feet.

Replace section 59-3.04 with:

59-3.04 PAYMENT

Payment for preparing and painting galvanized structural steel surfaces is included in payment for clean and paint structural steel.

^^

60 EXISTING STRUCTURES

Replace the 1st paragraph of section 60-3.02A(1) with:

Section 60-3.02 includes specifications for (1) repairing concrete deck surfaces, (2) preparing concrete deck surfaces to receive an overlay or a deck treatment, and (3) preparing steel deck surfaces to receive an overlay.

Add to section 60-3.02C(7):

When abrasive blasting within 10 feet of traffic, remove the residue using a vacuum attachment operating concurrently with the blasting equipment.

Adjust the travel speed and number of passes of the abrasive blasting unit so that all weak or loose surface mortar is removed, aggregates within the concrete are exposed, and open pores in the concrete are exposed, and there is a visible change in the concrete color.

Hand grind where abrasive cleaning cannot reach surfaces that will be in contact with overlay, including gaps between plates.

Replace *Reserved* in section 60-3.02C(9) with:

60-3.02C(9) Prepare Steel Deck Surface

Prepare steel deck surface before placing polyester concrete deck overlay with zinc-rich methacrylate prime coat.

Perform the following activities in the order listed:

1. Abrasive blast clean the steel deck surface under SSPC-SP 10/NACE no. 2 with steel shot immediately before placing zinc-rich methacrylate prime coat and polyester concrete overlay. Steel shot must comply with SSPC-AB 3. Recycled steel shot must comply with SSPC-AB 2.
2. Remove residue using a vacuum attachment operating concurrently with the blasting equipment.
3. Blow the deck surface clean using high-pressure oil free air from a 185 CFM minimum compressor through a maximum 1.5-inch blow pipe. Leaf blowers will not be allowed. Dust must not be blown into the air while blowing the deck.

Clean surfaces that will be in contact with zinc-rich methacrylate prime coat and polyester concrete overlay that are inaccessible to blast cleaning under SSPC-SP 11. Protect the coated surface of the chord plate that will be visible above the surface of the polyester concrete overlay.

The steel deck surface must be dry when abrasive blasting is performed. Remove all laitance, surface contaminants, and foreign material from the steel deck surface.

Replace section 60-3.04A(1) with:

Section 60-3.04 includes specifications for overlaying concrete deck surfaces and overlaying steel deck and chord plate surfaces.

Add to section 60-3.04B(1)(a):

Polyester concrete overlay system must be as manufactured by Kwik Bond Polymers or approved equal.

Integrally-colored polyester concrete overlay must be colored Kwik Bond “charcoal” or approved equal.

Replace item 1 in the list in the 1st paragraph of section 60-3.04B(1)(c) with:

1. Schedule of overlay work for each bridge frame and a schedule of work for any trial overlays

Add to the list in the 1st paragraph of section 60-3.04B(1)(c):

12. Location and preparation of concrete base trial overlays
13. Sequence of placement
14. Construction joint locations

15. Paving widths
16. Paving direction
17. Anticipated paving lengths
18. Trial overlay location(s)
19. Description of equipment for surface preparation
20. Method for shielding adjacent areas
21. Method for measuring and maintaining overlay thickness and profile

Replace the 3rd paragraph of section 60-3.04B(1)(c) with:

Submit test samples of methacrylate resins, polyester resins, and aggregates with a certificate of compliance and manufacturer's test results at least 15 days before the polyester overlay prepaving conference.

Add to section 60-3.04B(1)(c):

Submit qualifications of system provider, installers, and installing supervisor.

For system provider, submit the following evidence of successful installations:

1. Project location
2. Owner agency
3. Project construction date
4. Overlay quantities and component details
5. Reference name and contact information for owner agency representative

For installers, submit the following evidence of installation experience:

1. Project location
2. Owner agency
3. Project construction date
4. Overlay volume and area
5. Reference name and contact information for owner agency representative

For installation supervisors, submit the following evidence of installation experience:

1. Project location
2. Owner agency
3. Project construction date
4. Overlay volume and area
5. Reference name and contact information for owner agency representative

Submit current certification of calibration of continuous volumetric mixing equipment with the exact polyester concrete overlay system to be installed. Calibration certification test must be California CT 109 . If requested, perform on-site verification. To verify, demonstrate in the presence of the Engineer that the weight of individual aggregate and resin batches as shown by mixing equipment readout is within 2 percent of the weight determined by certified scales. On-site verification will be accepted after three consecutive successful results.

If requested, submit mixer ticket for each pass or pass segment supplied. Tickets must show:

1. Project number
2. Bridge number
3. Date and time
4. Location of placement (station limits)
5. Aggregate weight
6. Polyester resin binder weight

If corrective work is required, submit a plan describing methods, equipment, and procedures for authorization.

Submit a 12” x 12” cast sample of integrally colored and non-colored polyester concrete overlay. Engineer may request four additional sets of samples at no additional cost.

Submit a public safety plan. Include with the submittal:

1. Copy of public notification letter with a list of delivery addresses and posting locations. The letter must describe the work to be performed and state overlay work locations, dates, and times. Deliver copies of the letter to residences and businesses within 100 feet of the overlay work and to local fire and police officials, at least 7 days before starting overlay activities. Post a copy of the letter at the job site.
2. Airborne emissions monitoring plan. Plan must include monitoring point locations. A CIH certified in comprehensive practice by the American Board of Industrial Hygiene must prepare and execute the plan.
3. Action plan for protecting the public if airborne emissions levels exceed permissible levels.
4. Copy of the CIH's certification.

Submit results from trial overlay airborne emissions monitoring before starting production work.

Submit results from production airborne emissions monitoring as an informational submittal after completing overlay activities.

Add to the beginning of section 60-3.04B(1)(d):

60-3.04B(1)(d)(i) General

Section 60-3.04B(1)(d) includes specifications for quality assurance for overlaying concrete deck surfaces and overlaying steel deck and chord plate surfaces.

Do not proceed without Project Architect’s authorization, where such authorization is specified.

60-3.04B(1)(d)(ii) Air Monitoring

The job site must have at least 4 airborne emissions monitoring points, including the mixing point, application point, and point of nearest public contact. Monitor airborne emissions during overlay activities.

60-3.04B(1)(d)(iii) Trial Overlay

Replace the 2nd paragraph of section 60-3.04B(1)(d) with:

The trial overlay must:

1. Match the grade and surface cross-section of the proposed concrete deck from station 13+53.75 to station 13+67.75.
2. Be constructed on a prepared concrete base with accurate longitudinal profile and height of final curbs
3. Be constructed within the project limits, off the bridge, at an authorized location
4. Have integrally-colored and non-colored overlay to match appearance of completed project
5. Be constructed (1) using the same materials, personnel, equipment, finishing, and construction methods to be used in the work and (2) under conditions similar to those anticipated when the work will be performed

The prepared concrete base must match the specified section’s geometry only where it will receive the polyester concrete overlay, including the curb faces, and not on the outside or bottom of the prepared base. The exterior sides of the prepared base may be vertical and its bottom flat.

Delete the 4th paragraph of section 60-3.04B(1)(d).

Replace the 5th and 6th paragraph of section 60-3.04B(1)(d) with:

The completed trial overlay must demonstrate (1) compliance with these specifications, (2) that the crew can achieve the specified surface color, finish, and geometry, (3) that the work will be completed within the time allowed, and (4) suitability of your airborne emissions monitoring plan.

Do not perform overlay activities until the trial overlays are authorized. The authorization must be signed by the Engineer and the Project Architect. The authorized trial overlays are the standard of comparison in determining the acceptability of the overlay.

The Engineer may request that additional trial overlays be constructed until the specified overlay thickness, finish, and color are attained. The Engineer may reject the proposed equipment, method, and material if the specified overlay is not attained after two trials.

Delete the 7th paragraph of section 60-3.04B(1)(d).

Add to section 60-3.04B(1)(d):

60-3.04B(1)(d)(iv) Rebound Testing

For each paving pass, perform rebound tests under ASTM C805 on at least 2 test areas. The Engineer determines the location of each test area. The distance between each test area must not exceed 200 feet in length.

Each rebound test location must be a smooth troweled area at least 6 inches in diameter.

60-3.04B(1)(d)(v) Prepaving Conference

Schedule a prepaving conference at a mutually agreed upon time and place to meet with the Engineer. Make the arrangements for the conference facility. Discuss methods of performing each item of the work.

Prepaving conference attendees must sign an attendance sheet provided by the Engineer. The prepaving conference must be attended by your project superintendent and polyester concrete overlay supervisor.

Do not start paving work until the listed personnel have attended the prepaving conference and the trial overlay is authorized.

System component containers must be industrial grade and bear the manufacturer's label, with batch number, brand name and quantity.

60-3.04B(1)(d)(vi) Polyester Concrete Overlay System Provider Qualifications

The proposed polyester concrete overlay system must have been successfully placed on 10 polyester concrete overlay projects of similar size and scope to the proposed installation within the past five years. Scope will be evaluated by placement temperature, traffic return, allowable cure time, placement thickness, average daily traffic, surface texture, environmental conditions, and other factors unique to the application. Acceptable project experience must be in current service for a minimum of 5 years showing no signs of installation deficiency, major distress, excessive wear, non-reflective in service cracks, insufficient skid resistance, or delamination.

60-3.04B(1)(d)(vii) Polyester Concrete Overlay Installer Crew Qualifications

The polyester concrete overlay system installer must have one of the following:

1. Experience placing polyester concrete overlay systems to finished grade using similar equipment as specified herein on 5 projects within the past 5 years. Thin polymer (broadcast) overlay experience will not be accepted. Installation supervisor's experience must be for the exact system to be used. A minimum of two of the installer's on-site crew, the installation supervisor, and the installing company itself must meet the minimum qualifications.
2. An agreement with overlay system provider to provide a training course for installers and an on-site installation supervisor for the duration of the installation.

Replace introductory clause in item 5 of the list in 3rd paragraph of section 60-3.04B(2) with:

Comply with the percentage passing limits for the No. 4 maximum aggregate gradation shown in the following table:

Add to section 60-3.04B(2):

Components of polyester concrete overlay system must be from a single system provider.

Accelerators or inhibitor may be required to achieve proper setting time of polyester concrete. Use accelerators an inhibitors recommended by overlay system provider. Use the recommended accelerators and inhibitors per manufacturer's instructions.

Replace section 60-3.04B(3)(b) with:

The Engineer determines the exact percentage of polyester resin binder at the time of placing.

The deck must be dry before placing the methacrylate prime coat. The surface must be free of any standing water or surface darkening that would indicate locations of previously standing water. The entire concrete substrate surface must be uniformly light in color and show no further lightening when drying methods such as blowing compressed air or heating with a propane torch are applied. Cracks in the concrete substrate must also be dry.

Surfaces must not be exposed to precipitation or heavy dew during nor after application of primer.

The concrete surface must be from 50 to 100 degrees F and the relative humidity must be not more than 85 percent. Verify conditions with manufacturer's instructions.

Immediately before placing primer, vacuum the deck, then blow the deck clean with high-pressure oil-free air from 185 CFM minimum compressor through a 1.5-inch blow pipe. Leaf blowers will not be allowed. Dust must not be blown into the air while blowing the deck.

Thoroughly mix all components of the methacrylate resin. Apply the resin to the deck surface within 5 minutes of mixing. Apply the resin by flooding and spread uniformly to completely cover surfaces to be overlaid. Remove or distribute excess material to meet required saturation without excessive puddling. Reapply primer to areas that appear dry 15 minutes after primer placement, before placing overlay.

Replace item 5 in list in 1st paragraph of section 60-3.04B(3)(c) with:

5. Produce a satisfactory mix consistently during a demonstration, with appropriate levels of resin, initiator, and, if used, accelerator.

Add between the 2nd and 3rd paragraphs of section 60-3.04B(3)(c):

You may use a mechanical mixer to mix the polyester concrete. The mixer capacity must not exceed 9 cu ft unless otherwise authorized. Initiate the resin binder and thoroughly blend it immediately before mixing it with the aggregate. Mix the polyester concrete for at least 2 minutes before placing.

Delete item 3 in list in 3rd paragraph of section 60-3.04B(3)(c).

Replace 4th paragraph of section 60-3.04B(3)(c) with:

Place polyester concrete:

1. No sooner than 15 minutes after applying the methacrylate prime coat
2. Within two hours of applying the methacrylate prime coat
3. Before gelling occurs
4. Within 15 minutes of adding the initiator

Replace 7th paragraph of section 60-3.04B(3)(c) with:

Do not tine overlay surface.

Replace 8th paragraph of section 60-3.04B(3)(c) with:

Apply a sand finish of not less than 2 lb/sq yd before gelling occurs.

Replace the 9th paragraph of section 60-3.04B(3)(c) with:

Protect the overlay from moisture and do not allow equipment on the overlay for (1) a minimum of 2-hour cure time after final finishing and (2) until each rebound test result for the final finish shows a reading of at

least 28 when tested under ASTM C805. The cure time must be extended if ordered. The rebound test may not be used to reduce the 2-hour cure time of the overlay.

Replace the 10th paragraph of section 60-3.04B(3)(c) with:

Completed polyester concrete deck surfaces must have a uniform surface texture and a surface smoothness complying with section 51-1.01D(3)(b)(ii).

Add to section 60-3.04B(3)(c):

Resin content must result in a slight and not excessive sheen of bleed resin on top surface after consolidation and finishing. Apply overlay to access opening assembly covers. Protect access cover hardware from overlay.

Add to section 60-3.04B(3):

60-3.04B(3)(d) Corrective Work

Replace defective portions of work.

If cracks appear in overlay after 6 hours, fill cracks with properly initiated and mixed HMWM resin prime coat material. Prevent spillover onto finished surface of overlay.

You may request authorization to use HMWM sealer to fill cracks.

If in the Engineer's opinion cracking is extensive and if overlay meets all other acceptance requirements, Engineer may require that the area be cleaned and flood-coated with properly initiated and mixed HMWM sealer, followed by abrasive sand broadcast. HMWM sealer must comply with section 41-3.02.

You are responsible for restoring adjacent areas that you damage or splash with overlay.

Add to section 60-3.04B(4):

Payment for trial overlay including preparation of concrete base is included in the bid price paid for place polyester concrete overlay.

Replace *Reserved* in section 60-3.04F with:

60-3.04F Polyester Concrete Overlay (Zinc) on Steel Bridge Deck Surface

60-3.04F(1) General

60-3.04F(1)(a) Summary

Section 60-3.04F includes specifications for placing polyester concrete overlays on steel bridge decks.

Placing polyester concrete overlay (zinc) includes placing a zinc-rich prime coat of methacrylate resin to the steel bridge deck before placing the polyester concrete overlay.

60-3.04F(1)(b) Definitions

Reserved

60-3.04F(1)(c) Submittals

Make submittals under section 60-3.04B(1)(c) and this section.

Submit test samples of zinc powder, methacrylate resins, polyester resins, and aggregates with a certificate of compliance and manufacturer's test results at least 15 days before use.

60-3.04F(1)(d) Quality Assurance

Quality assurance must comply with section 60-3.04b(1)(d).

60-3.04F(2) Materials

Polyester concrete materials must comply with section 60-3.04B(2) and this section.

Zinc powder must comply with ASTM D520, Type 2 and be added to the high-molecular-weight methacrylate resin.

Preformed compression isolation joint seal must comply with section 41.

Silicone joint sealant must comply with section 41.

60-3.04F(3) Construction

60-3.04F(3)(a) General

Notify the Engineer at least 30 days before starting overlay activities including steel surface preparation under section 60-3.02C(9).

Notify the Engineer at least 15 days before delivery of zinc-rich methacrylate resin components to the job site.

The Engineer provides the final grade and cross slope before the start of overlay work.

Install joint seals under section 41.

60-3.04F(3)(b) Placing Zinc-Rich Methacrylate Resin

The Engineer determines the exact percentage of polyester resin binder at the time of placing.

The steel surface must be dry before placing the zinc-rich methacrylate resin prime coat. The steel surface must be from 50 to 100 degrees F and the relative humidity must be not more than 85 percent. Steel substrate surfaces that will be in contact with zinc-rich methacrylate resin prime coat and polyester concrete overlay must be free of all visible rust, mill scale, paint, and foreign matter under SSPC-SP10/NACE no. 2 before placing the zinc-rich methacrylate resin prime coat.

Blow the deck clean with high-pressure oil-free air from a 185 CFM minimum compressor through a maximum 1.5-inch blow pipe. Leaf blowers will not be allowed. Dust must not be blown into the air while blowing the deck.

Add zinc powder to the methacrylate resin at a minimum rate of 85 percent of the weight of methacrylate resin.

Thoroughly mix all components of the zinc-rich methacrylate resin at the site. Apply the zinc-rich methacrylate resin to the deck surface within 5 minutes of mixing. Apply the resin uniformly and spread to completely cover surfaces to be overlaid.

Apply zinc-rich methacrylate resin prime coat at an approximate rate of 40 sq ft/gal.

Surfaces must not be exposed to precipitation or dew during and after application of zinc-rich methacrylate resin prime coat.

60-3.04F(3)(c) Placing Polyester Concrete

Place polyester concrete under section 60-3.04B(3)(c) and this section.

Perform corrective work under section 60-3.04B(3)(d).

60-3.04F(4) Payment

The payment quantity for furnish polyester concrete overlay (zinc) is the volume determined using:

1. Quantity of resin binder used
2. Percentage by weight of resin binder in the polyester concrete
3. Unit weight of 135 lb/cu ft

^^

DIVISION VII DRAINAGE FACILITIES
62 STORMWATER TREATMENT

Replace Reserved in section 62-7:

62-7.01 GENERAL

62-7.01A Summary

Section 62-7 includes specifications for constructing linear bioretention areas.

62-7.01B Definitions

Not Used

62-7.01C Submittals

Submit a certificate of compliance from the soil supplier.

Submit the compost producer's *Compost Technical Data Sheet* include test results and *Seal of Testing Assurance* certificate before mixing compost with sand and soil.

62-7.01D Quality Assurance

Saturated hydraulic conductivity for imported biofiltration soil must be at least 5 inches per hour.

62-7.02 MATERIALS

Plastic moisture barrier must be minimum 10 mil thickness.

Imported biofiltration soil must comply with Refence Document E of the City of Santa Rosa Storm Water Low Impact Development Technical Design Manual.

62-7.03 CONSTRUCTION

Place imported biofiltration soil after all other earthwork in the area is complete.

Place imported biofiltration soil in lifts of 8 to 12 inches and spread to a uniform thickness.

62-7.04 PAYMENT

Payment for plastic moisture barrier is included in payment for imported biofiltration soil.

^^

68 SUBSURFACE DRAINS

Replace the 3rd paragraph of section 68-2.02F(1) with:

Use Class 2 permeable material for underdrains.

^^

71 EXISTING DRAINAGE FACILITIES

Replace section 71-6.03 with:

71-6.03 CULVERTS AND PIPELINES

71-6.03A General

Abandon culverts or pipelines by removing portions of the culverts or pipelines, filling the inside, and backfilling the depressions and trenches to grade. As an alternative to abandoning a culvert or pipeline, you may remove the culvert or pipeline, dispose of it, and backfill.

Notify the Engineer before abandoning a culvert or pipeline.

71-6.03B Materials

Openings into existing structures that are to remain in place must be plugged with minor concrete under section 90.

71-6.03C Construction

Wherever culverts or pipelines intersect side slopes, remove them to a depth of at least 3 feet. Measure the depth normal to the plane of the finished side slope. Abandon the remaining portion of the culvert or pipeline.

Culverts or pipelines that are 12 inches or more in diameter must be completely filled by authorized methods. Backfill with sand that is clean, free draining, and free from roots and other deleterious substances. As an alternative to sand, you may backfill with one of the following:

1. Controlled low-strength material under section 19-3.02G
2. Slurry cement backfill under section 19-3.02E

Ends of culverts and pipelines must be securely closed by a 6-inch-thick, tight-fitting plug or wall of commercial-quality concrete.

71-6.03D Payment

If backfilling inside the culvert or pipeline is required, payment for backfilling inside the culvert or pipeline is paid for as sand backfill. Payment for backfilling outside the culvert or pipeline is included in the payment for abandon culvert or abandon pipeline.

Replace section 71-6.04 with:

71-6.04 INLETS

71-6.04A General

Abandon pipe inlets and concrete drainage inlets as shown.

71-6.04B Material

Not Used

71-6.04C Construction

The top portion of the inlets must be removed to a depth of 3 feet below finished grade.

71-6.04D Payment

Not used.

^^

DIVISION VIII MISCELLANEOUS CONSTRUCTION

72 SLOPE PROTECTION

Replace paragraph 1 in section 72-4.02 with:

Rock must be smooth cobble.

^^

73 CONCRETE CURBS AND SIDEWALKS

Add to section 73-1.01:

Concrete pavement treatments are:

Treatment No.	Treatment
1	Concrete paver system (field)
2	Concrete paver system (edge)
3	Reinforced concrete, integrally colored under section 51 to match existing SRCC paths

Add to section 73-1.02A:

Concrete must be minor concrete complying with section 90-2 and may contain returned plastic concrete complying with section 90-9.

Add to section 73-3.01C:

Within 2 business days of completing the surveys, submit preconstruction and post-construction surveys sealed and signed by one of the following:

1. Land surveyor licensed in the State
2. Engineer who is registered as a civil engineer in the State

Replace section 73-3.01D(3) with:

73-3.01D(3) Quality Control

For locations shown, perform a preconstruction survey to ensure forms and job site constraints will allow for compliance with required design dimensions and slopes shown. Upon completing the work, perform a post-construction survey to verify design dimensions and slopes requirements are met. The post-construction survey must include a minimum of 3 measurements for each dimension and slope requirement shown. Individual measurements must be equally distributed across the specified slope or dimensional surface. Document and submit these measurements on the Americans with Disabilities Act Compliance Inspection Report form for the facility type shown. Include the equipment and control used to conduct the survey.

Add to the beginning of section 73-3.03:

Before placing concrete, verify that forms and job site constraints allow the required dimensioning and slopes shown. Immediately notify the Engineer if you encounter job site conditions that will not accommodate the design details. Ordered modifications are change order work.

Replace section 73-4.01A with:

73-4.01A Summary

Section 73-4 includes specifications for colored concrete surfaces and textured concrete surfaces including stamped, broomed, exposed aggregate, seeded aggregate, and rock salt textured. Texture concrete by imprinting with stamps, tools, or brooms, exposing aggregate or applying rock salt or other authorized methods to attain the pattern, impressions, or texture shown. Expose integral or seeded aggregate using brooms, tools, or other authorized methods to attain the depth of exposure required. Color concrete by integral color or dry shake method as shown.

Concrete pavement (pavement treatment 3) is integrally colored reinforced concrete pavement.

Add to section 73-4.01C:

Submit technical data, manufacturer's specifications, and a work plan for mixing, delivery, placement, finishing, and curing of concrete with integral color.

Replace the 1st paragraph of section 73-4.01D(2) with:

Construct a test panel for concrete pavement (pavement treatment 3) under section 51-1.01D(2)(c), except test panel size must be at least by feet by 6 inches deep.

Test panels for concrete pavement (pavement treatment 3) must match the existing pathways at Santa Rosa Junior College. Test panels must be authorized at least 5 business days before starting work.

Obtain authorization before disposing of any test panel.

Integral color for minor concrete must be a fade resistant, mineral oxide, or synthetic type color.

Replace section 73-4.03 with:

73-4.03 CONSTRUCTION

73-4.03A General

Protect the surrounding exposed surfaces during the placement, finishing, and curing of textured and colored concrete.

Mix integral concrete coloring agent uniformly and homogeneously with the concrete.

If shown, place welded wire reinforcement or bar reinforcing steel.

Place and consolidate the concrete such that the coarse aggregate remains uniformly distributed throughout the concrete.

Screed the concrete to the grade and cross section shown and strike off and compact the concrete until a layer of mortar is brought to the surface. Wood float the concrete to produce a uniform surface.

Concrete finish, texture and color must be uniform in appearance.

Replace *Reserved* section 73-5 with:

73-5.03 CONCRETE PAVER SYSTEM

73-5.03A General

73-5.03A(1) Summary

Section 73-5.03 includes specifications for installing concrete paver systems.

Concrete paver systems include pavers, aggregate base, and sand base.

73-5.03A(2) Definitions

Not used.

73-5.03A(3) Submittals

Submit concrete paver manufacturer’s literature, product data, pattern proposal and color chart.

Submit certificates of compliance for base materials.

Submit five sample concrete pavers showing color selection.

Upon completion of work, bundle and submit 15 concrete field paving blocks and 5 edge paving blocks that match those installed.

73-5.03A(4) Quality Control

Install a 4 ft x 4 ft test section of field paver system with 4 ft edge.

Workers who install the test section must install the permanent paver system.

Do not install concrete pavers until test section is authorized. The authorization must be signed by the Engineer and the Project Architect. The authorized test section is the standard of comparison in determining the acceptability of the concrete paver installation.

Do not proceed without Project Architect’s authorization, where such authorization is specified.

73-5.03A(5) Acceptance

Maximum allowable height differential between adjacent pavers is 1/8 inch.

Bond lines for paver courses must be within ½ inch over a 50-foot string line.

The final surface tolerance of compacted pavers must not deviate more than ± 3/8 inch under a 10-foot long straightedge.

73-5.03B Materials

Notify the Engineer at least 5 business days before delivery of the concrete pavers to the job site.

Field concrete pavers must:

1. Be Acker-Stone 'Holland I' in 'charcoal brown buff' color blend or approved equal.
2. Be clean.
3. Have no breaks, cracks, or chipped edges.
4. Be obtained from a single source.
5. Be randomly assorted from the authorized color palette
6. Comply with the sizes shown.

Edge concrete pavers must:

1. Be 18-inch by 18-inch by min 2.3-inch thick pavers in color similar to Acker-Stone 'palomino' or approved equal.
2. Be clean.
3. Have no breaks, cracks, or chipped edges.
4. Be obtained from a single source.
5. Be neatly sawcut as needed to obtain tight fit along curves
6. Comply with the sizes shown.

Aggregate base must be class 2 aggregate base under section 26.

Sand must be as recommended by the concrete paver manufacturer and comply with section 26.

73-5.03C Construction

73-5.03C(1) General

Compact subgrade and aggregate base layer under the concrete pavers to not less than 95 percent relative compaction as shown. Place sand bedding under concrete pavers as shown.

Install concrete pavers under the manufacturer's recommendations.

73-5.03C(2) Edge Restraint

Install the edge restraint as shown prior to placement of the blocks.

73-5.03C(3) Concrete Paver Installation

Lay the concrete pavers under manufacturer's instructions using the authorized pattern and joint widths. Maintain straight pattern lines.

Fill gaps at the edges of the paved area with cut units. Cut pavers must be no smaller than 1/3 of a whole unit.

Sweep pavers clean.

Replace broken or cracked pavers.

73-5.03D Payment

Not Used

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75 MISCELLANEOUS METAL

Add to the list in the 2nd paragraph of section 75-3.01A:

6. Base plates, anchor bolts, nuts, and setting plates embedded in concrete for stanchion fins
8. Flush-mounted access opening assembly and bolts
9 Stainless steel stanchion fins at ramp termini

Add to the end of section 75-3.01A:

Bridge deck drainage system consists of:

1. Deck drain assemblies, including bar grates and metal frames
2. Piping, including iron pipe from face of Abutment 1 to outlet at curb and gutter

Add to section 75-3.01C:

75-3.01(3) Flush-mounted Access Opening Assembly

Submit certificate of compliance for rating and metallurgical composition of stainless steel frame and cover.

Add to the table in 1st paragraph of section 75-3.02A:

Miscellaneous Metal Parts

Part	Material
Flush-mounted access opening assembly (cover and frame)	316 stainless steel ASTM A276; H10 rated
Flush-mounted access opening bolts	316 stainless steel ASTM A193-B8M, Class 2
Stanchion fins at ramp termini	ASTM A240, Type 304 stainless steel, bead-blasted

Add to section 75-3.02A:

Welding of flush-mounted access cover and frame must be performed by certified welders per AWS "Standard Qualification Procedure."

Add to section 75-3.03:

75-3.03G Flush-mounted Access Opening Assembly

Assembly must be match-marked and shipped from factory with cover bolted to frame in all four corners.

Install frame and cover assembled and under manufacturer's instructions.

Cast flush-mounted access opening frame in bridge deck so that top edge of frame will be flush with polyester bridge deck overlay.

Access cover must be flush with frame rim on all sides and fit into frame without rocking.

^^

77 LOCAL INFRASTRUCTURE

Replace section 77 with:

77-1 GENERAL

77-1.01 GENERAL

Section 77 includes specifications for constructing City of Santa Rosa sanitary sewer, water, storm drain and electrical facilities.

City of Santa Rosa sanitary sewer, water and storm drain facilities must be constructed as shown and the City of Santa Rosa Standard Drawings.

Earthwork must comply with section 19.

77-1.02 MATERIALS

Not Used

77-1.03 CONSTRUCTION

Not Used

77-1.04 PAYMENT

Not Used

77-2 CITY SANITARY SEWER SYSTEM

77-2.01 GENERAL

77-2.01A Summary

Section 77-2 includes specifications for constructing City of Santa Rosa (COSR) sanitary sewer facilities.

The City sanitary sewer system includes:

1. 6” sewer lateral
2. Sanitary sewer testing and inspection
3. Remove sanitary sewer
4. Remove sewer manhole
5. Abandon sewer pipe

City sanitary sewer system work must be performed in accordance with the COSR Sanitary Sewer System Construction Standard Specifications.

As an alternative to abandoning a pipeline, you may remove the pipeline, dispose of it, and backfill

77-2.01B Definitions

Not Used

77-2.01C Submittals

Not Used

77-2.01D Quality Assurance

Not Used

77-2.02 MATERIALS

Use materials from COSR Engineer’s List of Approved Items for Use with Sewer System Construction, version dated September 2017.

Concrete plug must comply with the specifications for minor concrete.

77-2.03 CONSTRUCTION

Not Used

77-2.04 PAYMENT

Not Used

77-3 STORM DRAIN SYSTEM

77-3.01 GENERAL

Section 77-3 includes specifications for construction of City of Santa Rosa (COSR) storm drain system.

Plastic pipe must comply with section 64.

Reinforced concrete pipe must comply with Section 65

77-3.02 MATERIALS

Use manholes, inlets drains and catch basins from COSR Engineer's List of Approved Items for Use with Storm Drain System Construction, version dated April 1, 2019.

Mortar must consist of Type II Portland cement complying with ASTM C150, sand, and water.

Sand for mortar must be clean, dry, well-graded sand, free of organic or other deleterious matter, silt of other objectionable matter, and must be of such size as determined by laboratory sieves, that all will pass a No. 30 sieve size, square openings.

Mortar must consist of one part by volume of cement and three parts by volume of sand. The mortar must contain only enough water to permit placing and packing.

Do not use admix in the mortar unless authorized.

Catch basins and grates must be bicycle-safe and rated for H20 loading. Frame and grate must be hot-dipped galvanized after fabrication.

Metal frame, covers, grates and other miscellaneous iron and steel used with catch basins and manholes must comply with section 75-2.

Storm drain labels must comply with section 70-5.05 and City of Santa Rosa Standard Drawing STD-409.

Pipe bedding and backfill must comply with STD-215 of the City of Santa Rosa Standard Plans.

Sidewalk drain must comply with STD-406A of the City of Santa Rosa Standard Plans.

Cast iron sidewalk drain must comply with STD-406B of the City of Santa Rosa Standard Plans.

77-3.03 CONSTRUCTION

Construct catch basins and manholes in compliance with section 51 of the City of Santa Rosa Standard Public Storm Drain Standards.

Construct manhole barrels and taper sections in accordance with the applicable provisions of ASTM Designation: C478.

Trench and backfill in compliance with STD-215 of the City of Santa Rosa Standard Plans.

Mixed mortar must be used before initial set and in no case will retempering with additional water be allowed.

77-3.04 VIDEO INSPECTION

Inspect new and modified storm drain pipes and structures in compliance with Section 79 of the City of Santa Rosa Storm Drain Standards.

77-3.05 PAYMENT

Payment for manhole frames and covers in included in payment for storm drain manhole as shown in the bid list.

Payment for catch basin frames, grates and covers is included in payment for catch basins of the types shown in the bid list.

Payment for frames, grates, covers, wire mesh, plastic pipes and cast iron pipes are included in payment for drains of the types shown in the bid list.

77-4 CITY WATER DISTRIBUTION SYSTEM

77-4.01 GENERAL

77-4.01A Summary

Section 77-4 includes specifications for constructing City of Santa Rosa (COSR) water distribution facilities.

The City water distribution system includes:

1. Remove water line
2. Remove fire hydrant
3. Install fire hydrant system
4. Remove fire service
5. Install fire service
6. 1” Water service (City)
7. 6” Water line
8. 8" Combination water service

City water distribution system work must be performed in accordance with the COSR Water Distribution Construction Standard Specifications.

Any proposed deviations must be approved in writing by the Engineer.

77-4.01B Notifications

Notify the Engineer 7 days prior to commencement of work on COSR facilities.

Notify the Engineer 7 days advance notice for hot tap inspection, shutdowns or pipe-freeze inspections.

Notify the Engineer five days prior to cutting into any traffic detector loop.

77-4.01B Submittals

Submit a list of all materials proposed to be used on their project, and any supporting documentation and/or samples required by the Water Department.

Provide the manufacturer and model/part number for all material proposed, unless that item has been replaced as shown.

For any material not listed on the “Engineer’s List of Approved Items,” provide the name of the manufacturer and model/part number along with supporting documentation and/or samples.

Submit the installation location for any proposed use of flange fittings. Use of flanged fittings other than those already specified must be approved.

77-4.02 MATERIALS

77-4.02A General

Materials must comply with COSR Engineer’s List of Approved Items for Use with Water Distribution System Design & Construction Standards, version dated October 2018.

The Contractor shall use a single manufacturer for each of the following types of items unless otherwise approved:

1. Fittings
2. Valves
3. Meter Boxes (per sizes)

Concrete for thrust blocks must be produced from commercial-quality aggregates. The concrete must contain at least 564 pounds of cementitious material per cubic yard.

Water distribution pipe must be either Ductile Iron Pipe (DIP) or Polyvinyl Chloride (PVC) in accordance with the following:

1. Ductile Iron Pipe (DIP) shall be cement-lined, new pipe conforming to AWWA Standard C151, pressure class 350. The pipe shall be furnished with either bell and spigot ends, "Tyton Joints," or mechanical joints unless otherwise approved by Santa Rosa Water.

   All Ductile Iron pipe buried underground shall be encased with 6 mil (minimum) polyethylene film in tube form. Polyethylene material and installation procedure for the encasement shall conform to AWWA C105 or the most recent issue.

2 Polyvinyl Chloride (PVC) Pipe, 4 inch through 12 inch, shall be new pipe, with a minimum pressure class (PC) rating of PC235, DR18 conforming to the requirements of AWWA C900 "Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 inch through 12 inch for Water Transmission and Distribution." 16-inch Polyvinyl Chloride (PVC) pipe shall be new pipe, with a minimum pressure class (PC) rating of PC165, DR25 conforming to the requirements of AWWA C905 “Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14 inches through 48 inches.

Tracer wire shall be laid on the top of and along the entire length of all water pipe and HDPE tubing and shall be extended to the surface at all valve locations, blow-offs, and meter boxes sufficiently for locator equipment to be attached. Tracer wire shall be 12 AWG solid copper wire with a blue type IT 60 mil insulation that is designed for use in the detection of underground utilities. Unless otherwise noted, fasten the wire to the top of the pipe so as not to be displaced during backfilling operations. (One method of accomplishing this is to affix the wire to the top of the pipe with duct tape at approximately 10-foot intervals.) Where splicing is required, only watertight connectors shall be used, and shall be either Copperhead Snakebite, 3M DBR, or an approved equivalent.

Service laterals must be High Density Polyethylene (HDPE) blue copper tubing size (CTS) SDR9 tubing, and complies to both AWWA C901 and ASTM D273 7, and be either PE3608 - 200psi tubing or PE4710 - 250psi tubing.

Tubing shall be continuously marked at a minimum with; manufacturer, size, specification information and manufacturing codes

77-4.02B Fittings

3-inch through 16-inch fittings must be new ductile iron fittings conforming to AWWA C110, or new ductile iron compact fittings conforming to AWWA C153 of the latest revision and compatible with the type and pressure class of pipe used.

Fittings must be mechanical joint type.

Flanged fittings must only be used on above-ground installations or on tees or crosses when attached to a flange (FL) x mechanical joint (MJ) valve or approved fitting, or as otherwise approved.

Non-stainless-steel bolts, nuts, and threads must be coated with bitumastic paint or Permatex spray-on heavy-duty rubberized under-coating or an approved equal.

Nuts must be fully tightened and surfaces dried prior to application. The use of an anti-galling agent is required on stainless-steel bolts.

77-4.02C Restrained Joints and Fittings

New water distribution system installations of 4” and larger must be a “Restrained Joint System” where, in lieu of, or in addition to concrete thrust blocks and/or harnesses, approved mechanical restraint devices are used to restrain the system.

Restrained joint fittings shall be mechanical joint type ductile iron in accordance with the applicable requirements of AWWA C110 and AWWA C153 of the latest revision and shall be compatible with the type and pressure class of pipe used. Mechanical restraint devices of 4” through 16” shall have a minimum working pressure of 350 psi.

Ductile iron pipe locking gaskets such as “Field Lok 350 Gaskets manufactured by U.S. Pipe,” or an approved equivalent, may be approved for use on specific installations. Requests for use shall be accompanied by supporting documentation. Information provided shall include, at a minimum,

specifications of product, manufacturer's installation instructions, and compatibility acceptance from the pipe manufacturer.

77-4.02D Cut-in Tee or Cross

Install a new tee or cross on an existing main, with or without valve(s), by "cut-in" at the location(s) shown on the Plans per City Standards 854 and 877.

The "cut-in assembly" shall be assembled as much as possible prior to shutting down the City's distribution system.

Connection to the existing mains must be approved couplings as noted herein unless otherwise approved.

77-4.02E Gate Valves

Gate valves must have ductile iron bodies and bonnets and resilient seated gates, and complies with AWWA Standard C509 and/or AWWA Standard C515 of the latest revisions.

Gate valves, unless otherwise specified, must be non-rising stem (NRS) type with O-ring stem seals. Gate valves installed above grade or in vaults must be equipped with an approved hand wheel. Outside screw and yoke (OS&Y) rising stem type gate valves must only be installed where specified or approved by the Water Department.

Gate valves must open in the counterclockwise direction. Where elevations on buried installations do not allow a minimum of six inches of cover over the valve nut, submit for approval the installation of a horizontally installed gate valve with manufacturer-installed bevel gearing. Bonnet direction of horizontally installed gate valves must be approved by the City and shall be recorded on the record plans.

The working pressure rating of gate valves must meet or exceed the pressure rating of the pipe specified.

Gate valve bolts and nuts must be stainless steel, and joint connection bolts and nuts must be 304 stainless steel or coated as specified.

Gate valves must be Mechanical Joint type unless otherwise specified or approved.

New gate valves shown to be installed by "cut-in" on an existing main must be done by removing a section of the existing main and installing the required gate valve, pipe, and couplers as specified in the City Standards.

Sections of pipe used must be at least 18 inches in length.

When any part of the new water system is pressurized, affected gate valves mustl be at grade and accessible to City personnel at all times.

Valves that require "valve stem risers" must not be considered accessible unless the riser is in place and operational.

77-4.02F Valve Boxes, Vaults and Pits

Gate valve must be covered by a precast 8-inch valve box set flush with street surface with a cast iron ring and cover marked "WATER."

When a color-coated box cover is called for, the coating shall be TIGER Series 49 Polyester TGIC, or an approved equivalent, in the color specified by the Water Department.

Finish must be a rough texture matte. Cover must be prepared per manufacturer's recommendations prior to coating. Film thickness must be 2.5 to 3.5 mils.

If valve stem risers are required, install and check for operation prior to paving.

77-4.03 CONSTRUCTION

77-4.03A Meter Boxes

Meter boxes, vaults, and pits must be bedded on 3-inch minimum thick, 3/4-inch drain rock, or other approved clean material with a minimum sand equivalent percent of 20, uncontaminated by native soil, against compacted or undisturbed base. The gravel bed must extend to a 4-inch minimum beyond all

sides of the meter box. Box must be set flush with the top of the curb, sidewalk, or ground, whichever is applicable. Addresses must be clearly marked on the top side lip of the meter box with a permanent marking pen.

Set meter boxes and vaults so that the reading lids are aligned over the meter registers as closely as possible.

Valve box riser pipe must be installed centered over and plumb with the valve nut prior to final paving. If riser pipe needs to be lowered for paving, cut by hand perpendicular to the axis of the pipe and free of jagged edges. If sections need to be added after paving, comply with Standard 877. The riser pipe must extend into the bottom of the valve box a minimum of 2 inches and the upper section must be no shorter than 1 foot in length.

77-4.03B Fire hydrants and Lateral Assembly

Fire hydrant locations, as shown, are approximate and shall be field located with the Engineer's approval.

Fire hydrant and lateral assemblies installed on an existing water main by "cut-in" require disinfection and bacteria test sampling take place prior to hydrostatic testing. Request the Engineer to provide the proper procedures for this operation.

Fire hydrants serving one- and two-family residential use have one 2 1/2-inch outlet and one 4 1/2-inch outlet. Fire hydrants serving commercial and multi-family residential uses have one 2 1/2-inch outlet and two 4 1/2-inch outlets.

Paint hydrants in accordance with City Standard 857.

Before a public fire hydrant be placed in service, a high-velocity flushing of the hydrant lateral must be witnessed and approved by Santa Rosa Water Department personnel.

Concrete removed from sidewalk areas for fire hydrant removal or installation shall be removed to the nearest transverse score mark across the full width of the sidewalk and replaced as specified per applicable City Standards and Specifications.

77-4.03C Excavation, Backfill, and Resurfacing

Comply with applicable City Standards, specifically Standard 215, regarding trenching, backfill, and resurfacing required for the installation of water distribution system facilities, or as modified on the plans, and approved by the City of Santa Rosa Materials Engineer.

If existing utility crossings or other potential conflicts are shown or specified in other contract documents, pothole said areas prior to the start of pipe laying. Notify the Engineer immediately if conflicts are discovered during this investigation.

Use air gap at all times when dewatering to the sanitary sewer system.

Ensure that water system components are laid and bedded on sound, stable material.

Remove existing material from the trench prior to the installation of new material.

Notify the Engineer of any field conditions that may affect alignment and/or grade.

Remove stumps and large roots encountered during trenching operations to the satisfaction of the Engineer.

Hand dig where excavations occur within the drip line of any tree, to protect tree roots. If necessary for installations, roots one inch in diameter or smaller may be cut neatly by hand tool.

Unless otherwise specified, cutting roots larger than one inch in diameter require City approval.

Open the trench sufficiently ahead of the pipe laying operations to reveal obstructions. Provide trench crossings, as necessary, to accommodate public travel and to provide convenient access to adjacent properties.

Maintain flow in any sanitary sewer, storm drains, water lines, or watercourses encountered in trenching.

When the public works involved will exceed an estimated $25,000 for the excavation of any trench or trenches five feet or more in depth, submit to the City Engineer for acceptance in advance of job excavation, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches.

If such plan varies from the shoring system standards established by the construction safety orders, a registered civil or structural engineer must prepare the plan. Obtain a permit to do the above-described work from the State of California, Division of Industrial Safety. Submit proof of such permit to the Engineer prior to starting the trench work.

Unless otherwise specified, excess material from excavation must be disposed.

If the work is in existing City streets, remove the excess material from the site daily unless it has been preapproved for reuse.

Prior to disposal of any materials or operation of any equipment on site, submit to the Engineer written authorization for such disposal of materials and entry permission signed by the owners of the disposal site and the required permits for disposal of excess trench excavation.

Excavations must be able to accommodate any typical compaction and testing equipment and personnel used to backfill the trench. If, in the opinion of the Engineer, typical methods cannot be used, the Engineer may require the use of a pneumatic Pogo Stick/Powder Puff type compactor at no additional cost to the City.

Trenchless method, approved by the Engineer, must be used for lateral services constructed under curb, gutter, and driveway culverts, unless otherwise specified.

Boring under sidewalks and/or concrete-filled planter strips is not be allowed. Boreholes must be only large enough to allow for the size of pipe to be installed. If the operations disturb the supporting soil, the Engineer may require the removal and replacement of any undermined sidewalk, curb, gutter, or culvert; and/or the use of CDF backfill at the Contractor’s expense. The limits of curb and gutter replacement and any required doweling will be at the discretion of the Engineer.

Blasting is not permitted unless first approved in writing by the Building Department and the Director of Santa Rosa Water.

Place Controlled Density Fill (CDF) at the locations shown and where cover is less than three feet unless otherwise specified or shown, or approved by the Director of Santa Rosa Water. CDF must comply with City Standard 215, and a material submittal is required for approval.

Excavations in a traveled way with CDF backfill must be plated or otherwise safely covered to allow for safe passage during curing.

Conduct trenching operations in such a manner that will not disturb existing facilities. Costs associated with repairs needed, in the opinion of and to the satisfaction of the Engineer, due to any such damage from trenching operations, are at your expense.

Unless otherwise approved by the Engineer, remove excavated material from the job site each day.

77-4.03D Trench Bracing and Shoring — Water

Bracing and shoring must comply with Section 7-1.02K(6) of the Standard Specifications, the Division of Industrial Safety Construction Safety Orders which are currently in use, and any additional requirements specified.

Withdraw trench sheeting or boxes in such a manner as to prevent caving at the walls of excavations or damage to piping or other structures.

Completely remove sheeting from the trench and no backfill installed against the sheeting before it is removed.

Conduct trenching operations in such a manner that will not disturb existing utilities.

Take all necessary measures to protect workers, adjacent areas, and structures, and all other facilities from the hazards of the trenching operations.

77-4.03E Laying and Handling Pipe Materials

Store pipe stockpiled on the job with the ends covered to prevent the entrance of foreign matter. The Engineer may reject stockpiled pipe with exposed ends.

Provide and use proper implements, tools, and facilities, satisfactory to the Engineer for safe, convenient, and workmanlike prosecution of the work.

Prior to the start of pipe laying, expose the ends of the existing mains to determine individual lines and grades. New mains begin approximately 8 feet from and on the same line and grade as the existing main unless otherwise shown or approved.

Install new mains at minimum standard cover complying to the requirements of the City Water Distribution System Design Standards, or as shown.

Where, in the opinion of the Engineer, new mains cannot start on the same lines and grades as the existing main, restrained fittings are to be used to make grade and/or alignment transitions for tie-ins to existing mains. This does not eliminate the requirement for thrust blocking unless specifically specified elsewhere.

Carefully lower pipe fittings and valves into the trench in such a manner as to prevent damage to pipe coatings. Under no circumstances are pipe or accessories to be dropped or dumped into the trench.

Before lowering and while suspended, inspect the pipe for defects and the cast iron pipe rung with a light hammer to detect cracks.

Reject any defective, damaged, or unsound pipe and sound material furnished. Cut pipe for inserting valves, fittings, or closure pieces in a neat and workmanlike manner without damage to the pipe.

Stockpile and store pipe stockpiled on the job shall be stored with the ends covered to prevent the entrance of foreign matter.

Installation of all pipe joints must be per manufacturer’s recommendations and installation instructions, and all PVC bell and spigot joints, up to and including 8 inches, must be assembled using the bar and block method.

At any time and at no additional cost to the City, the Engineer may require the use of a device to prevent “over-insertion” such as a Mega—Stop Series 5000 from EBAA Iron, or an approved equivalent. All joints that are, in the opinion of the Engineer, over-inserted, must be pulled back to the proper insertion point or removed and replaced at the Engineer’s discretion. Any adjacent joint that may have been disturbed due to the over-insertion must be allowed to be inspected by the Engineer and if required must be pulled back or removed and replaced.

Whenever it is necessary, either in vertical or horizontal plane, to avoid obstructions or when long radius curves are permitted, the amount of deflection must not exceed the maximum recommended by the pipe manufacturer or that required for satisfactory jointing.

Each length of pipe must be free of any visible evidence of contamination, dirt, and foreign material before it is lowered into its position in the trench, and it kept clean by approved means during and after laying. Whenever pipe laying is not in progress, the open ends of installed pipe must be closed watertight by mechanical plug, cap, or other means approved to prevent the entrance of foreign material or small animals.

Trench water is not permitted to enter the pipe.

Existing utilities must be supported in place with service maintained during construction.

If proper separation between water mains and non-potable pipelines, per the latest guidelines from the California State Water Resources Control Board, cannot be maintained, inform the Engineer immediately to get direction, unless direction has already been provided in the contract documents. See Appendix “A”

of the City of Santa Rosa Water Distribution System Design Standards for additional information and direction.

Proposed water main elevations may need to be adjusted in the field to allow for the required separation between non-potable pipelines and other facilities. If water system components are proposed to be installed prior to sanitary sewer or storm drain components, investigate for the possibility of conflicts or inadequate separation of facilities.

Perform this investigation prior to water system installation and provide all relevant information in writing immediately upon discovery of any conflict.

77-4.03F Laying PVC Pipe

Join individual pieces of pipe, valves, and fittings by placing the rubber rings on the machined ends of the pipe and pulling the couplings, valves, or fittings in accordance with the manufacturer's recommendations.

Check the rings to be sure they are in the proper position after the coupling is in place.

Take care to ensure proper seating of the rings, and adapters utilized for connections as required by the manufacturer.

Where ground water occurs, continue pumping until backfilling has progressed to a sufficient height to prevent flotation of the pipe. Dispose water in such a manner as to cause no property damage or be a hazard to public health.

77-4.03G Water Main Lowering/Over-Structure

Where shown or directed, to lower or raise the alignment of the water main or 3 inch or larger service lateral using fittings, the alignment change must comply with Section VI.B of the City of Santa Rosa Water Distribution System Design Standards and these Construction Specifications.

If you elect to install a partial or full water main lowering to make a grade transition in place of roping the pipe (if roping is shown), first receive written approval. Install the lowering per City Standards and include restrained joints beyond the lowering to a calculated distance as directed.

The flame cutting of pipe by means of oxyacetylene torch is not allowed.

77-4.03H Service Laterals

Do not install service laterals other than those shown or noted unless obtaining prior approval from the Director of Santa Rosa Water.

Abandon service laterals encountered in construction that will not be used.

77-4.03I Water Services

Install new water service laterals per applicable City Standards at the locations shown.

If a new water service lateral is replacing an existing lateral, include the abandonment of the old service lateral pipe or tubing, removal of curb stop valve(s), removal and disposal of old meter boxes, and removal, disposal, and replacement of any existing sidewalk, curb, and gutter as needed.

Typically, replacement service laterals are designed and constructed according to all City requirements and as close as practical to the existing laterals they are replacing, unless the existing lateral is in a driveway. If the existing service lateral is in a driveway, design and construct the replacement lateral outside of the driveway where practical.

Determine exact locations in the field and approved by the Engineer. Install new service laterals with a minimum horizontal clearance of 5 feet from sewer laterals.

HDPE and Type "K" soft temper copper water services must be one continuous length (no splices) from the water distribution main to the water meter. For water service laterals of other material types, minimize joints as much as possible.

Make water service connections to existing building service lines of 3/4 inch or 1inch in size with Type "K" hard or soft temper copper or Schedule 80 PVC tubing, matching the size of the existing service line.

Make water service connections to existing building service lines of 1-1/2 inch to 3 inch in size with Type “K” hard temper copper tubing, also matching the size of the existing service line.

When connecting to any service line under 4 inch that has a backflow prevention device, use threaded brass or Type "K" hard temper copper tubing unless otherwise specified. If the existing pipe between the meter and backflow device is found to be plastic, inform the Engineer and replace the existing pipe with threaded brass or Type "K" hard temper copper.

When an existing service line is found to be galvanized iron, an approved dielectric fitting is required. The use of PVC material as dielectric protection is not acceptable.

Except as required to comply with City Standards, bends and/or fittings are not be installed under sidewalks or concrete planter strips.

Corrections to existing water service lines must be made behind the sidewalk or at the back of the Public Utility Easement (P.U.E.).

Submittals are required for all materials used for service tie-ins. When connecting to a 5/8 inch x 3/4 inch water meter, the street-side curb stop must be a 1 inch x 3/4 inch angle meter ball valve (submittal required), and the meter box must comply with Standard 863.

After the new water system is connected to the existing City water distribution system, purge the new service of air and sediment prior to the installation of the new meter or the transfer of the existing water meter.

Prior to transferring an existing water meter, notify the affected customer before shutting down their service. Coordinate this work to minimize customer out-of-service time and inconvenience. Existing water meter transfers and service tie-ins must be witnessed by the field Inspector, and it is your responsibility to coordinate this inspection.

Shut off any available property site valve on the existing service before cutting into the line. After the meter transfer, but prior to activating the new service, notify the customer that the water is coming back on, then open the property-side valve and flush the new service for a minimum of 5 minutes until the water is clear and free of air and foreign matter.

The existing building service line to be connected may be metal or plastic and may not be the same size as the new service. Provide couplings, adapters, and fittings as necessary to complete the connection to the new water service line.

Where a new service is connected to an existing backflow device, provide documentation that the backflow device has been certified after installation. Certifications must be completed by a certified tester from the "City of Santa Rosa Approved List of Backflow Testers." Necessary paperwork must be completed by the tester, with one copy given to the property owner and one to the City’s Water Quality Section within 72 hours after connection.

Where new service laterals of 2 inch in diameter and smaller are connected to existing water mains, maintain minimum distance of 18 inch between taps, whether new or existing. For hot taps larger than 2 inch, request spacing requirements from the Engineer, which will be determined based on size and material.

Individual hot taps may be requested a minimum of 2 working days in advance. If the request is for multiple hot taps to be completed on the same day, make it a minimum of 5 working days in advance. The Water Department will attempt to facilitate hot taps within these timeframes; however, extenuating circumstances may result in response times exceeding those mentioned above.

77-4.03J HDPE Water Services

Install High Density Polyethylene (HDPE) services per applicable City Standard and as specified.

77-4.03K Thrust Blocking

Unless other arrangements are made that are acceptable to the Engineer, coordinate notification and allow for visual inspection by the City of concrete thrust blocking.

Regardless of restrained joint requirements specified elsewhere or actual installation, install concrete thrust blocks behind tees, when connecting to any existing line larger than 2 inch in diameter, and where restrained joints cannot be used or are deemed insufficient by the Engineer.

Install concrete thrust blocks and/or harnesses per applicable City Standard, and in addition to restrained joints, where the water main is 12 inch in diameter or larger and the static water pressure in the distribution system is 90 psi or greater.

Install permanent concrete thrust blocks and/or harnesses restraints at least 24 hours prior to reactivation of the water system when reactivation is required immediately after completion of any operation where a water system shutdown is needed and temporary blocking is not feasible. If a joint restraint system can be installed in place of this requirement to alleviate the need for concrete thrust blocks and protects the existing and new water systems, it must be used in place of this requirement.

Wherever concrete thrust blocking is deemed necessary by the City or the Contractor, install per City Standards unless otherwise.

77-4.03L Abandonment or Removal of Water Distribution System Components

Abandon Water mains and service laterals larger than 1-1/2 inch shown to be abandoned per City Standard 507. If the end of the pipe to be abandoned is connected in any way to an active main and allowed to stay in place with the approval from the Director of Santa Rosa Water, the abandonment must consist of a watertight cap or plug and proper restraint, and the location recorded on the plans.

Remove existing water system components where shown, or to facilitate the progress of work. First receive written approval from the Director of Santa Rosa Water prior to removing any component, fully or in part, that is active during construction, and the removed material replaced to the satisfaction of the Water Department.

Prior to abandoning an existing main that will be replaced with a new main, transfer water services to the new and active main.

Remove leaded joints encountered on water mains that are to stay active within the limits of excavations as directed. Remove the joints by cutting out the section of pipe containing the exposed joint and install ductile iron pipe and approved couplers. Handle the removed joint and dispose of according to the Contractor's State Licensing Law and other applicable laws and regulations.

For all abandoned water services, up to and including 2 inch, or 4 inch if the connection is by hot tap, on mains that are to remain active, remove the valve and saddle and install a stainless-steel full circle clamp on the main under City inspection.

Abandoned service laterals 6 inch and larger on water mains that are to remain active must be done as noted on the plans, and as specified in the Water Distribution System Design Standards.

Tees or crosses shown to be removed on water mains that will remain in service must have the tee or cross, any related valves, and thrust blocking removed, and the main repaired with ductile iron pipe and approved couplers.

Barrels of existing fire hydrants to be removed must be carefully separated from risers and buries by the Contractor, and the bury, if left in the ground, and capped or plugged in an acceptable manner. Deliver the hydrant only to the City's Water Department Field Operations site located at 35 Stony Point Road, unless the Contractor has obtained specific written approval from the Water Department to otherwise dispose of the materials.

Remove valve boxes and risers on abandoned mains and backfill and resurface per City Standards. If any portion of a gate valve that is to be abandoned is in the structural section of the street, the valve must be fully removed and the pipe ends abandoned per Standard 507. Any valves not in the structural section of the street may be abandoned in place in the fully closed position.

Fully remove system components located behind curb and gutter, or edge of pavement where there is no curb or gutter, on laterals to be abandoned to a minimum of 1-foot below grade, unless otherwise directed or approved.

Backfill voids per City Standards and surfaced in an acceptable manner to match the surrounding area. Any sidewalk that must be replaced must be done to the nearest transverse score mark on both sides and the full sidewalk width.

After a new water service lateral is installed on an existing main and the meter is transferred, abandon the old service lateral as specified.

Any abandonment that requires a system shutdown, such as removing an old water service from an active main, must be done under inspection by authorized City personnel.

77-4.03M Hydrostatic Test

Prior to being allowed to connect to the City of Santa Rosa's water distribution system, except where otherwise specified, hydrostatically test newly constructed water mains and their appurtenances in compliance with AWWA C600 and any modifications.

Four inch and larger water service laterals, including fire lines, that are installed on an existing water main by cut-in or hot tap require that the disinfection and bacteria test sampling must take place prior to hydrostatic testing. Request the Engineer to provide the proper procedures for this operation.

Methods and equipment used for hydrostatic testing shall be submitted to the Engineer for approval.

You may test the system at any time during construction. However, the final test, which will be witnessed by the City for acceptance, must take place only after the system is fully constructed and trenches backfilled and compacted, but prior to final paving.

Hydrostatically test each valved section of the system, or combined sections, as approved, to a pressure of not less than 150 psi measured at the highest point along the section to be tested. Where the static pressure in the City's distribution system to be connected to is greater than 100 psi, the test pressure must be 1.5 times the static pressure of the City's distribution system.

If complying with the above requirements, it appears that the specified test pressure may exceed the new system's designed thrust restraint, causing of joint pressures at the lowest elevation, request direction from the Director of Santa Rosa Water.

Except where otherwise specified or approved, pressure testing against closed gate valves must not take place. Where testing against a closed gate valve is approved, the valves supplied must be rated to exceed the specified test pressure. Any damage to gate valves is your responsibility and must be corrected to the satisfaction of the Director of Santa Rosa Water, including up to full replacement.

Each section of the new system shall be slowly filled with water, and all air expelled through an opening(s) located at the highest point(s) of the system. If necessary, tap the main at point(s) of the highest elevation(s) and install corporation stops to assist in expelling during filling of the system. Unless the taps are located where combination air and vacuum valves have been designed into the system, the penetrations must be sealed with stainless-steel full circle clamps once all air is expelled. Properly brace caps, plugs, fittings, and any other appurtenances prior to pressurizing the system.

When testing ductile iron pipe, it is advisable to allow some time for the lining to absorb water prior to the hydrostatic test.

After all air is expelled, the specified test pressure must be applied by means of an approved pump connected to the new system in a manner approved. Furnish the pump, connection fittings, and other necessary apparatus except for the pressure gauge and measuring devices. The City of Santa Rosa will furnish the pressure gauge and measuring devices for the test. Construct all openings into the new system required for filling and expelling air, and furnish all necessary assistance for conducting the tests.

Before applying the test pressure, expel air from the pipe.

The gauge(s) used to measure pressure for the test must be a liquid-filled gauge with increments no greater than 5 psi.

The duration of each pressure test is two hours, and the test pressure must not vary by more than 5 psi. The pressure must be maintained within this tolerance by adding makeup water through the approved test pump into the system. Accurately measure the makeup water in gallons by a meter or by pumping

from an approved vessel of known volume, and not exceed the applicable testing allowance as specified in Table 1.

Table 1

Hydrostatic testing makeup water allowance per 100ft of pipeline* Gallons per hour

Avg°. Test Present e psi	Nominal Pipe Diameter									
	4”	6”	8”	10”	12”	14”	16”	18”	20”	24”
150	0 033	0.030	0.066	0.083	0.099	0.116	0.132	0.149	0.166	0.199
17a	0.036	0.05°	0.072	0.089	0.107	0.125	0. 143	0.1 61	0. 179	0.215
200	0.03 8	0.0o7	0.076	0.096	0.115	0.134	0. 153	0. 172	0.19 I	0.229
225	0.04 I	0.061	0.08 1	0.1 01	0.122	0.142	0.1 62	0. 182	0.203	0.243
250	0.043	0.064	0.085	0.107	0. 128	0.130	0.171	0.192	0.214	0.256
275	0.045	0.067	0.090	0.112	0.134	0.157	0.179	0.202	0.224	0.269
300	0.047	0.070	0.094	0.1 t7	0.140	0.164	0.187	0.211	0.234	0.281

" If sections of various diameter pipe are to be tested at the same time, the testing allowance shall be the sum of the testing allowances for each size.

Leakage is defined as the quantity of water to be supplied into the newly constructed water system, or any valved section thereof, necessary to maintain the specified test pressure.

If at any time during the pressure and leakage testing the specified test pressure can be maintained at 43 psi for a consecutive 30 minutes without adding makeup water, the test can be discontinued and the system considered to have passed. Should any test of combined or individual sections of the new system show leakage greater than the specified limit, locate, at your expense, the cause and repair the defect until the leakage is within the specified allowance.

Regardless of test results, repair any leaks detected.

77-4.03N Cleaning, Flushing, and Disinfection of the New Water System

Cleaning, flushing, and disinfection of new water system components purposed to be connected to the City of Santa Rosa’s Water Distribution System must comply with AWWA C651, all applicable City Standards, and any modifications herein and/or as shown. To ensure the sanitary integrity of the new water system, practice proper sanitary techniques during storage, handling, and construction of the new water system.

Unless otherwise approved by the Director of Santa Rosa Water, cleaning and flushing of all mainline pipes must be accomplished by propelling the swab down the pipeline to an exit point with an approved source of potable water. After removal of the swab(s), a unidirectional flush of the new system must continue until the water is completely clear.

During the installation of new water line(s), insert an appropriately sized flexible polyurethane foam sweeping or cleaning style swab, with a density of 2 pounds per cubic foot, complete with a polyurethane drive seal, into the beginning or ending segment of each pipeline. The swab must stay in place until utilized for cleaning operations as specified.

Where tees or crosses are installed as part of the new system, place swabs where practical so both the main and branch segments are able to be swabbed. If determined by the Engineer that sanitary techniques were practiced during construction, the Engineer may, at their discretion, allow segments of new pipe 80 linear feet or less to be cleaned by line flushing only. The City is not responsible for extra time for locating lost swabs.

Construct temporary blow-offs installed for the purpose of removing foam swabs required for water main cleaning similar to Standard 862 with a “same size as main” elbow and vertical standpipe to prevent trench and dispelled water from flowing back into the main.

After the swab is removed, seal the end of the pipe watertight and parts restrained to allow for testing.

Remove temporary materials during operations to connect to the City’s distribution system.

After swabbing, as specified above, is complete, flush any segment that may have been allowed to be omitted by the Engineer, and every lateral, until clean and free of air and debris.

Water used for flushing is considered contaminated after exiting the new system and is not allowed to reenter the system. If, in the opinion of the Engineer, the new system becomes contaminated, you are required to re-disinfect the system, all or in part, at no additional cost to the City.

Except as otherwise specified or permitted by the Director of Santa Rosa Water, disinfection of the new system must only take place after all lines have been cleaned and flushed, and each required hydrostatic test has been accepted by the Engineer.

Laterals, 2” and larger, including fire lines, installed on an existing main must be disinfected and bacteriological test samples taken as specified herein.

1 inch and 1-1/2 inch service lateral components installed on an existing main must be thoroughly swabbed with a 1 percent liquid chlorine solution during construction.

Flush laterals thoroughly just prior to being put into service.

Submit methods, materials, and equipment used for disinfection of the water system for approval.

Utilize sodium hypochlorite (liquid chlorine) of 10%, 12.5%, or 15% for disinfection operations appy as stated herein. The use of household bleach is not permitted for disinfection at any time.

The point of application of the disinfectant must be through a permanent or temporary blow-off, or through a new fire hydrant installed as part of the new system. If none of the aforementioned components are available or practical for use, a corporation stop of an approved size may be used, if approved Engineer. Adequate venting must be allowed, and both filling and venting port elevations must be a minimum of 6 inches higher than all components to be disinfected.

Use water from the City’s existing distribution system to fill the new mains at a slow controlled rate of flow during the application of the disinfectant. This rate of flow must not exceed the limits of any openings used to expel water and/or air, including installed air release valves. Take precautions to prevent back pressure causing a reversal of flow into the City’s water distribution system. In the process of disinfecting, operate valves and other appurtenances on the new water system in such a way to allow the disinfectant solution to be fully distributed to all components of the new water system.

The rate of disinfectant feed must be in such proportion to the rate of water entering the pipe that the disinfectant dose applied is between 100 ppm and 200 ppm. Retain the disinfectant solution in the pipe for a period of at least 24 hours but no longer than 72 hours. After 24 hours, disinfectant levels must not be less than 50% of the initial dosage, as recorded by the Inspector. If the disinfectant level is less than 50% of the initial dosage, flush the system and the above disinfection procedures repeated. When disinfectant levels are acceptable after the retention period, discharge the chlorinated water as specified in Section 77-4.03O “Discharge of Chlorinated Water,” and all new mains and laterals given a final flush and then filled with water from the City’s distribution system.

While the final flush of the new system is taking place, the Engineer, or their representative, will take a chlorine residual reading from the City’s distribution system and note it. If the reading is higher than 0.5 ppm, flush the new system until residual readings taken at all locations, as determined by the Engineer, are between the residual noted from the City’s distribution system and 1 ppm, but no higher. If the residual taken from the City’s distribution system is less than 0.05 ppm, flush the new water system until all locations are between 0.5 ppm and 1 ppm.

After the disinfectant is flushed from the new water system and all residual readings are as specified, take an initial set, consisting of two bacteria test samples per location, where specified by the Engineer per one of the following methods:

Method A:

Take a first set of' sample tests just after flushing is complete, and the second after a minimum of 16 hours, but not more than 72 hours after flushing.

Method B:

After flushing is complete, let the system sit for a minimum of 16 hours without any use, then collect both sets of sample tests from the same locations 15 minutes apart while allowing the sample port to maintain a slight flow in between samples.

The method used is determined by the Engineer at the time of sampling.

All residual readings and bacteria test samples specified herein is taken by the Engineer, or their designee, and witnessed by the Contractor.

The Engineer must receive written test results showing that all samples from both sets taken are negative for contamination prior to scheduling connection(s) to the City's water distribution system.

If bacteria test results indicate contamination, flush the new water system and sample again as specified above. If any results from the additional sampling still show indication of contamination, disinfect the new system and flush again prior to any additional bacteria test sampling taking place.

Unless otherwise approved by the City of Santa Rosa Water Quality Supervisor, the initial two sets of bacteria tests are considered valid for up to 14 calendar days after the second set has been taken. Other sets taken are valid for up to 10 calendar days. If more time passes than those specified before connecting to the City's distribution system, additional passing bacteria test samples is required before connections are approved.

Costs for the collection and analysis of the initial sets of bacteria test samples are paid for by the City. Take samples, at a minimum, on each blow-off of the new water system and on at least one water service between each two blow-offs. The exact location and quantity of the samples will be determined in the field by the Engineer. There must not be more than 1200 feet between sample points. Avoid samples taken from fire hydrants, new or existing, where possible; if samples must be taken from a fire hydrant, the hydrant must first receive a high-volume flush to clean the interior.

The City pays labor and analytical fees for collecting and analyzing up to two additional sets of bacteria test samples. If additional testing is required, costs are borne by you.

If deemed necessary by the Director of Santa Rosa Water, due to unsanitary or other construction practices, as determined by the Engineer, you may be required to do additional sampling with satisfactory results prior to connecting to the City's distribution system.

77-4.03O Discharge of Chlorinated Water

Chlorinated water used to disinfect newly constructed water systems is your property and its disposal is your responsibility. Dispose chlorinated water used to disinfect the new mains in compliance with AWWA C655, all laws and regulations, and any modifications herein or specified in other contract documents.

Discharge to the storm drain system or a waterway is not permitted without a permit from the North Coast Regional Water Quality Control Board.

Discharges may be allowed to be disposed of into the sanitary sewer system, but must first meet the following requirements.

A. The City of Santa Rosa Subregional Reclamation Facility must be notified by the Engineer, with your coordination, prior to the discharge being disposed of in the sanitary sewer system. The payment of any fees required is your responsibility.

B. The pH of the water must be between 6.0 and 9.5.

C. Maintain an approved air gap from the discharge conduit to the receiving sewer facility.

77-4.03P Water Main Connection Work

Upon completion of construction and testing of new water mains, service laterals, and other appurtenances, tie-in connection(s) can be made under inspection by authorized City personnel.

Make a schedule request for any work which requires a City water distribution system shutdown, including, but not limited to, connection to the City's distribution system or a service hot tap.

Do not schedule connections to the City's distribution system until the Engineer has received documentation of required passing bacteria tests.

Submit a separate written request to schedule each individual shutdown required to facilitate a tie-in connection or any other work where a shutdown may be necessary.

Submit written shutdown requests at least 2 working days, and 3 working days in advance for residential and commercial shutdowns, respectively. The Santa Rosa Water Department will attempt to facilitate shutdowns within these timeframes; however, extenuating circumstances may result in response times in excess of those mentioned above. Under such conditions, no claims related to work delays shall be considered.

Shutdowns and valve-turning operations are performed by authorized City personnel only.

Authorized City personnel must be present during any operation requiring a shutdown unless otherwise approved by the Director of Santa Rosa Water and provided to you in writing.

Do not perform connections to the City's distribution system without prior authorization.

Individual hot taps may be requested a minimum of 2 working days in advance; if the request is for multiple hot taps to be done on the same day, make the request a minimum of 5 working days in advance. The City will attempt to facilitate hot taps within these timeframes; however, extenuating circumstances may result in response times in excess of those mentioned herein. Under such conditions, no claims related to hot tap delays will be considered.

4-inch and larger hot taps or any size cut-in is not allowed within 4 feet of a joint unless first receiving written approval from the Director of Santa Rosa Water. 4-inch and larger hot taps that are within 4 feet of a joint must be replaced with a cut-in tee. Any existing joint that is not specified to be replaced and is disturbed by the Contractor's operations may be required by the Director of Santa Rosa Water to be removed and replaced with approved pipe and couplings under City inspection, and at no additional cost.

Excavations for individual tie-in connections and hot taps must be completed as much as possible without causing damage to new or existing facilities and planned a minimum of 1 working day in advance of the scheduled work. If this requirement is not met, the scheduled work will be canceled. All connection materials must be on site for inspection at the tie-in location the morning of the scheduled work.

Contractors who fail to keep field appointments are billed for City personnel and equipment time used, and you bear the costs incurred by the City for notification of its customers for the subsequent appointment.

Interruption of service to commercial customers, as much as practical, be coordinated with the customer's needs. After notification for such a need, the City will contact commercial customers for service interruption needs and will inform the Contractor accordingly.

City crews work a 9/80 schedule; this schedule may prohibit shutdowns on alternating Fridays.

Request work of any kind by City forces a minimum of 48 hours in advance of the time such services are desired. Work requests, which will involve City forces for more than 8 hours or an extensive number of City-supplied parts, must be requested a minimum of 7 calendar days in advance.

If it is necessary to terminate service to any customer, make the request for such work an additional 72 hours (three additional working days for a total of five working days advance notice) in advance of the time such services are desired to allow the customers affected to have a minimum 72-hour notice.

When installing a cut-in tee or cross that is larger than the existing pipe, install the new assembly at the depth appropriate to the size of the cut-in tee or cross, and include fittings, pipe, and couplers required to make the change in grade and connections unless otherwise directed. Depth must be sufficient to allow any valve(s) that may be part of the assembly to remain below the subgrade of the street.

When a connection is required to an existing water pipe, provide all excavation, shoring, backfill, and trench resurfacing per City Standard 215.

Joints of a tie-in connection to the City's distribution system must be mechanically restrained.

Where the connection is to be a "hot tap," provide and install the tapping valve and sleeve, and any other hardware required, and City forces make the tap at your expense, unless it is part of a Capital Improvement Project, in which case the hot tap shall be paid for accordingly.

Full circle tapping saddles must be used when hot tapping PVC pipe with a static pressure of 85 psi or higher.

Where a "cut-in" tee or cross and valve(s) assembly is required to be installed, provide and install the entire assembly (including valves), and any other hardware necessary under City inspection, and provide other work and materials necessary to complete the installation to City Standards.

During the work, exercise necessary precautions to prevent the entrance of trench water or any other foreign material into the water main and appurtenances and conduct operations in compliance with the most stringent sanitation practices. The interior of all appurtenances being installed, as well as the exterior of the pipe that will come into contact with the distribution water, must be thoroughly swabbed with a 1 percent liquid chlorine solution prior to installation.

When connecting to an existing water main, install temporary and permanent thrust blocking, as necessary, for restraint and to allow for re-energizing of the water main immediately after plumbing is complete.

When installing new components by "cut-in" to an existing PVC or ductile iron main, new joints must be mechanically restrained.

Pipe and fittings furnished for tie-ins are no smaller than the existing water main to which each tie-in is made.

77-4.03Q Construction Water

Water required for the performance of work must be legally obtained and furnished by you.

Prior to obtaining water from the City's water system, obtain a Water Use Permit and rent a hydrant or bridge meter. This can be done at 35 Stony Point Rd, Water Department's Utilities Field Operations front counter, Phone # 707-543-4200. You are responsible for any deposits required, permits and moving fees, and the cost of water used. Deposits are refunded upon removal of the meter by City forces, less any charges for water used. Any damage to the meter may result in forfeiture of all or part of the deposit.

Unmetered connections are not permitted to the City of Santa Rosa water system, including connections that bypass meters for testing onsite plumbing, or for obtaining construction water. When a subdivision water main has been accepted and tied in, the individual curb stops will be locked off with cable ties or locks. Cutting off or tampering with the cable ties or locks will constitute a straight tie-in connection. Such connections are severed by the Water Department and will result in penalties, including payment of fines and estimated water usage fees.

Construction water must be obtained from the City water system only at the point(s) designated by the Engineer.

Contractors are prohibited from operating gate valves or fire hydrants on the City system.

Use of water obtained from unmetered fire hydrants or other facilities is a violation of City ordinance and State law. Use of construction water from sources other than the City Water System must be approved by the Engineer.

Citations and fines will be levied for violation of these and other utility regulations, and deductions will be made from progress payments if necessary.

Construction water for the work under this contract will not be furnished by the City.

Water trucks or any other unapproved vessel are not to be used in the application of loading water mains unless first approved by the City's Water Quality Section.

77-4.03 PAYMENT

Not Used

77-5 LIGHTING (CITY STREET)

77-5.01 GENERAL

77-5.01A Summary

Section 77-5 includes specifications for lighting on City's pedestrian overcrossing and path beneath.

Pedestrian lighting installation in the City of Santa Rosa along with civil and structure improvements per the Contract documents are to be performed at following locations:

1. New Edwards Avenue Pedestrian Overcrossing - Bridge No.20-0307.

City street lighting system includes:

1. Foundations
2. Pull boxes/junction boxes
3. Conduit
4. Conductors and cables
5. Streetlight standards
6. Luminaires
7. Low-voltage rail lights
8. Remote drivers
10. Narrow-beam angle spotlights
11. Downlights
12. In-grade wall uplights
13. Post-top area lights
14. Seat wall linear strip light
15. Service equipment enclosure
16. Photoelectric control
17. Fuse splice connectors
18. Coordination with PG&E for irrigation and lighting service

The components of city street lighting system are shown on the project plans.

Do not proceed without Project Architect's authorization, where such authorization is specified.

77-5.01B Definitions

Not used

77-5.01C Submittal

The electrical submittal must comply with Section 86.

If substitutions for lighting fixtures are proposed, include photometric calculations with material submitted in support of the substituted product.

Do not order materials or begin construction of work related to the electrical submittal until the submittal has been reviewed and stamped by the Project Architect with a stamp marked "No Exceptions Taken" or "Make Corrections Noted" and returned to you by the Engineer.

77-5.01D Quality Assurance

Not used

77-5.02 MATERIALS

77-5.02A General

City lighting equipment and materials must comply with section 86 except as specified in this section.

City lighting standards, LED luminaires, and non-pole mounted lights must be equal to basis of design as shown in luminaire type schedule on plans and requirements described herein. Substitutions are subject to review by the architect and/or engineer for approval.

City lighting luminaires must have a nominal correlated color temperature (CCT) of 3000 K ± 275 K, tolerances defined in ANSI_NEMA ANSLG C78.377-2008. Minimum CRI must be greater than 80.

Anchor bolts must be grounded and bonded to poles/standards/pedestals.

77-5.02B - Fixture Type A

Low voltage rail lights must:

1. Provide minimum efficacy of 88 lumens per watt.
2. Have asymmetric distribution, flood optics, clear lens.
3. Be listed by ETL, UL 1598/CSA 22.2, CE, wet location IP-65 rated.
4. Include silicone gasket to protect light fixture housing from stainless steel railing.
5. Have all stainless steel mounting hardware.

77-5.02C - Fixture Type A1

Remote power supply unit must:

1. Be primary driver of 110-277 VAC UL listed, constant voltage, to 24VDC secondary, class 2.
2. Have power supply rated for outdoor and direct burial use.
3. Have driver mounted in IP68 listed direct burial outdoor enclosure.
4. Provide minimum efficiency of 88 lumens per watt.
5. Have asymmetric distribution, flood optics, clear lens.
6. Be listed by ETL, UL 1598/CSA 22.2, CE, wet location IP-65 rated.

77-5.02D - Fixture Type B

Narrow beam spotlights must:

1. Provide yoke mounting with locking hinge.
2. Be listed for IP66 rating (minimum)

77-5.02E - Fixture Type C1

Soffit downlights must:

1. Have housing rated for installation within concrete where installed within the bridge concrete sections.
2. UL listed for wet location.

77-5.02F - Fixture Type C2

Soffit downlights must:

1. Have housing rated for installation within concrete where installed within the bridge concrete sections.
2. UL listed for wet location.

77-5.02G Pull Boxes

Pull boxes must be a minimum of No. 3-1/2 or larger unless otherwise indicated on plans and or in the Contract Documents. Pullboxes must be identified as “CITY OF SANTA ROSA”. Lids must be tamper resistant type.

Junction boxes in the structure must be 4” round. Provide with extensions as needed and round blank cover plate. Provide with supports to structure.

77-5.02H Conduit

Use Type 1 conduit for structure infrastructure installation including surface-mounted.

Use Type 3 conduit for underground installation.

Use Type 4 conduit for connecting to the rail lighting system.

77-5.02I Service Equipment Enclosure

Type III-AF service equipment enclosures must be the aluminum type.

77-5.02J Photoelectric Controls

Photoelectric controls shall be installed within the service equipment enclosure and consist of:

1. 120V photoelectric control switch installed facing north.
2. 24 hour, 7-day programmable astronomical time clock.
3. Lighting contactor with 120V activation coil, with minimum (8) 20A, single pole contacts.

77-5.03 CONSTRUCTION

77-5.03A General

Install electrical equipment under section 87, including conduit, wiring and junction box for bike/ped counter.

77-5.03B City Lighting Standards and LED Luminaires

Install the City lighting standards and LED luminaire under manufacturer's instructions.

Install pole foundations under section 56.

77-5.03C Non-pole-mounted lights

Install non-pole mounted lights as shown and per manufacturer's instructions.

Install narrow beam angle spotlight foundations under section 51.

77-5.03D Field Test Fixtures

Field test newly installed fixtures to ensure proper operation in both daytime (off) and nighttime (on) settings. Provide a summary of the tests conducted and a written statement certifying that the fixtures tested are in complete working order.

Aimable fixtures shall be aimed in field under the direction of the Engineer. Aiming shall be performed at night. Once all parties agree to the aiming set point(s), aiming set screws shall be locked down and aiming angle(s) shall be recorded as a test report for future re-adjustment.

77-5.03E Electrical Service for Lighting and Irrigation

Provide service to the new Type III service equipment enclosure by providing conduit from the point of connection at existing PG&E infrastructure to the new service equipment enclosure. Install in trench per PG&E Greenbook manual, utility bulletin TD-038193-B033. Coordinate with PG&E for inspections related to the service equipment and service conduit installations. Contractor shall hold a preconstruction meeting with PG&E minimum of 2-weeks prior to start of installation of service conduit.

77-5.04 PAYMENT

Not Used

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78 INCIDENTAL CONSTRUCTION

Replace section 78-4.06A(1) with:

Section 78-4.06 includes specifications for applying a non-sacrificial anti-graffiti coating to surfaces.

Apply anti-graffiti coating to all vertical concrete faces exceeding 6 inches in height.

Replace section 78-4.06B with:

Anti-graffiti coating must:

1. Be a nontoxic, non-sacrificial, nonflammable, water-based coating designed for protecting concrete from graffiti
2. Be compatible with the concrete surface treatment
3. Have a clear finish when dry, low gloss/matte finish option preferred
4. Be removable with a hot pressure washer

Replace section 78-4.06D with:

78-4.06D Payment

Payment for anti-graffiti coating is included in payment for the bid items to be coated.

^^

80 FENCES

Add to section 80:

80-5 GUARD WITH FENCING

80-5.01 GENERAL

80-5.01A Summary

Section 80-5 includes specifications for constructing guard with fencing with tall stanchions or fencing infill connectors at forestays.

Guard with fencing (tall stanchion) includes:

1. Tall stanchions with stiffeners
2. Stainless steel pipe at top of stanchion
3. Small mesh infill between top cable and top of guard, with cables and hardware
4. Connection fittings and hardware
5. Guard with small mesh infill

Guard with fencing (forestays) includes:

1. Small mesh infill between top cable and top of guard, with cables and hardware
2. Connection fittings and hardware
3. Guard with small mesh infill
4. Fencing infill connectors

80-5.01B Submittals

Submit shop drawings to the Engineer for review by the Engineer and the Project Architect. Do not order materials, begin fabrication, or begin construction of work related to the submittal until the submittal has been reviewed and stamped by the Project Architect with a shop drawing stamp marked “No Exceptions Taken” or “Make Corrections Noted” and returned to you by the Engineer.

Submit shop drawings for each type of guard with fence, including:

1. Guard with fence layout
2. Anchorage assemblies and bolt templates
3. Fencing infill connectors
4. Connections to guard
5. Welds
6. Fabrication dimensions and construction tolerances
7. Quality control procedures

Submit a guard with fencing installation plan and supporting calculations for the construction and installation of the guard with fencing system. The fencing system installation plan must include:

1. The complete construction sequence of the guard with fencing cable system, including tensioning of fencing cables, installation of fencing infill, and installation and tensioning of bolted connections at fencing infill connectors
2. Layout drawing of the entire guard with fencing system
3. Details for connections not shown or dimensioned on the plans
4. Details of allowed options incorporated into the work
5. Means and methods of controlling displacements of forestay cables and stanchions due to the guard with fencing installation
6. Material specification and grade listed on the bill of materials
7. Proposed deviations from plans, specifications, or previously submitted shop drawings

Submit a 1 ft x 1 ft sample of bead blast finish of 304 stainless steel plate. The Engineer uses the authorized 1 ft x 1 ft bead blast sample to determine the acceptability of stanchion finish.

80-5.01C Quality Control

80-5.01C(1) General

Do not proceed without Project Architect's authorization, where such authorization is specified.

80-5.01C(2) Guard with Fence Prefabrication and Preinstallation Meeting

Before starting guard with fence fabrication, conduct a prefabrication meeting to discuss guard with fence fabrication quality, tolerance, assembly, transport, and installation procedures. Meeting attendees must include fabricators and installers.

80-5.01C(3) Test Sections

Preassemble test section of guard with fence (tall stanchions)in the shop before fabrication. Preassembly of guard with fence (tall stanchions) may be performed on bridge segment 5 preassembled under section 55-1.02E(9).

Shop test sections must:

1. Be preassembled on bridge segment 5, station 14+79.75 to station 14+93.75
2. Have temporary bracing as required to simulate installed conditions for cable and mesh
3. Adhere to construction tolerances specified
4. Be pre-assembled and finished using the personnel, materials, equipment, and methods to be used in the work
5. Be authorized before fabrication of guard with fence. Authorization must be signed by Engineer and Project Architect.
6. Be disassembled after authorization.

The test section must demonstrate that the crew can successfully install the stanchions, mesh, and rail within specified tolerances, including lighting features, per the details shown.

The Engineer uses the authorized test section to determine acceptability of the guard with fence installation.

Roll, tag, and deliver to City corporation yard the mesh from guard and fence test section when authorized.

80-5.01C(4) Fencing Infill Connector Pull Test

Before shipping fencing infill connectors, perform tension pull tests on 3 fencing infill connector assembly samples selected by the Engineer. The pull test must determine:

1. The torque required in the socket head screws between parts B and D of the fencing infill connector that results in a minimum measured tensile force in the fencing cable of 1,600 pounds when pulled against the infill connector held stationary. The tension in the socket head screws must be equal and must not exceed 4,500 pounds per screw.
2. The torque required in the socket head screws between parts A and B of the fencing infill connector that results in a tension in the socket head screws equal to 4,500 pounds per screw.

The tension pull tests must continuously measure and record the tensile force applied to the fencing cable and the relative displacement of the fencing cable to the fencing infill connector up to a relative displacement of 1 inch.

Tension pull tests must be performed on fencing infill connector assemblies that include the fencing infill connectors and the same neoprene sleeves, thread-locking compound, and fencing cables that will be used in the work. Threaded components used in the tension pull tests must not be used in the work.

Tension pull tests must be performed at a temperature of 40 degrees Fahrenheit maximum.

The procedures used to attach the connectors to the fencing cable for the tension pull tests must be identical to the procedures used for installing the fencing infill connectors at the site.

Before performing fencing infill connector testing, submit a testing plan for authorization. The testing plan must include:

1. Name of testing laboratory used
2. Pull test equipment description
3. Procedures used to determine the torque and tension applied to the socket head screws
4. Procedures used to attach the fencing infill connectors to the fencing cable
5. Testing procedures
6. Safety plan

Submit tension pull test reports at least 20 days before delivery of the fencing infill connector assemblies to the job site. Include in the report:

1. The torque required in the socket head screws that results in a minimum measured tensile force between the fencing cable and the fencing infill connector as described herein.
2. The measured tension in the socket head screws at the torque necessary to achieve the specified minimum measured tensile force between the fencing cable and the fencing infill connector as described herein.
3. A graph of the tensile force applied to the fencing cable and the relative displacement of the fencing cable to the fencing infill connector up to a relative displacement of 1 inch.
4. The torque required in the socket head screws between parts A and B of the fencing infill connector to achieve the specified measured tensile force in the socket head screws as described herein.

Bolt tension measuring devices and calibrated wrenches must comply with section 55-1.01D(2).

Fencing infill connector socket head screws must be installed in the work with the torque specified in the pull test report. Test the installed torque of the socket head screws in the presence of the Engineer.

80-5.02 Materials

Guard materials must comply with section 83, except that infill must be small mesh.

The materials for guard-with-fence components must comply with the specifications shown in the following table:

Element	Specification
Stanchions	ASTM A240, Type 304 stainless steel, bead-blasted
Plates and brackets	ASTM A240, Type 304 stainless steel, bead-blasted
Stanchion-capping tube	ASTM A473, Type 304 stainless steel
Cable	Type 316 stainless steel 1x19 wire rope
Bolts	ASTM F593, Type 18-8 stainless steel
Threaded spacer rods	ASTM F593, Type 304 stainless steel
Nuts	ASTM F594, Type 18-8 stainless steel
Rivets	ASTM F593, Type 18-8 stainless steel
Fencing infill connector	ASTM A572, Grade 50 and hot-dipped galvanized
Fencing infill connector screws and washers	ASTM A574, zinc-plated

Small mesh must:

1. Be 1.5 mm type 316 stainless steel wire rope
2. Have diamond-shaped openings as shown
3. Have type 316 stainless steel ferrules crimping the wire rope
4. Not impart load greater than 35 pounds per linear foot onto (a) the fencing top cable and (b) the fencing cable at upper rail

Fabrication tolerance for laser and plasma cutting for material with thickness less than or equal to ¼" must not exceed 0.02 inch.

Fabrication tolerance for laser and plasma cutting for material with thickness greater than ¼" must not exceed 0.06 inch.

Stanchion weldments must be bead blast finished with glass beads. Finish must be even and thorough, with a roughness average (Ra) between 40 and 50 microinches.

Stanchion welds must be smooth.

Galvanize under section 75-1.02B.

Thread locking system must comply with section 75-3.02B.

Caulk must comply with section 55-1.02D(7).

The neoprene sleeve must comply with the specifications for neoprene in section 51-2.04B.

Remove burrs, rough and sharp edges, and other flaws.

Straighten warped pieces after fabricating.

80-5.03 Construction

Guard with fence must present a uniform appearance in its final position, conforming to the horizontal and vertical lines shown or ordered.

Carefully handle the materials such that no parts are bent, broken, abraded, or otherwise damaged. Do not use manufacturing, handling, or installation methods that damage or distort the members or damage their finishes.

Construct guard under section 83-2.10C.

Install mesh infill plumb, level, square and taut under manufacturer's instructions, without waves or kinks. Sags must not exceed the dimensions shown.

Do not install fencing infill before tensioning of fencing top cable.

Terminate and tension mesh panels under manufacturer's instructions. Adjust support cable tension and connection hardware.

Where mesh must be cut, finish neatly and secure cut ends within ferrules under manufacturer's instructions.

Unless dissimilar metals have a corrosion protective coating, provide separation with bushings, grommets, or washers to prevent electrolytic corrosion.

Adjust the vertical position of the tall stanchions to compensate for the camber and dead load deflection of the superstructure. The Engineer determines the adjustment amount before the railing is installed.

Installation sequence of fencing system must not impart fencing cable tensioning loads onto the forestay cables. Tensioning of the top fencing cable must not deflect the forestay cables in the direction parallel to "EE" Line. After installation of fencing system, complete in place including tensioning of fencing cables and installation of fencing infill, adjust the fencing infill connectors to provide secure connection of fencing cables to forestay cables.

Erect guard with fence carefully and true to line and grade, with tolerances as follows:

Element	Tolerance
Tall stanchions	Not to exceed ½ inch deviation from position shown at stanchion tip, in any direction
Rail joint offsets	Not to exceed 1/16 inch

Rail joint gaps	Not to exceed 1/16 inch
Guard elements	Comply with section 83-2

Where shown, apply special grinding and finishes under section 55-1.02E(10).

Insert top and bottom tension cable and stretch the mesh fabric under manufacturer's instructions.

Wherever necessary to conform to vertical curvature, rework and fit the fabric to present a smooth, neat, and workmanlike appearance.

Grout base plate where shown.

Install stainless steel square tube conduit along stanchion. Caulk around conduit where it penetrates steel bridge deck edge plate. Completely cover the standard conduit stub with the stainless steel conduit on the exterior of the bridge deck.

Weld fence connection fin to guard rail where shown.

80-5.04 Payment

Payment for base plates, anchor bolts, nuts, and setting plates embedded in concrete for stanchion fins is included in payment for miscellaneous metal (bridge).

Except for stainless steel stanchion fins at ramp termini, payment for stanchion fins is included in payment for furnish structural steel (superstructure).

Payment for test section preassembly with temporary bracing is included in bid price paid for guard with fencing (tall stanchions).

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DIVISION IX TRAFFIC CONTROL DEVICES

81 MISCELLANEOUS TRAFFIC CONTROL DEVICES

Add to section 81-8.03C:

Remove delineators and the underlying adhesive by methods that cause the least possible damage to the pavement surfacing.

Repair damage more than 0.05 feet deep caused to the pavement surfacing due to removal methods at your expense.

^^

82 SIGNS AND MARKERS

Add to the end of section 82-3.02:

82-3.02F Enhanced Conspicuity Retroreflective Treatment on Sign Posts

Attach a minimum 2-inch-wide enhanced conspicuity retroreflective treatment, ASTM sheeting Type XI attached to aluminum or fiberglass-reinforced plastic substrate on wood, square perforated metal or round metal sign posts for pedestrian, bicycle, and school zone signs. Attach treatment on the side of sign posts facing the traffic. If the sign has a breakaway feature, the bottom of the sign post, from the ground surface to 6 inches above the breakaway feature, must not be covered with the treatment. Do not attach treatment to signs installed by the strap and saddle bracket method on electroliers, sign structure posts, and traffic signal standards.

On wood or square perforated metal sign posts of any size, treatment must be the width of post and must be firmly secured to the sign post by using threaded fasteners or drive rivets.

On round metal sign posts with nominal diameter size 2 inches or more, treatment must be the width of the outside diameter of the post and must be firmly secured using threaded fasteners to the pre-drilled holes in the metal sign post.

Color of the treatment must match the color of the predominant background color of the sign panel.

Add to the end of section 82-3.04:

Payment for enhanced conspicuity retroreflective treatment, ASTM sheeting Type XI attached to aluminum or fiberglass-reinforced plastic substrate on wood, square perforated metal or round metal sign posts is included in the payment for furnishing pedestrian, bicycle, and school zone sign panels.

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83 RAILINGS AND BARRIERS

Replace section 83-2.01B with:

83-2.01B Minor Concrete Vegetation Control

83-2.01B(1) General

83-2.01B(1)(a) Summary

Section 83-2.01B includes specifications for constructing minor concrete vegetation control around railing and barrier posts.

Constructing minor concrete vegetation control includes clearing and excavation.

83-2.01B(1)(b) Definitions

Not Used

83-2.01B(1)(c) Submittals

Submit a mix design for the minor concrete to be used for vegetation control. The mix design must show proportions of:

1. Coarse aggregate
2. Fine aggregate
3. Cementitious material
4. Reinforcing fiber
5. Water

Include compressive strength test results with the mix design.

Submit a certificate of compliance for the crumb rubber aggregate, if used. Include the quantity in pounds of crumb rubber.

83-2.01B(1)(d) Quality Assurance

Not Used

83-2.01B(2) Materials

83-2.01B(2)(a) General

Not Used

83-2.01B(2)(b) Minor Concrete

83-2.01B(2)(b)(i) General

Concrete for vegetation control must comply with the specifications for minor concrete, except the concrete:

1. Must include reinforcing fibers
2. May include crumb rubber aggregate
3. Must contain:
   - 3.1. At least 505 pounds of cementitious material per cubic yard, if crumb rubber aggregate is used
   - 3.2. At least 400 pounds of cementitious material per cubic yard, if crumb rubber aggregate is not used
4. Must have a maximum aggregate size of 3/8 inch

All ingredients must be added at the concrete plant before delivery to the job site.

You may use volumetric proportioning complying with ASTM C685/C685M or as specified.

The minor concrete must have a 28-day compressive strength from 1,400 to 2,500 psi.

83-2.01B(2)(b)(ii) Crumb Rubber Aggregate

Crumb rubber aggregate must consist of ground or granulated scrap tire rubber from automobile and truck tires. Do not use tire buffings.

Crumb rubber aggregate must be ground and granulated at ambient temperature.

The crumb rubber aggregate gradation must comply with the requirements shown in the following table:

Gradation Requirements

Sieve size	Percentage passing
1/2"	100
3/8"	90–100
1/4"	35–45
No. 4	5–15
No. 8	0–5
No. 16	0

Crumb rubber aggregate must not contain more than 0.01 percent of wire by mass and must be free of oils and volatile organic compounds.

Do not commingle crumb rubber from different sources.

The crumb rubber aggregate must be 3.5 ± 0.5 percent by weight of the concrete.

83-2.01B(2)(b)(iii) Reinforcing Fibers

Reinforcing fibers for minor concrete must be:

1. Manufactured specifically for use as concrete reinforcement from one of the following:
   1.1. Polypropylene, polyethylene, or a combination of both.
   1.2. Copolymer of polypropylene and polyethylene.
2. Blended ratio from 4 to 5.67 parts by weight of macro synthetic fibers to 1 part by weight of micro synthetic fibers. Synthetic fibers must be:
   2.1. Nonfibrillated macro fibers with individual fiber lengths less than 2 ± 1/2 inches.
   2.2. Fibrillated or monofilament micro fibers of various lengths and thicknesses.
3. Supplied in sealed, degradable bags of appropriate size for adding whole bags to concrete batches.
4. From a commercial source.

The reinforcing fiber content of the minor concrete must be from 5 to 6 lb/cu yd.

83-2.01B(2)(b)(iv) Coloring Agent

Not Used

83-2.01B(2)(c) Block-Out Material

The block-out material must be a commercially available expanded polystyrene foam with a compressive strength of 13 ± 5 psi at 10 percent deformation when tested under ASTM D1621.

If authorized, you may substitute an alternative block-out material that complies with the compressive strength requirements of the expanded polystyrene foam.

83-2.01B(2)(d) Backfill Material

Backfill material must be Class 2 aggregate base complying with section 26.

83-2.01B(3) Construction

83-2.01B(3)(a) General

Not Used

83-2.01B(3)(b) Clearing

Clear areas to receive minor concrete vegetation control of vegetation, trash, and debris. Dispose of the removed material.

83-2.01B(3)(c) Earthwork

Excavate or backfill areas to receive minor concrete vegetation control.

If the minor concrete vegetation control abuts the existing surfacing, and the edge of the existing surfacing is not on a neat line, cut the surfacing on a neat line to a minimum depth of 2 inches before removing the surfacing.

Perform grading so that the finished elevation of the minor concrete vegetation control maintains the existing or planned flow lines, slope gradients, contours, and existing surfacing.

Grade the areas to receive minor concrete vegetation control to a smooth, uniform surface and compact to a relative compaction of at least 90 percent.

83-2.01B(3)(d) Block Outs

For block-out material supplied in more than 1 piece, tape the pieces together to make a smooth surface on the top and sides.

Ensure that the block-out material does not move during concrete placement.

83-2.01B(3)(e) Forming

Forming must comply with section 73-1.03C.

Leave forms in place for at least 12 hours after surface finishing.

83-2.01B(3)(f) Minor Concrete

Strike off and compact the minor concrete until a layer of mortar is brought to the surface. Match the finished grade to the adjacent section of minor concrete vegetation control, pavement, shoulder, or existing grade.

Construct contraction joints by scoring concrete with a grooving tool and rounding corners with an edger tool.

83-2.01B(3)(g) Backfill Material

Backfill material required for minor concrete vegetation control under existing guardrail or barrier is change order work. Excavate or backfill areas to receive vegetation control.

83-2.01B(4) Payment

Not Used

Replace section 83-2.04A with:

83-2.04A General

83-2.04A(1) General

83-2.04A(1)(a) Summary

Section 83-2.04A includes general specifications for constructing terminal systems.

83-2.04A(1)(b) Definitions

Not Used

83-2.04A(1)(c) Submittals

Submit a certificate of compliance for each model of terminal system installed.

At least 10 days before installation, for each model of terminal system used on the project, submit at least 2 copies of the following:

1. Manufacturer's:
    1.1. Installation manuals with installation checklists
    1.2. Maintenance manuals
    1.3. List and drawing of parts and surfaces that cannot be stained or coated if surface treatment is specified
2. Installation locations for each model

For each terminal system installed, submit a completed manufacturer's checklist within 10 days of installation.

83-2.04A(1)(d) Quality Assurance

Use personnel trained by the manufacturer to install each terminal system. A record of training provided by the manufacturer may be requested by the Engineer at any time.

83-2.04A(2) Materials

Not Used

83-2.04A(3) Construction

Use the same type of post and block as described for the guardrail downstream of the terminal if allowed by the manufacturer.

If surface treatment is specified, comply with terminal system manufacturer's requirements.

Confirm terminal location and layout with Engineer prior to installation.

Use the approved manufacturer installation manual as described in the manufacturer approval letter obtained from the following website:

http://dot.ca.gov/safety-programs/mash

Install terminal systems under the manufacturer's installation instructions.

For each model of terminal system being installed, have a copy of the installation manual and the Department's authorized manufacturer drawings onsite and available for reference.

As each terminal system is installed, complete the manufacturer's installation checklist and include the following:

1. Contract number
2. Name of installation Contractor
3. Type of terminal system installed
4. Flare offset used in layout
5. Date of installation
6. Location on the project by post mile, and by station if stationing is shown
7. Name and signature of person completing the checklist

If a terminal ends with a post at an element splice, use a 9'-4-1/2" or 15'-7-1/2" rail element to transition to mid-post splices.

Identify each terminal system installed by painting the terminal system type in 2-inch-high, neat, black letters and figures on the backside of the rail element between system posts number 4 and 5 or as directed. Use black metallic acrylic resin type paint applied to a clean dry surface.

Install and backfill posts, steel foundation tubes, and soil tubes used in terminal systems under the manufacturer's recommendations and section 83-2.02C(1)(b).

83-2.04A(4) Payment

Not Used

Replace section 83-2.04B with:

83-2.04B Alternative In-line Terminal—TL-3

83-2.04B(1) General

Section 83-2.04B includes specifications for constructing alternative in-line terminal—TL-3.

83-2.04B(2) Materials

Alternative in-line terminal must be one of the following or a Department-authorized equal:

1. MAX-Tension Tangent Guardrail End Treatment is a tangent, re-directive gating guardrail terminal meeting MASH TL-3 requirements and manufactured by Barrier Systems, Inc. The MAX-Tension terminal is available from the distributor:

Address	Telephone no.
STATEWIDE SAFETY AND SIGNS INC 130 GROBRIC COURT FAIRFIELD CA 94533	(800) 770-2644

2. MASH Sequentially Kinking Terminal (MSKT) is a tangent, re-directive gating end terminal meeting MASH TL-3 requirements and manufactured by Road Systems, Inc. The MSKT terminal is available from the following distributors:

Address	Telephone no.
UNIVERSAL INDUSTRIAL SALES PO BOX 699 PLEASANT GROVE UT 84062	(801) 785-0505
GREGORY HIGHWAY 4100 13TH ST SW CANTON OH 44710	(330) 477-4800

3. SPIG Guardrail End Terminal (SGET) is a tangent, re-directive gating end terminal meeting MASH TL-3 requirements and manufactured by SPIG Industries, LLC. The SGET terminal is available from the manufacturer:

Address	Telephone no.
SPIG INDUSTRY, LLC 14675 INDUSTRIAL PARK ROAD BRISTOL VA 24202	(276) 644-9510

4. Soft-Stop Guardrail Terminal is a tangent, re-directive gating end terminal meeting MASH TL-3 testing requirements and manufactured by Valtir, LLC. The Soft-Stop terminal is available from the manufacturer:

Address	Telephone no.
VALTIR, LLC 15601 DALLAS PARKWAY, STE 525 ADDISON TX 75001	(888) 323-6374

83-2.04B(3) Construction

Not Used

83-2.04B(4) Payment

Not Used

Add to section 83-2:

83-2.10 GUARD

83-2.10A General

83-2.10A(1) Summary

Section 83-2.10 includes specifications for fabricating and constructing guard with mesh infill, with and without handrail and guard with expansion.

Guard includes:

1. Stanchions with stiffeners, typical and modified for conduit
2. Top rail
3. Mesh infill and its cables, mounting plates, hooks, and hardware
4. Connection and mounting hardware
5. Handrail and its mounting hardware, for guard with handrail
6. Square stainless steel tube

7. Expansion hardware, for guard with expansion
8. Edge protection rail w, for guard with handrail

83-2.10A(2) Submittals

Submit shop drawings to the Engineer for review by the Engineer and the Project Architect. Do not order materials, begin fabrication, or begin construction of work related to the submittal until the submittal has been reviewed and stamped by the Project Architect with a shop drawing stamp marked “No Exceptions Taken” or “Make Corrections Noted” and returned to you by the Engineer.

Submit shop drawings for each type of guard, including:

1. Guard layout
2. Anchorage assemblies and bolt templates for concrete and steel bridge sections
3. Handrail and slit tube details
4. Incorporation of LED pod lights
5. Welds
6. Expansion joints
7. Fabrication dimensions and construction tolerances
8. Connections
9. Complete details for the construction of the work, including construction methods, quality control procedures, sequence of shop and field assembly, finishing, and installation procedures

Submit manufacturer’s product data for mesh infill and connection hardware.

83-2.10A(3) Quality Control

83-2.10A(3)(a)General

Do not proceed without Project Architect’s authorization, where such authorization is specified.

83-2.10A(3)(b) Guard Prefabrication and Preinstallation Meeting

Before starting guard fabrication, conduct a prefabrication meeting to discuss guard quality, tolerance, and assembly, transport, and installation procedures. Meeting attendees must include fabricators and installers.

83-2.10A(3)(c) Test Sections

Preassemble test section of guard with handrailin the shop before installation.

Shop test sections must:

1. Be preassembled at the guard fabrication shop
2. Be preassembled on a temporary ramp that simulates field grades between stations 13+53.75 and 13+67.75
3. Include at least 3 stanchions
4. Include handrail
5. Include pod lights in rail (non-operational)
6. Include an example conduit run from structure to rail along one stanchion
7. Adhere to construction tolerances specified
8. Be pre-assembled and finished using the personnel, materials, equipment, and methods to be used in the work
9. Be authorized before fabrication of guard. Authorization must be signed by Engineer and Project Architect.

The test section must demonstrate that the crew can successfully install the stanchions, mesh, and rail within specified tolerances, including lighting features, per the details shown.

The Engineer uses the authorized test section to determine acceptability of the guard installation.

The Engineer uses 1 ft x 1 ft bead blast sample authorized under section 80-5 to determine the acceptability of stanchion finish.

83-2.10B Materials

The materials for guard components must comply with the specifications shown in the following table:

Element	Specification
Stanchions	ASTM A240, Type 304 stainless steel, bead-blasted
Plates and brackets	ASTM A240, Type 304 stainless steel, bead-blasted
Clevis hardware	ASTM A473, Type 316 stainless steel
Cable tensioning hardware	ASTM A473, Type 316 stainless steel
Top rail	ASTM A269, Type 304 stainless steel flat-sided oval tube, no. 3 or no. 4 finish
Handrail	ASTM A269, Type 304 stainless steel round tube, no. 3 or no. 4 finish
Cable	Type 316 stainless steel 1x19 wire rope
Square tube	ASTM A554, Type 304 stainless steel, bead blasted
Edge protection rail	ASTM A240, Type 304 stainless steel, bead-blasted
Bolts	ASTM F593, Type 18-8 stainless steel
Threaded spacer rods	ASTM F593, Type 304 stainless steel
Nuts	ASTM F594, Type 18-8 stainless steel
Rivets	ASTM F593, Type 18-8 stainless steel

Large mesh must:

1. Be 1.5 mm type 316 stainless steel wire rope
2. Have diamond-shaped openings as shown
3. Have type 316 stainless steel ferrules crimping the wire rope

Stanchion weldments and square tubing must be bead blast finished with glass beads. Finish must be even and thorough, with a roughness average (Ra) between 40 and 50 microinches.

Ease stanchion plate edges to 1/16” radius. Smooth burrs.

Grout for setting plates into recesses must be a non-shrink cement-grout mixture comprised of cement and sand. Grout must match the adjacent concrete color and finish of the soffit supporting the guardrail.

Caulk must comply with section 55-1.02D(7).

83-2.10C Construction

Guard must present a smooth uniform appearance in its final position, conforming to the horizontal and vertical lines shown or ordered. Distortions, dents, gouges, bulges, burrs, and blemishes will not be allowed.

Except for expansion joints, rail joints must be welded. Grind welds smooth to match adjacent tubular sections.

Carefully handle the materials such that no parts are bent, broken, abraded, or otherwise damaged. Do not use manufacturing, handling, or installation methods that damage or distort the members or damage their finishes.

Install mesh infill plumb, level, square and taut under manufacturer’s instructions, without waves or kinks. Sags must be as shown.

Terminate and tension mesh panels as shown and under manufacturer’s instructions. Adjust support cable tension and connection hardware.

Where mesh must be cut, finish neatly and secure cut ends within ferrules under manufacturer's instructions.

Adjust the vertical position of the stanchions to compensate for the camber and dead load deflection of the superstructure. The Engineer determines the adjustment amount before the guard is installed.

Erect guard carefully and true to line and grade, with tolerances as follows:

Element	Tolerance
Stanchions	Not to exceed ¼ inch deviation from position shown at stanchion tip, in any direction
Top rail of guard, horizontal alignment	Deviation from a 20-foot string line along the center of the top rail of guard must not exceed 1/4 inch.
Handrail, horizontal alignment	Deviation from a 20-foot string line along the center of the top rail of guard must not exceed 1/4 inch.
Rail joint offsets	Not to exceed 1/16 inch
Expansion joint gaps	Not to exceed 1/16 inch unless otherwise shown

Where structure profile is curved vertically, top rail of guard must follow the curve shown. The vertical curve formed by the top rail must appear to be a smooth arc without intermittent bends or bulges. Engineer may lay a rigid 10 ft straightedge along top of rail to check that rail alignments between stanchions are curves and not chords.

Top of handrail gripping surface must be 36 inches above travelled way, +/- ½ inch. Except where rail bends to accommodate landings, alignment must appear smooth without intermittent bends or bulges.

Insert top and bottom tension cable and stretch the mesh fabric under manufacturer’s instructions.

Wherever necessary to conform to vertical curvature, rework and fit the fabric to present a smooth, neat, and workmanlike appearance.

Attach pipe handrailing and fin to guard where shown. Provide returns at ends of handrails, with the end turned into the guard and light bollard and cut parallel to the guard or light bollard leaving 1/4” clearance.

Grout base plate where shown.

Install stainless steel square tube conduit along stanchion. Caulk around conduit where it penetrates steel bridge deck edge plate. Completely cover the standard conduit stub with the stainless steel conduit on the exterior of the bridge deck.

83-2.10D Payment

Payment for base plates, anchor bolts, nuts, and setting plates embedded in concrete for stanchion fins is included in payment for miscellaneous metal (bridge).

Except for stainless steel stanchion fins at ramp termini, payment for stanchion fins is included in payment for furnish structural steel (superstructure)

Payment for preparation of temporary ramp and preassembly of test section is included in the bid price paid for guard.

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84 MARKINGS

Replace section 84-9.03B with:

84-9.03B Remove Traffic Stripes and Pavement Markings Containing Lead

Residue from the removal of painted or thermoplastic traffic stripes and pavement markings contains lead from the paint or thermoplastic. The average lead concentrations are less than 1,000 mg/kg total lead and 5 mg/L soluble lead. This residue:

1. Is a nonhazardous waste
2. Does not contain heavy metals in concentrations exceeding the thresholds established by the Health and Safety Code and 22 CA Code of Regs
3. Is not regulated under the Federal Resource Conservation and Recovery Act (RCRA), 42 USC § 6901 et seq.

Management of this material exposes workers to health hazards that must be addressed in your lead compliance plan.

^^

DIVISION X ELECTRICAL WORK

86 GENERAL

Replace the 2nd paragraph of section 86-1.02D(3) with:

The warning tape must have a printed message that reads: *CAUTION: CALTRANS FACILITIES BELOW*

Replace the 15th paragraph of section 86-1.02P(2) with:

Circuit breakers used as disconnects must have a minimum interrupting capacity of 22,000 A rms.

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87 ELECTRICAL SYSTEMS

Add between the 5th and 6th paragraphs of section 87-1.03C(3):

You are not required to install a no. 7 pull box adjacent to each soffit luminaire.

Replace *Reserved* section 87-15 with:

87-15 BIKE PED COUNTER

87-15.01 GENERAL

87-15.01A Summary

Section 87-15 includes specifications for providing an automated bike-ped counter.

A bike-ped counter includes:

1. Counter
2. Mounting plate and bracket
3. Conduit between counter and junction box on pylon
4. Conductors and cables, between counter and junction box on pylon
5. Miscellaneous hardware

The components of a bike-ped counter are shown on the project plans.

87-15.01B Definitions

Not used

87-15.01C Submittals

Submit manufacturer's product information.

87-15.01D Quality Assurance

Perform functionality test in presence of Engineer.

87-15.02 MATERIALS

The bike-ped counter must be a BikeCount smart bicycle counter as manufactured by MB Monokodas (info@bikecount.eu; www.bikecount.eu; phone +370.671.55457)

87-15.03 CONSTRUCTION

Install and connect to power the bike-ped counter onto pylon face as shown and under manufacturer’s instructions.

87-15.04 PAYMENT

Not Used

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DIVISION XI MATERIALS

90 CONCRETE

Add to section 90-5.01A:

You may use SCC for concrete at the column at Bent 7, the pylon pedestal, and the backstay pedestal. You must use SCC for concrete at the column at Bent 8.

^^

91 PAINT

Replace section 91-2.02A with:

Except for organic zinc-richurethane/fluoropolymer coating system compatible primer, zinc-rich primer must be on the Authorized Material List for inorganic and organic zinc-rich primers.

Primer for organic zinc-richurethane/fluoropolymer coating system for bare ferrous steel must be TNEME-ZINC Series 90-97 as manufactured by Tnemec (www.tnemec.com) or approved equal.

Organic zinc-rich urethane/fluoropolymer coating system primer for bare ferrous steel must comply with the requirements shown in the following table:

Quality characteristic	Test method	Requirement
Metallic zinc in dry film (min, percent)	ASTM D521	83
Density (min, lb/gal)	ASTM D1475	23
VOC content (max, g/L)	ASTM D3960	330
Dry times at 75 degrees F: Set to handle (max, minutes) Recoat (max, hours)	 ASTM D1640 ASTM D1640	 60 4

Primer for organic zinc-richurethane/fluoropolymer coating system for galvanized steel must be Series 94-H20 Hydro-Zinc as manufactured by Tnemec (www.tnemec.com) or approved equal.

Organic zinc-rich urethane/fluoropolymer coating system primer for galvanized steel must comply with the requirements shown in the following table:

Quality characteristic	Test method	Requirement
Metallic zinc in dry film (min, percent)	ASTM D521	83
Density (min, lb/gal)	ASTM D1475	24
VOC content (max, g/L)	ASTM D3960	90
Dry times at 75 degrees F: Set to handle (max, minutes) Recoat (max, hours)	 ASTM D1640 ASTM D1640	 120 8

Add to section 91-2.02:

91-2.02D Organic Zinc-RichUrethane/Fluoropolymer Coating System

Coatings for organic zinc-rich urethane/fluoropolymer coating system must comply with the requirements shown in the following tables or be pre-approved products.

Intermediate Coating

Quality characteristic	Test method	Requirement
VOC content (max, g/L)	ASTM D3960	250
Dry times at 75 degrees F: Set to handle (max, minutes) Recoat (max, hours)	 ASTM D1640 ASTM D1640	 120 12

Epoxy for Stripe Coat/Tie Coat

Quality characteristic	Test method	Requirement
VOC content (max, g/L)	ASTM D3960	250
Dry times at 70 degrees F: Set to handle (max, hours) Recoat (max, hours)	 ASTM D1640 ASTM D1640	 9 12

Fluoropolymer Finish Coating

Quality characteristic	Test method	Requirement

VOC content (max, g/L)	ASTM D3960	360
Dry times at 70 degrees F: Set to handle (max, hours) Recoat (max, hours)	 ASTM D1640 ASTM D1640	 8 12

Fluoropolymer Metallic Finish Coating

Quality characteristic	Test method	Requirement
VOC content (max, g/L)	ASTM D3960	220
Dry times at 70 degrees F: Set to handle (max, hours) Recoat (max, hours)	 ASTM D1640 ASTM D1640	 8 12

Preapproved organic zinc-richurethane/fluoropolymer coating system products are manufactured by Tnemec (www.tnemec.com) and shown in the following table:

Coating	**Pre-approved Product**
Stripe coat/Tie-coat	Hi-Build Epoxoline II Series 69
Intermediate coat	Endura-Shield Series 1095
Finish coat	Fluoronar Series 1072V
Clear metallic (pearlescent) finish coat	Fluoronar Clear Metallic Series 1078V (1012 Satin)

Proposed substitutes for Tnemec fluoropolymer coating system must meet or exceed Tnemec's results for the following tests, and provide a warranty that compares favorably with Tnemec's 15-year limited warranty:

ASTM D 4060 Abrasion
ASTM D 4541 Adhesion
ASTM G 153 Carbon ARC Weathering
AAMA 2604 and 2605 Exterior Exposure
ASTM D 4141 EMMAQUA
ASTM D 3363 Hardness
ASTM D 4585 Humidity
ASTM D 2794 Impact resistance
ASTM D 4587 QUV Exposure
ASTM B 117 Alt Spray (Fog)
ASTM D 6695 Xenon ARC Weathering

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Replace Reserved in section 97 with:

97 NON-SHRINK GROUT

97-1.01 GENERAL

97-1.01A Summary

Section 97 includes specifications for non-shrink grout.

97-1.01B Definitions

non-shrink grout: High-strength mortar or grout which does not shrink in the plastic state, is dimensionally stable in the hardened state, and bonds permanently to clean metal surfaces and concrete substrates.

97-1.01C Submittals

97-1.01C(1) General

Submit a certificate of compliance for non-shrink grout.

Submit manufacturer's product data and installation instructions.

Submit certified test data or trial batch test reports under section 90-1.01D(5)(b). Testing for compressive strength must be in accordance with ASTM C1107/C1107M using metal cube molds.

Submit a letter from non-shrink grout manufacturer confirming non-shrink grout is suitable for each application of the project.

97-1.01C(2) Grouting Plan

Submit a non-shrink grouting plan. The non-shrink grouting plan must include:

1. Shop drawings of forms used for non-shrink grout installation at base plates
2. Detailed shop drawings of non-shrink grout inlets, outlets, grout holes, and vents at each location. Shop drawings must include details of base plates, pipe keys, anchorages and post-tensioning ducts
3. Detailed grouting procedures
4. Type, quantity, and brand of materials to be used
5. Type of equipment to be used and provisions for backup equipment
6. Types and locations of non-shrink grout inlets, outlets, vents, hoses, and lances
7. For placements where grout will be pumped under the component to be grouted, locations of hoses or lances
8. Methods to clean all grouted surfaces and non-shrink grout inlets, outlets, and vents before grouting
9. Methods to seal non-shrink grout during non-shrink grouting operations
10. Methods to control the rate of non-shrink grout flow
11. Theoretical non-shrink grout volume calculations for each location
12. Detailed method for mitigating non-shrink grout placement if non-shrink grout volume placed is different than the theoretical non-shrink grout volume.
13. Mixing and pumping procedures
14. Direction of grout flow
15. Sequence of use of inlets and outlets
16. Sequence of grouting of adjacent grouting operations, including pipe keys, embedded pipes, post-tensioning ducts, base plates, and all other grouted components
17. Procedure for handling blockages
18. Names of people who will perform non-shrink grouting activities and their relevant experience and certifications

97-1.01D Quality Assurance

97-1.01D(1) General

Prequalify the materials, mix proportions, mixing equipment, and procedures proposed for use in the work under section 90-1.01D(5)(b).

The Engineer determines the compressive in accordance with ASTM C1107/C1107M using metal cube molds.

97-1.01D(2) Quality Control

A technical representative of the non-shrink grout manufacturer must be present during all grouting operations.

97-1.01E Materials

97-1.01E(1) General

Non-shrink grout must be a non-shrink, non-metallic, non-corrosive hydraulic cement-based grout complying with ASTM C1107/C1107M and CRD-C621.

Non-shrink grout must be manufactured specifically for use in supporting heavy loads.

Non-shrink grout must comply with the requirements shown in the following table:

Non-Shrink Grout

Quality characteristic	Test method	Requirement
Compressive strength (min, psi)		
at 1 day	ASTM C1107/C1107M	2,000
at 3 days	ASTM C1107/C1107M	5,000
at 7 days	ASTM C1107/C1107M	6,000
at 28 days	ASTM C1107/C1107M	8,000
Soluble chloride (%, max)	ASTM C1218/C1218M	0.06
Shrinkage		
before hardening (%, max)	ASTM C827/C827M	0.00
after hardening (%, max)	CRD-C621	0.00
Height change of hardened grout (%, max)	ASTM C1090	0.30

Water for non-shrink grout must comply with the specifications for water in section 90-1.02D.

97-1.01F Construction

97-1.01F(1) General

Reserved

97-1.01F(2) Surface Preparation

Prepare concrete surfaces to receive non-shrink grout by chipping, sandblasting, water blasting, or other accepted methods to remove defective concrete, laitance, dirt, oil, grease, and other foreign matter to achieve sound, clean contact surfaces. Lightly roughen concrete for bond, but not enough to interfere with proper placement of non-shrink grout. Thoroughly clean and protect concrete surface from subsequent contamination.

Cover concrete areas with protective waterproof covering until ready to place non-shrink grout.

Remove foreign matter from steel surfaces to be in contact with non-shrink grout. Clean contact steel surfaces as necessary by wire brushing and wiping dust clean.

Align and level components to be grouted and maintain in final position until non-shrink grout placement is complete and accepted.

Forms must be constructed of rigid nonabsorbent materials, securely anchored, watertight and strong enough to resist forces developed during grout placement.

Install forms for non-shrink grout around base plates and other spaces to be grouted in accordance with the manufacturer’s instructions and recommendations. The tops of forms must be not less than one inch above the surfaces to be grouted.

The sides of forms must provide a horizontal clearance to the component to be grouted not less than the thickness of the non-shrink grout to be placed.

For placements where grout will be pumped under the component to be grouted, the sides of forms must be spaced outside the component to be grouted so that there is no restriction of the grout flowing through the hose.

Forms must be coated with a form release agent. The release agent must not:

1. Cause swelling of the liner material
2. Cause delamination from the forms
3. Stain the concrete
4. React with the liner material

Remove protective waterproof covering and clean contaminated surfaces immediately before grouting.

The concrete surface on which grout will be placed must be saturated with clean water and maintained in a saturated condition for a minimum of 24 hours immediately before grouting. Remove excess water immediately before grouting.

Where necessary or appropriate for better bond, epoxy adhesive may be applied to clean, dry substrate surfaces in accordance with applicable requirements of ACI 503.2.

97-1.01F(2) Mixing

Mix non-shrink grout ingredients in accordance with the manufacturer's mixing instructions and recommendations. Mix non-shrink grout materials in proper mechanical mixers.

Mix non-shrink grout as close to work area as possible.

97-1.01F(2) Placement

Place non-shrink grout in accordance with the manufacturer’s installation instructions and recommendations. Pour non-shrink grout from one side only until non-shrink grout rises at least one inch above the plate on opposite side of said plate. Strapping and plunging or other recommended method may be used to force non-shrink grout to flow under the entire area.

At the superstructure connection at Bent 7 and Bent 8 columns, use a hose or lance to pump grout under the base plate. The hose or lance must be inserted under the base plate to the point farthest from the point of insertion. The hose or lance must be withdrawn as grout is pumped under the base plate but the hose or lance outlet must remain embedded in the grout.

Remove leveling shims, if used, not less than 48 hours after non-shrink grout has been placed. After shims have been removed, fill voids with non-shrink grout, packing the material with a suitable tool. Galvanized steel shims may be left in place at the superstructure connection at Bent 7 and Bent 8 columns.

Do not use non-shrink grout which has begun to set or if more than one hour has elapsed after initial mixing.

Grouting and constructing non-shrink grout pads under base plates at the superstructure connection at Bent 7 and Bent 8 columns must be done after steel structure erection and before installation of forestays.

For non-shrink grout installed in pipe sleeves, metal canisters, post-tensioning ducts, or post pockets, fill the pipe sleeves, metal canisters, post-tensioning ducts, or post pockets completely with non-shrink grout.

Extend non-shrink grout with aggregate when recommended by the non-shrink grout manufacturer for the intended use.

No equipment or other loads are allowed on the structure that has been grouted until 72 hours after the last non-shrink grout is placed.

97-1.01F(3) Curing

Cure non-shrink grout as recommended by the non-shrink grout manufacturer.

97-1.01G Payment

Not Used

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