



**CITY OF RANCHO SANTA MARGARITA
CITY COUNCIL
STAFF REPORT**

DATE: March 23, 2020

TO: City Council of the City of Rancho Santa Margarita

FROM: Jennifer M. Cervantez, City Manager *JM*

BY: Brendan Dugan, Public Works Director/City Engineer *BD*

SUBJECT: Award of a Public Works Construction Contract for the Santa Margarita Parkway Bridge Hinge Repair Project to Beador Construction Company, Inc. in the amount of \$2,536,700.00 [Federal Project No. BPMPL-5478 (013); City Project No. 410-900-931.004]

Recommendation

- 1) Approve the plans and specifications for the Santa Margarita Parkway Bridge Hinge Repair Project; and
- 2) Find that the Project is categorically exempt from the California Environmental Quality Act (CEQA), as a Class 1 Existing Facilities, pursuant to CEQA Guidelines, Section 15301; and
- 3) Award a Public Works Construction Contract to the lowest responsive, responsible bidder, Beador Construction Company, Inc. of Corona, California, in the amount of \$2,536,700.00, and reject all other bids; and
- 4) Authorize the Mayor to execute the proposed Public Works Construction Contract.

Background and Discussion

In 2008, the California Department of Transportation (Caltrans) performed routine inspection of three City-owned bridges and noticed vertical and horizontal displacement on the westbound Santa Margarita Parkway (SMP) Bridge at its hinge. Caltrans recommended the City rehabilitate the hinge as part of the City's normal bridge preventive maintenance program. The proposed Santa Margarita Parkway Bridge Hinge Repair Project (Project) will reconstruct the bridge hinge and implement general maintenance on the westbound SMP Bridge. The purpose of the hinge is to allow bridge spans on the SMP Bridge to move independently of each other.

SMP Bridge is located on a major arterial corridor and a major gateway into the City. Given the importance of this infrastructure to the community, the City applied for, and was granted, federal-aid funding through the Federal Highway Administrations' (FHWA) Highway Bridge Program (HBP) - Bridge Preventive Maintenance Program (BPMP) which is administered by Caltrans. The program assists local jurisdictions to rehabilitate public bridges. The HBP – BPMP provides the City funding equal to 88.53% of all costs with the City contributing 11.47%. Table 1 below provides a breakdown of all Project costs that have been reviewed and approved by Caltrans to date.

Table 1 – Current Approved Project Costs

Description	Amount
Preliminary Engineering and Environmental Assessment (Approved in 2011)	\$ 76,000
Final Design and Environmental Documentation (Approved in 2014)	\$ 546,000
Construction Phase (Approved in 2018)	\$ 2,659,000
Construction Phase Supplemental Funding No. 1* (Approved January 2020)	\$ 648,000
Total Approved Project Costs	\$ 3, 929,000**

* Supplemental Funding No. 1 - Increased authorized funding for construction engineering support and contingency

** Project Cost Distribution – Federal HBP Funds pays \$3,478,344 and City Funds pays \$450,656

The Project, first approved by Caltrans in 2011, has recently reached a significant milestone. All oversight and regulatory agencies have provided required entitlements and approvals to proceed directly with construction with no further prerequisite requirements. The City recently received final approval from the California Department of Fish & Wildlife (CDFW) on the City's efforts regarding humane bat exclusion which was the last remaining prerequisite prior to beginning construction.

Approval of Plans and Specifications

The bid documents, including the Plans, Specifications, Public Works Construction Contract, and Bid Proposal from Beador Construction Company, Inc. (Beador Construction) are included as Attachment A. It is recommended that the City Council approve the Plans and Specifications for the Project.

Bid Summary

Formal bidding procedures have been followed in conformance with the State of California Public Contract Code, the City of Rancho Santa Margarita Municipal Code,

and the Caltrans Local Assistance Procedures Manual. The public bid opening was completed on February 26, 2020, and the results are as follows:

Table 2: Bid Summary

Bidder	Bid Amount
1. Beador Construction Company	\$ 2,536,700.00
2. Peterson Chase General Engineering Construction	\$ 3,582,387.45*
3. Powell Constructors	\$ 4,195,600.80
4. Griffith Company	\$ 5,754,611.08*

*Bid Amount shown are corrected amounts calculated with Proposer's provided bid unit cost.

The engineer's estimate for this Project is \$2,182,423, and Beador Construction submitted a bid that was 16% higher than the engineer's estimate. As indicated in Table 1 – Current Approved Project Costs, supplemental funding in the amount of \$648,000 was approved by Caltrans and FHWA in January 2020 to accommodate the increase in Construction Management costs, as the initial Engineer's Estimates were completed in 2018. Staff has submitted an additional supplemental funding request in the amount of \$498,500 to provide the remaining funding for the construction costs as determined by the lowest responsive responsible bid received. Caltrans, on March 13, 2020, approved in writing the additional supplemental request, with final authorization from Orange County Transportation Authority (OCTA), the Southern California Association of Governments, and the Federal Highway Administration (FHWA) anticipated in July 2020.

Bid Cost Analysis

Construction of the Santa Margarita Parkway Bridge Hinge Repair Project is considered unique and complex for reasons including the type of work (e.g. hinge reconstruction), which does not occur frequently, the City's geographical location, the bridge's geometrics including its height, the need to construct the Project in phases to allow continued traffic and use, the use of half of the bridge throughout construction, the work occurring in an environmentally sensitive area, and the work occurring adjacent to high voltage electrical transmission lines. In submitting bids, a contractor will evaluate the cost to construct the work and also take into consideration the factors listed above with the risks that come with these complexities. The fluctuation in pricing is a direct result of these "other" factors outside of the physical construction work.

Award of Construction Contract for the Santa Margarita Parkway Bridge Hinge Repair Project
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City staff and our construction management consultant, Biggs Cardosa Associates, reviewed Beador Construction's bid proposal and determined it to be responsive. No outstanding issues were identified during the review process. Beador Construction has completed similar work for Caltrans, the Port of Long Beach and several cities in Southern California. A review of their references came in favorable, and staff has determined that Beador Construction is a responsible bidder.

Public Outreach

The City will conduct a far-reaching public outreach campaign to notify residents of the Project's upcoming construction, anticipated impacts, alternate routes, and to provide periodic construction updates. This public outreach will be completed with capable in-house staff. The City's efforts will include a dedicated page on the City's Website, social media postings, social media advertisements, mailers, changeable message signs, potentially utilizing a Project information hotline, NewsFlash website updates, posted updates on the City's E-Newsletter, and open communication with City homeowner associations and local schools. These are just some of the available options and more will be identified and included in the City's outreach efforts.

The Project is located on a major arterial roadway and is considered a gateway into the City. Construction and traffic impacts can be expected and the City will utilize all available options to mitigate these impacts to the greatest extent possible. Staff will continuously monitor the Project and work with our team and the contractor to implement measures to reduce construction impacts to the community.

Project Schedule

The following table indicates a preliminary Project schedule:

Table 3: Tentative Project Schedule

Advertisement of Notice Inviting Bids for Construction	January 2020
Award of PSA for Construction Management Services	February 2020
Construction Bid Opening	February 2020
Award of Construction Contract	March 2020
Begin Construction	May 2020
End Construction	January 2021

California Environmental Quality Act

Pursuant to the California Environmental Quality Act ("CEQA"), Guidelines Section 15301, a proposed Project is exempt from environmental review under the Class 1

categorical exemption if the Project involves the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of existing or former use. (Cal. Code Regs., tit. 14, § 15301). CEQA Guidelines Section 15301 lists numerous examples of exempt activities, including the repair of existing highways and streets and similar facilities. (Cal. Code Regs., tit. 14, § 15301(c)).

Here, the proposed SMP Bridge Hinge Project calls for the basic repair and maintenance of an existing City bridge as part of the City's normal bridge preventive maintenance program. Repair activities will include hinge reconstruction located near the west end of the bridge, expansion joint cleaning, seal joint reconstruction, bridge deck treatment, concrete deck overlay, sidewalk joint protection reconstruction, and spall repair. The repair Project does not call for any expansion of the SMP Bridge beyond its existing footprint, nor does it call for the expansion of any surrounding highway, street, or sidewalk. The proposed Project is limited to the repair of the SMP Bridge, which is intended to prolong the service life of the bridge. Thus, the proposed Project is categorically exempt from environmental review pursuant to the Class 1 exemption for existing facilities.

Fiscal Impact

There is sufficient Caltrans-approved funding to proceed with the award of a construction contract. The authorized funding will allow the City to cover all costs resulting from the proposed construction contract amount, expenditures to date, and future contractual obligations that have been previously approved by the City Council. The current funding authorization is \$3,307,000, which is shared between construction, contingency, and construction engineering support. Construction engineering support includes construction management and inspection, habitat restoration maintenance, material testing and inspection, design engineering support, and in-house public outreach and contract administration.

Because the lowest bid amount exceeds the engineer's construction cost estimate by \$354,277, the entire Project contingency of \$220,400 has been included for use along with \$133,877 that had previously been allocated for the use of outside Public Outreach consulting which will now be accomplished in house utilizing City staff. An application for additional supplemental funding was submitted to and approved by Caltrans to provide increased funding to offset increased construction costs and to maintain an equivalent amount of funding, based on an approved percentage of construction cost for construction engineering support and contingency funding. This supplemental funding request has been sent to OCTA, Southern California Associations of Governments and FHWA for final authorization, which is anticipated in July 2020.

The current City Council approved construction budget, approved as part of the Fiscal Year (FY) 19/20 Capital Improvement Program (CIP), is \$2,659,000. This current budget does not include the Caltrans approved construction engineering supplemental funding amount of \$648,000 or the pending construction supplemental funding request

of \$498,500. The current approved budget is sufficient to cover all forecasted costs for the remainder of the fiscal year. Funding for both the approved supplemental funding and pending supplemental funding will be programmed as part of the FY 20/21 CIP budget or, if required, as a future FY 19/20 CIP budget amendment. Additionally, staff will appropriate the needed funds from other revenue sources to cover the increased construction cost until the supplemental funding with Caltrans, OCTA, Southern California Association of Governments and FHWA is finalized.

Table 4 provides a breakdown of both approved and pending construction phase funding authorizations to date.

Table 4 – Construction Funding Authorization

Funding Authorization Description	Amount
Initial Construction Phase Funding Authorization	\$ 2,659,000
Approved Supplemental Construction Phase Funding Authorization No. 1	\$ 648,000
Approved Construction Phase Funding Authorization	\$ 3,307,000
Pending Supplemental Construction Phase Funding Authorization No. 2	\$ 498,500
Proposed Construction Phase Funding Authorization	\$ 3,805,500

On March 13, 2020, Caltrans notified the City that our request was approved and that an additional \$498,500 was added to the Project. Similar to the initial approved supplemental funding request, OCTA, Southern California Association of Governments and FHWA will review and approve the Caltrans authorization and all finalized approvals are expected by July 2020. The matching contribution formula would remain the same with the City responsible for 11.47% and federal-aid responsible for 88.53% of all project authorized costs. Caltrans has identified this project as “high priority” on their funding authorization list.

If additional funding is not realized, the City has enough approved funding to cover the proposed construction contract amount, current expenditures, and approved contractual obligations. There would be no additional fiscal impact, outside of reproduction and advertisement costs and staff time for public outreach and public administration. The City would be responsible for paying the entire amount for any approved change orders and future construction management rate increase. However, staff is currently awaiting final authorization for increased funding request.

Table 5 provides a breakdown of the anticipated construction budget and expenditures including the pending supplemental funding request.

Table 5– Anticipated Construction Budget and Expenditures

Item	Budget	Anticipated Expenditures
Initial Approved HBP Fund	\$ 2,353,000	
FY 19/20 Gas Tax Fund	\$ 306,000	
HBP Funds – Federal-Aid Matching Contribution for Approved Supplemental Funding Request No. 1	\$ 573,674	
Proposed FY 20/21 Gas Tax Fund – City’s Matching Contribution for Approved Supplemental Funding Request No. 1	\$ 74,326	
Anticipated HBP Funds – Federal-Aid Matching Contribution for Pending Supplemental Funding Request No. 2 Final Approval	\$ 441,322	
Proposed FY 20/21 Gas Tax Fund – City’s Matching Contribution for Pending Supplemental Funding Request No. 2 Final Approval	\$ 57,178	
Construction		\$ 2,536,700
Construction Contingency		\$ 253,670
Construction Management Services		\$ 613,633
Designer Construction Support		\$ 64,297
Public Outreach		\$ 50,000
Project Management		\$ 100,000
Miscellaneous**		\$ 75,000
Construction Phase Expenditures to Date		\$ 50,715
Construction Engineering Contingency		\$ 61,485
Total	\$ 3,805,500	\$ 3,805,500

**Includes advertisement, reproduction, costs related to fulfilling permit requirements, and other miscellaneous costs

Cost Benefit Analysis

The City first identified this Project over a decade ago and has worked continuously to complete the Project for the benefit of the community and to protect this vital infrastructure. If the City Council elects to proceed with the award of a construction contract without final approval of the City's second supplemental funding request, it would not be free from all risks. The City would potentially be at risk of fully funding any approved change orders and contractual rate increases for our construction management consultant. Industry standard typically assigns a 10% contingency for construction work on existing facilities, and the maximum rate increase allowed for the construction management consultant is 5% annually. Using these assigned figures, the monetary risk of proceeding without additional funding authorization ranges from \$30,000, which accounts for mandatory rate increases, to \$283,670, which accounts for rate increases and the use of the entire 10% contingency.

Caltrans has affirmed that projects in construction are prioritized for HBP funding if proper justification is provided. City staff believes the City set forth proper justification, including that the City has requested additional funding to offset increased construction costs that are beyond the City's control, and the construction contract was procured in compliance with the Public Contract Code (PCC) and LAPM.

The benefits of proceeding with the award of construction contract at this time include protection of this vital infrastructure, realized benefits to the community, reduced future costs that would be incurred as a result of having to re-perform many prerequisite regulatory requirements that would expire or become useless, reduced risks from future construction escalation increases, and reduced risks of bids coming in higher if the Project were required to be re-advertised.

The City Council could decide to reject all bids and delay the Project until the additional funding is authorized. Although unlikely, the potential exists that no further funding increase is forthcoming. In fact, Caltrans has indicated that the City could potentially lose all previously-approved funding if the Project is further delayed at this stage, and the City would need to reapply in the future.

Additionally, staff anticipates that re-advertising bids would likely result in the low bid coming in much higher, estimated at around \$3,300,000, which is closer to the current second lowest bid. Using the estimated lower figure of \$3,300,000, and presuming the City has successfully obtained the requested increased funding amount of \$498,500, the City would still be unable to proceed with an award of construction contract as the Project would now be underfunded by approximately \$200,000 due to anticipated increased bid results. To fully fund the entire Project including contingency, future consultant rate increases, and reimbursement of staff time for public outreach and contract administration, the Project would now require a funding increase request closer to \$700,000.

In performing due diligence, City staff evaluated several scenarios to compare the risk and benefit of several options. The criteria in selecting the best available option

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analyzes whether it best serves the community and provides the least amount of risk with highest benefit. Based upon our evaluation, City staff recommends proceeding with an award of a construction contract to Beador Construction as the contractor is considered both responsive and responsible.

Alternatives

The City Council may choose to not award the construction contract for the Project to Beador Construction and reject all bids. Staff does not recommend this alternative because it will delay the completion of these needed improvements. The bid received from Beador Construction is competitive, and there is no guarantee that re-advertising this Project will result in lower or equitable bids. There are significant adverse impacts to timing, funding availability, and shelf-life of previously obtained studies and environmental actions that also render rejection of bids as not recommended.

Attachments

A. Bid Proposal, Public Works Construction Contract, and Plans and Specifications

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**CITY OF RANCHO SANTA MARGARITA
CALIFORNIA**



**SPECIFICATIONS
FOR
SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR
PROJECT
FROM SAN SEBASTIAN TO SR-241**

FEDERAL PROJECT NO. BPMPL - 5478 (013)

PREPARED FOR

**CITY OF RANCHO SANTA MARGARITA
22112 EL PASEO
RANCHO SANTA MARGARITA, CALIFORNIA 92688**

PREPARED BY

**NCM ENGINEERING CORPORATION
22362 Gilberto Suite 125
Rancho Santa Margarita, CA 92688
949.546.0822**

October 2019

CITY OF RANCHO SANTA MARGARITA

SPECIFICATIONS FOR
SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT
FROM SAN SEBASTIAN TO SR-241

FEDERAL PROJECT NO. BPMPL - 5478 (013)

Prepared Under the Supervision of:



Mohan Char
RCE 57894

Exp. 06/30/20

10/28/19
Date

Approved By:



Brendan Dugan, P.E.
Public Works Director/City Engineer

10-30-19
Date

CITY OF RANCHO SANTA MARGARITA

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SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT
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**CITY OF RANCHO SANTA MARGARITA
NOTICE INVITING BIDS FOR CONSTRUCTION OF**

**SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT
FROM SAN SEBASTIAN TO SR-241**

FEDERAL PROJECT NO. BPMPL - 5478 (013)

NOTICE IS HEREBY GIVEN that sealed bids for the **CIP PROJECT SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT FROM SAN SEBASTIAN TO SR-241**, in the City of Rancho Santa Margarita will be received at the Office of the City Engineer of the City of Rancho Santa Margarita, 22112 El Paseo, Rancho Santa Margarita, California, until **10:00 a.m. on Tuesday, February 11, 2020**, at which time they will be publicly opened and read aloud.

DESCRIPTION OF THE WORK: In general, the work is comprised of reconstruction of the hinge and performing various general preventive maintenance as shown on the plans and as required to complete the work.

AWARD OF CONTRACT: The City reserves the right after opening bids to reject any or all bids, to waive any informality (non-responsiveness) in a bid, or to make award to the lowest responsive, responsible bidder **on the Bid Schedule**, and reject all other bids, as it may best serve the interest of the City. Within three (3) days of bid opening contractor must submit all DBE commitment forms as specified in the required federal documents appendix sections. Within five (5) working days after the date of the Notice of Apparent Low Bidder, the successful bidder will be required to submit required Contract Agreement and Insurance. Within ten (10) working days after the date of the Notice of Award, the successful bidder will be required to submit Bonds (Faithful Performance and Material and Labor), Construction Schedule, Traffic Control Plan and Water Pollution Prevention Plan.

CONTRACTOR'S LICENSE CLASSIFICATION: The Contractor shall possess a valid **Class A Contractor's License** at the time of submitting bids, in accordance with provisions of Chapter 9, Division III of the California Business and Professions Code.

WAGE RATE REQUIREMENTS: In accordance with the provisions of Sections 1773.2 of the California Labor Code, copies of the general prevailing rate of per diem wages as determined by the State Director of Industrial Relations are available on the Internet at the World Wide Web site of the State Department of Industrial Relations at www.dir.ca.gov under Statistics and Research. It shall be mandatory upon the contractor to whom the contract is awarded and upon any subcontractor under him to pay not less than said specified rates to all workers employed by them in the execution of the contract. All parties to the contract shall be governed by all provisions of the California Labor Code relating to prevailing wage rates; Sections 1770-1781 inclusive.

Per Chapter 12 of the Caltrans Local Assistance Procedures Manual, latest version, the federal minimum wage rates can be found at the following website: <https://www.wdol.gov>. The final contract package signed by the City and the Contractor will physically contain the most updated federal wage rates.

No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial

Relations pursuant California Labor Code section 1725.5 [with exceptions from this requirement for bid purposed only under Labor Code section 1771.1(a)].

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

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations, Section 1771.4(c)(1) of the California Labor Code.

For all new projects awarded on or after April 1, 2015, the contractors and subcontractors must furnish electronic certified payroll records to the Labor Commissioner.

DBE PARTICIPATION: This project is subject to state contract nondiscrimination and compliance requirements pursuant to Government Code Section 12990. The City affirms that in any contract entered into pursuant to this advertisement, DBEs will be afforded full opportunity to submit bids in response to this invitation.

DBE GOAL: Pursuant to Federal law, the City is implementing Disadvantaged Business Enterprise (DBE) requirements. The DBE requirements are covered in the Federal Requirements Section of the Specifications. **The DBE contract goal for this project is 9%.**

RETAINAGE FROM PAYMENTS: The Contractor may elect to receive 100 percent of payments due under the Contract Documents from time to time, without retention of any portion of the payments by the City, by depositing securities of equivalent value with the City in accordance with the provisions of Section 22300 of the Public Contract Code.

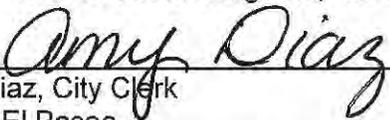
OBTAINING OR INSPECTING CONTRACT DOCUMENTS: Contract Documents may be inspected without charge at the Public Works Department, City Hall, Rancho Santa Margarita, CA 92688. Contract Documents are available in portable document form (PDF) on the City's website: <http://www.cityofrsm.org/171/Bids-Request-For-Proposals>. It is the contractor's responsibility to ensure they are on the City's Plan Holder's List and they obtain any addendums or clarifications that are issued by the City on the City's website prior to submitting a bid. For any questions regarding acquisition of contract documents, contact Tri Nguyen at tnguyen@cityofrsm.org.

Dated this 8th day of January 2020.

The Engineer's Estimate is \$2,210,000.

Published: Orange County Register
January 10, 2020
January 17, 2020

City of Rancho Santa Margarita, California

BY 
Amy Diaz, City Clerk
22112 El Paseo
Rancho Santa Margarita, CA 92688

CITY OF RANCHO SANTA MARGARITA**INSTRUCTIONS TO BIDDERS
FOR
SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT
FROM SAN SEBASTIAN TO SR-241****1. PROPOSAL FORMS**

Bids shall be submitted in writing on the Proposal forms provided by the City of Rancho Santa Margarita (hereinafter "CITY" or "City"). All blank spaces in the bid forms must be correctly filled in and all information requested therein must be clearly and legibly set forth in the manner and form indicated. All spaces for bid prices and lump sum price for which the bid is made, must be filled in, in both words and figures. All prices and notations must be in ink or typewritten. No erasures will be permitted. Mistakes may be crossed out and corrections typed or written in ink adjacent thereto and must be initialed by the person or persons signing the bid. Bidder acknowledges and agrees that by failing to complete the bid forms in their entirety, as set forth above, the CITY may find the Bidder's entire bid non-responsive and may cause the rejection of the Bidder's proposal at the discretion of the CITY.

2. PROPOSAL GUARANTEE (BID BOND)

In accordance with Public Contract Code Section 20170, proposals must be accompanied by a proposal guarantee consisting of either cash, a cashier's check, a certified check or bid bond payable to the CITY in the minimum amount of ten percent (10%) of the total amount bid. Any proposal not accompanied by such a guarantee will not be considered. **IF A BIDDER TO WHOM A CONTRACT IS AWARDED FAILS OR REFUSES TO EXECUTE THE CONTRACT DOCUMENTS OR FURNISH THE REQUIRED INSURANCE POLICIES AND BONDS AS SET FORTH IN THOSE DOCUMENTS, THE PROPOSAL GUARANTEE SHALL BE FORFEITED TO THE CITY.** The proposal guarantees of all bidders will be held until the successful bidder has properly executed all contract documents.

3. NON-COLLUSION AFFIDAVIT

Bidder shall declare that the only persons or parties interested in the proposal as principals are those named therein; that no officer, agent, or employee of the CITY is personally interested, directly or indirectly, in the proposal; that the proposal is made without connection to any other individual, firm, or corporation making a bid for the same work; and that the proposal is in all respects fair and without collusion or fraud. The Non-Collusion Affidavit shall be executed and submitted with the proposal.

4. PROPOSAL BID SHEET

Bidders shall give unit prices for each and all of the items set forth. No aggregate bids will be considered. The bidder shall set forth for each item of work, in clearly legible figures, a unit item price and a total for the item in the respective spaces provided for this purpose. The quantities listed in the Bid sheets are supplied to give an indication of the general scope of work, but the accuracy of figures is not guaranteed and the bidder shall make his own estimates from the drawings. In case of a variation between the unit price and the totals shown by the bidder, the unit price will be considered to be the bid.

5. DELIVERY OF PROPOSAL

Proposals may be mailed or delivered by messenger. However, it is the bidder's responsibility alone to ensure delivery of the proposal to the hands of the CITY's designated official prior to the bid opening time deadline set forth in the "Notice Inviting Sealed Bids." Late proposals will not be considered and will be returned to the Bidder unopened. Proposals shall be enclosed in a sealed envelope plainly marked on the outside, "SEALED BID FOR SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT FROM SAN SEBASTIAN TO SR-241 PROJECT- DO NOT OPEN WITH REGULAR MAIL."

6. WITHDRAWAL OF PROPOSALS

A proposal may be withdrawn by a written request signed by the bidder. Such requests must be delivered to the CITY's designated official prior to the bid-opening time deadline set forth in the "Notice Inviting Sealed Bids". The withdrawal of a proposal will not prejudice the right of the bidder to submit a new proposal, provided there is time remaining to do so. Proposals may not be withdrawn after the bid opening without forfeiture of the proposal guarantee.

7. NONRESPONSIVE PROPOSALS

Unauthorized conditions, limitations, or provisions attached to a proposal will render it nonresponsive and may cause its rejection. The completed proposal forms shall be without inter-lineation, alterations, or erasures. Alternative proposals will not be considered unless specifically requested. No oral, telegraphic, or telephonic proposal, modification, or withdrawal will be considered.

8. TAXES

No mention shall be made in the proposal of Sales Tax, Use Tax, or any other tax, as all amounts bid will be deemed and held to include any such taxes that may be applicable. Bidder acknowledges and agrees that CITY shall not be responsible for the payment of any increase in Sales Tax, Use Tax, or any other tax that takes effect after award.

9. DISQUALIFICATION OF BIDDERS

In the event that any bidder acting as a prime contractor has an interest in more than one proposal, all such proposals will be rejected, and the bidder will be disqualified. This restriction does not apply to subcontractors or suppliers who may submit quotations to more than one bidder.

No contract will be executed unless the bidder is licensed in accordance with the provisions of the Business and Professions Code.

10. INTERPRETATION OF PLANS AND DOCUMENTS

If any person contemplates submission of a bid for the proposed contract and is in doubt as to the true meaning of any part of the plans, specifications or other proposed contract documents, or finds discrepancies in, or omissions from, the drawings or specifications, he or she may submit to the Engineer of said CITY a written request for an interpretation or correction thereof five (5) working days prior to the scheduled bid opening. The person submitting the request will be responsible for its prompt delivery. Any interpretation or correction of the proposed documents shall be made only by addendum duly issued and copy

of such addendum will be mailed or delivered to each person receiving a set of such documents. The Engineer will not be responsible for any other explanation or interpretations of the proposed documents.

11. ADDENDA OR BULLETINS

The effect of all addenda to the Contract Documents shall be considered in the bid, and said addenda shall be made a part of the Contract Documents and shall be returned with them. Before submitting a bid, each bidder shall confirm as to whether or not any addenda have been issued, and failure to cover in this bid any such addenda issued, may render bid non-responsive and may result in its rejection by the CITY.

12. LEGAL RESPONSIBILITIES

All proposals must be submitted, filed, made, and executed in accordance with State and Federal laws relating to bids for contracts of this nature whether the same are expressly referred to herein or not.

Any bidder submitting a proposal shall by such action thereby agree to each and all of the terms, conditions, provisions, and requirements set forth, contemplated, and referred to in the Plans, Specifications, and Contract Documents, and to full compliance therewith.

13. AWARD OF CONTRACT

Following a review of the bids, the CITY shall determine whether to award the contract or to reject all bids. The award of contract, if made, will be to the lowest responsive and responsible bidder as determined solely by the CITY. At the time of contract award, the successful bidder shall hold a Class A Contractor's License as required to perform the work, issued by the State of California. Additionally, the CITY reserves the right to reject any or all proposals, to accept any bid or portion thereof, to waive any irregularity, and to take the bids under advisement for the period of time stated in the "Notice Inviting Sealed Bids", all as may be required to provide for the best interests of the CITY. In no event will an award be made until all necessary investigations are made as to the responsibility and qualifications of the bidder to whom the award is contemplated.

No bidder may withdraw his proposal for a period of ninety (90) days after the time set for opening thereof. However, the CITY will return all proposal guarantees within ten (10) days after the award of the contract or rejection of the bids, as the case may be, to the respective bidders whose proposals they accompany.

14. LABOR CODE

Pursuant to the provisions of Section 1773 of the Labor Code of the State of California, the CITY has obtained the general provisions rate of per diem wages and the general prevailing rate for holiday and overtime work in this locality for each craft, classification or type of workman needed to execute the contract from the State Director of the Department of Industrial Relations. Copies of the State prevailing wage rates and the latest revisions thereto are available from the California Department of Industrial Relations website <http://www.dir.ca.gov>. It shall be the responsibility of the prime contractor to comply with all applicable sections of the Labor Code.

Travel and subsistence payments to each workman needed to execute the work shall be made as such travel and subsistence payments are defined in the applicable collective bargaining agreements filed in accordance with Section 1773 of the Labor Code.

The Contractor shall comply with the provisions of Section 1774 of the Labor Code. Failure to comply with the subject section will subject the Contractor to penalty and forfeiture provisions of Section 1775 of the Labor Code.

Pursuant to the provisions of Section 1770 of the Labor Code, the general prevailing rate of wages has been ascertained (which rate includes employer payments for health and welfare, vacation, pension and similar purposes) applicable to the work to be done, for straight time, overtime, Saturday, Sunday and holiday work. The holiday wage rate listed shall be applicable to all holidays recognized in the collective bargaining agreement of the particular craft, classification or type of workmen concerned.

The CITY will not recognize any claim for additional compensation because of the payment by the Contractor of any wage rate in excess of the prevailing wage rate or the Federal Minimum Wage Rate (whichever is greater) as set forth in the contract. The possibility of wage increases is one of the elements to be considered by the Contractor in determining his bid, and will not under any circumstances be considered as the basis of a claim against the CITY on the contract.

The Contractor and subcontractors shall comply with Section 1777.6 of the Labor Code which stipulates that it shall be unlawful to refuse to accept otherwise qualified employees as registered apprentices solely on the grounds of race, religious creed, color, national origin, ancestry, sex, or age, except as provided in Section 3077 of the Labor Code, of such employee.

Department of Industrial Relations Compliance and Enforcement

Contractors must register and meet requirements using the online application (<http://www.dir.ca.gov/Public-Works/PublicWorks.html>) before bidding on public works contracts in California.

No contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant California Labor Code section 1725.5 [with exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

No contractor or subcontractor may be awarded a contract for public works on a public works project unless registered with the Department of Industrial Relations pursuant to California Labor Code section 1725.5.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations, Section 1771.4(c)(1) of the California Labor Code.

For all new projects, the contractors and subcontractors must furnish electronic certified payroll records to the Labor Commissioner.

Wage Rates and Labor Code Requirements

Wage Rates

Copies of the State prevailing wage rates and the latest revisions thereto are available from the California Department of Industrial Relations website <http://www.dir.ca.gov>.

Attention is directed to the provisions of Sections 1776, 1777.5, and 1777.6 of the State Labor Code. Section 1776 requires the Contractor and all Subcontractors to keep accurate payroll records, specifies the contents thereof, their inspection and duplication procedures, and certain notices required of the Contractor pertaining to their location.

Apprentices

Section 1777.5 requires the Contractor or Subcontractor employing tradesmen in any apprenticeable occupation to apply to the Joint Apprenticeship Committee nearest the site of the public works project and which administers the apprenticeship program in that trade for a certificate of approval. The certificate will also fix the ratio of apprentices to journeymen to be used in the performance of the contract.

The Contractor is required to make contributions to funds established for the administration of apprenticeship programs if he employs registered apprentices or journeymen in any apprenticeable trade and if other Contractors on the public works site are making such contributions.

Information relative to apprenticeship standards, contributions, wage schedules and other requirements may be obtained from the State Director of Industrial Relations or from the Division of Apprenticeship Standards.

Per Chapter 12 of the Caltrans Local Assistance Procedures Manual, latest version, the federal minimum wage rates can be found at the following website: <https://www.wdol.gov>. The final contract package signed by the City and the Contractor will physically contain the most updated the federal wage rates.

15. WORKERS' COMPENSATION CERTIFICATE

Section 3700 of the Labor Code requires that every employer shall secure the payment compensation by either being insured against liability to pay compensation with one or more insurers or by securing a certificate of consent to self-insure from the State Director of Industrial Relations.

In accordance with this section and with Section 1861 of the Labor Code, the Contractor shall sign a Compensation Insurance Certificate which is included with the Contract Agreement, and submit same to City along with the other required contract documents, prior to performing any work. Reimbursement for this requirement shall be considered as included in the various items of work.

16. CLAYTON ACT AND CARTWRIGHT ACT

In accordance with Section 7103.5 of the Public Contract Code, in entering into a public works contract or a subcontract to supply goods, services or materials pursuant to a public works contract, the contractor or subcontractor offers and agrees to assign to the awarding body all

rights, and interest in and all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to the contractor, without further acknowledgment by the parties.

17. SUBLETTING AND SUBCONTRACTING.

Pursuant to the Subletting and Subcontracting Fair Practices Act (commencing with Section 4100 of the Public Contract Code), bidders are required to list in their proposal the name and location of place of business of each subcontractor who will perform work or labor or render services in or about the construction of the work or improvement or a subcontractor who specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the Plans and Specifications in excess of 1/2 of 1% of this prime Contractor's total bid or \$10,000, whichever is greater. If the bidder fails to list a subcontractor for a portion of work or if the bidder lists more than one subcontractor of the same portion of work in excess of 1/2 of 1% of the total bid or \$10,000, whichever is greater, the bidder agrees that it is fully qualified to perform that portion of work itself, and that the bidder shall perform that portion of work itself. If after award of the contract, the bidder actually subcontracts that portion of work, except as provided in Public Contract Code Section 4107 or 4109, the bidder shall be subject to the penalties listed in Section 4111 of the Public Contract Code. It is the CITY's intent for the Subletting and Subcontracting Fair Practices Act to apply to all phases of the work.

18. SUBSTITUTION OF SECURITIES

In conformance with Public Contract Code Section 22300, which is incorporated herein by this reference, the contractor may substitute securities for any monies withheld by the CITY to ensure performance under the contract or, in the alternative, may request payment of retention earned directly to an escrow agent.

At the request and expense of the Contractor, the Contractor has the option to deposit securities, which have been approved by the CITY, with a State or Federally chartered bank as the escrow agent or require the City to deposit 5% of each progress payment with the escrow agent. Said securities will be used as a substitute for retention earnings required to be withheld by the CITY, pursuant to the construction contract. Said securities shall have no obligation to any other construction contract for substitution of securities in lieu of retention. When the Contractor deposits the CITY approved securities with the escrow agent, the escrow agent shall notify the CITY within 10 calendar days of the deposit. Said securities shall be evaluated quarterly by the escrow agent to verify the current market value. If the current market value of said securities falls below the required amount, the escrow agent shall notify the Contractor and require additional securities and/or cash to be submitted for CITY approval, and be held in the escrow account to meet the Contractor's obligations. The escrow agent shall hold said securities until such time as the escrow agent receives written notification from the CITY that the Contractor has satisfactorily completed his contract obligations.

The type of securities deposited and the method of release shall be approved by the City Attorney's office.

If the Contractor chooses not to exercise its rights under Public Contract Code Section 22300, the full five percent (5%) retention will be deducted from all payments. The final retention will be authorized for payment thirty-five (35) days after the date of recordation of the Notice of Completion. The City may withhold from release of the final retention amounts authorized under Public Contracts Code Section 7107 and/or 125% of amounts identified in any Stop Notices received by the City.

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

The Bidders' attention is called to the "Equal Opportunity Clause" in Title 41 of the Code of Federal Regulations (CFR), part 60-1.4 and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth in the Contract Agreement, Article XIX.

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

Timetable Goals for Minority Participation for Each Trade 11.9%

Goals for Female Participation in Each Trade 6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is federal or federally assisted) performed in the covered area.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3 (a), and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the Contract Agreement, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.

As used in this Notice, and in the Contract Agreement, the "covered area" includes the County of Orange, California.

20. CERTIFICATION REGARDING DEBARMENT AND SUSPENSION

Unless otherwise permitted by law, any person or firm that is debarred, suspended, or voluntarily excluded may not take part in any federally funded transaction, as either a participant or a principal, during the period of debarment, suspension, or voluntary exclusion. Bidder is required to certify compliance with Title 2 CFR, Part 180, "OMB Guidelines to Agencies on Government wide Debarment and Suspension (nonprocurement)", as adopted and supplemented by U.S. DOT regulations, "Nonprocurement Suspension and Debarment," 2 CFR part 1200. The certification shall be executed and submitted with the proposal.

21. CERTIFICATION OF RESTRICTIONS ON LOBBYING

The Bidder shall complete the Certification of Restrictions on Lobbying submit the executed certification with the proposal.

22. COMPLIANCE WITH FHWA FORM-1273 AND REQUIRED CONTRACT PROVISIONS FOR FEDERAL-AID CONSTRUCTION CONTRACTS (EXHIBIT 12-G)

Bidder agrees to comply with FHWA Form-1273 (attached hereto as Appendix E) and the Required Contract Provisions for Federal-Aid Construction Contracts (Exhibit 12-G) (attached here to as Appendix C) during submission of the bid and throughout the term of the contract, if awarded. Failure to comply with either FHWA Form-1273 or Required Contract Provisions for Federal-Aid Construction Contracts (Exhibit 12-G) may deem the Bidder nonresponsive or result in a material breach of the contract.

23. PROMPT PAYMENT OF FUNDS WITHHELD TO SUBCONTRACTORS

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 a subcontractor within 30 days after receiving payment for work satisfactorily completed and accepted including incremental acceptances of portions of the contract work by the agency. Federal law (49CFR26.29) requires that any delay or postponement of payment over 30 days may take place only for good cause and with the agency's prior written approval. Any violation of this provision shall subject the violating prime contractor or subcontractor to the penalties, sanctions and other remedies specified in Section 7108.5 of the Business and Professions Code. 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.

BIDDER'S NAME Beador Construction Company, Inc.**CITY OF RANCHO SANTA MARGARITA****PROPOSAL
FOR
SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT
FROM SAN SEBASTIAN TO SR-241****TO CITY OF RANCHO SANTA MARGARITA, as CITY:**

In accordance with CITY's "Notice Inviting Sealed Bids", the undersigned BIDDER hereby proposes to furnish all materials, equipment, tools, labor, and incidentals required for the above stated project as set forth in the Plans, Specifications, and Contract Documents therefore, and to perform all work in the manner and time prescribed therein.

BIDDER declares that this proposal is based upon careful examination of the work site, Plans, Standard Specifications, Notice Inviting Sealed Bids, Instructions to Bidders, Proposal Documents, General Specifications, Special Provisions and Contract Documents. If this proposal is accepted for award, BIDDER agrees to enter into a contract with CITY at the unit and/or lump sum prices set forth in the following Proposal Bid Sheet. BIDDER understands that failure to enter into a contract in the manner and time prescribed will result in forfeiture to CITY of the Bid Security accompanying this proposal.

BIDDER understands that a bid is required for the entire work, that the estimated quantities set forth in the Proposal Bid Sheet are solely for the purpose of comparing bids, and that final compensation under the contract will be based upon the actual quantities of work satisfactorily completed. It is agreed that the unit and/or lump sum prices bid include all appurtenant expenses, taxes, royalties, and fees. In the case of discrepancies in the amounts bid, unit prices shall govern over extended amounts.

BIDDER agrees and acknowledges that he is aware of the provisions of Section 3700 of the Labor Code which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and that the BIDDER will comply with such provisions of that code before commencing the performance of this Contract if awarded to it.

BIDDER certifies that in all previous contracts or subcontracts, all reports which may have been due under the requirements of any CITY, State, or Federal equal employment opportunity orders have been satisfactorily filed, and that no such reports are currently outstanding.

BIDDER declares that the only persons or parties interested in this proposal as principals are those named herein; that no officer, agent, or employee of the CITY is personally interested, directly or indirectly, in this proposal; that this proposal is made without connection to any other individual, firm, or corporation making a bid for the same work; and that this proposal is in all respects fair and without collusion or fraud.

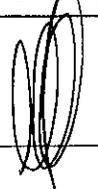
BIDDER certifies that affirmative action has been taken to seek out and consider disadvantaged business enterprises for those portions of the work to be subcontracted, and that such affirmative

actions have been carefully documented, that said documentation is open to inspection, and that said affirmative action will remain in effect for the life of any contract awarded hereunder. Furthermore, BIDDER certifies that affirmative action will be taken to meet all equal employment opportunity requirements of the contract documents.

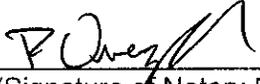
BIDDER'S NAME: Beador Construction Company, Inc. DATE February 11, 2020.

BIDDER'S ADDRESS: 26320 Lester Circle
Corona, CA 92883

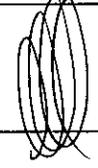
PHONE: (951) 951-674-7352

BY David Beador
(Print Name)

(Signature)
TITLE Resident

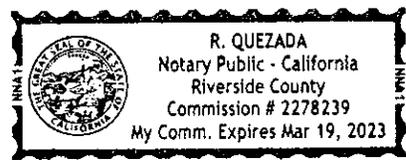
Subscribed and sworn to before me
this 11 day of February, 202020


(Signature of Notary Public)

(Attach Jurat)

BY David Beador
(Print Name)

(Signature)
TITLE Secretary

(SEAL)



State of California

County of Riverside } ss.

On February 11, 2020 before me, R. Quezada, Notary Public
Date Name and Title of Officer

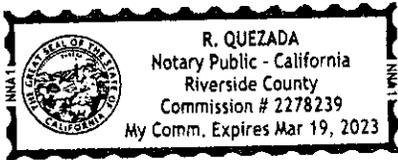
Personally appeared David Beador
Name(s) of Signer(s)

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

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

WITNESS my hand and official seal,

P. Quezada
Signature of Notary Public



Place Notary Seal Above

OPTIONAL

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

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Signer's Name: _____

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

Signer is Representing: _____



Signer's Name: _____

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

Signer is Representing: _____



BIDDER'S INFORMATION

BIDDER certifies that the following information is true and correct:

Bidder's Name Beador Construction Company, Inc.

Business Address 26320 Lester Circle, Corona, CA 92883

Telephone: (951) 674-7352

State Contractor's License No. and Class 720483-A

Original Date Issued 03/26/96 Expiration Date 07/31/20

The following are the names, titles, addresses, and phone numbers of all individuals, firm members, partners, joint ventures, and/or corporate officers having a principal interest in this proposal:

David Beador, President, Laguna Beach, CA 951-674-7352

The dates of any voluntary or involuntary bankruptcy judgments against any principal having an interest in this proposal are as follows:

N/A

All current and prior DBA's, alias, and/or fictitious business names for any principal having an interest in this proposal are as follows:

N/A

Subscribed and sworn to before me this 11 day of February, 2020.

R. Quezada

(Signature of Notary Public)

By David Beador

(Print Name)

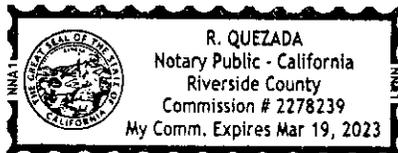
[Handwritten Signature]

(Signature)

Title President

Date February 11, 2020

(SEAL)



State of California

County of Riverside } ss.

On February 11, 2020 before me, R. Quezada, Notary Public
Date Name and Title of Officer

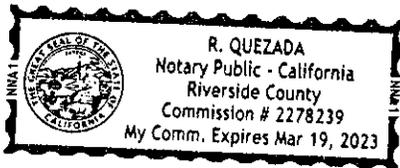
Personally appeared David Beador
Name(s) of Signer(s)

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

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

WITNESS my hand and official seal,

R. Quezada
Signature of Notary Public



Place Notary Seal Above

OPTIONAL

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

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Signer's Name: _____

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

Signer is Representing: _____



Signer's Name: _____

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

Signer is Representing: _____



BIDDER'S NAME
Beador Construction Company, Inc.

LIST OF SUBCONTRACTORS

BIDDER proposes to subcontract certain portions of the work, and to procure materials and equipment from suppliers and vendors in excess of ½ of 1% of the total bid amount as follows (add additional pages as necessary) (Bidder must include all requested information):

Subcontractor Name Environmental Services, Inc.
 Address 53c Ladera Vista Dr Fullerton, CA
 License No. and Class 1048090, C-27
 DIR Registration No. 100035237
 Percent of Total Contract 2.73%
 Specific Scope of Work SWPPP, Biologist, restoring Plan REAP Plan
Stream water sampling streamwater report

Subcontractor Name BC Traffic
 Address 638 W Southern Ave Orange, CA
 License No. and Class 877686
 DIR Registration No. 1000407561 A
 Percent of Total Contract 2.31%
 Specific Scope of Work Striping Bid 14-17, 21-24, 26-28, 31-33

Subcontractor Name LA Steel Services
 Address 1760 California Ave Corona, CA
 License No. and Class 998917
 DIR Registration No. 1000391496
 Percent of Total Contract 1.17%
 Specific Scope of Work Furnish and install rebar 35, 50, 54, 68, 69 - Bid items

Subcontractor Name Marina Landscape
 Address 3707 W Garden Grove Blvd Orange, CA
 License No. and Class 492862
 DIR Registration No. 100000079
 Percent of Total Contract 3.78%
 Specific Scope of Work landscape & Irrigation 37, 39, 40-44 - Bid items

All agreements between the prime contractor and its subcontractors shall include Appendix E – FHWA 1273, and shall be provided to the City prior to subcontractor work commencing.

BIDDER'S NAME
Beador Construction Company, Inc.

REFERENCES

The following are the names, addresses, and phone numbers for three (3) public agencies for which BIDDER has performed similar work within the past two years: SEE ATTACHED

Agency Name _____
Address _____
Phone No. _____ Contact: _____
Description of Work _____

Agency Name _____
Address _____
Phone No. _____ Contact: _____
Description of Work _____

Agency Name _____
Address _____
Phone No. _____ Contact: _____
Description of Work _____

DESIGNATION OF SURETIES

The following are the names, addresses, and phone numbers for all brokers and sureties from whom BIDDER intends to procure insurance and bonds:

Name Hackett Bonds
Address 49 Hollyleaf, Aliso Viejo, CA 92656
Phone No. 949-825-6496

Name Wood Gutmann & Bogart Insurance
Address 15901 Red Hill Avenue, Suite 100, Tustin CA 92781
Phone No. 714-505-7000

Name _____
Address _____
Phone No. _____

Name _____
Address _____
Phone No. _____

Beador Construction Company, Inc.

Attachment "A"

MAJOR CONSTRUCTION PROJECTS / COMPLETED & In Progress

PROJECT NAME	OWNER	PHONE NUMBER CONTACT PERSON	Email	PROJECT MGR PHONE NUMBER	PROJECT SUPT PHONE NUMBER	CONTRACT AMOUNT	DATE COMPLETION
San Juan Capistrano Rte 5 - Widen Roadway and Bridges	CalTrans 12 085704	Majid Javahereshan 949-289-3551		David Beador 951-674-7352	Ramiro Acevedo 949-279-0057	\$8,404,700.00	Start: June 2011 Complete: June 2013
Irvine 314120 MacArthur Median Drainage Imprvments	City of Irvine 1 Civic Center Plaza, Irvine 92623	Steve Sherwood 949-724-6000		David Beador 951-674-7352	Larry Coleman 949-279-0386	\$248,567.00	Start Nov 2010 Complete Sept 2011
Irwindale - Bridge RD00011613 Foothill Blvd over San Gabriel River	County of Los Angeles 900 S. Fremont Ave, Alhambra 91803- 1331	Selman Khan 626-458-4956		David Beador 951-674-7352	Bob Ortega 949-678-2041	\$1,929,786.00	Start May 2011 Complete April 2012
Long Beach - Road Improvements	Port of Long Beach 925 Harbor Plaza, Long Beach 90802 PO Box 570 Long Beach 90801	PK Wang 562-901-1759		David Beador 951-674-7352	Bob Ortega 949-678-2041	\$428,822.00	Start Oct 2010 Complete 2012
HD-S2339 710- Ninth and Shoemaker Bridge	Port of Long Beach 333 West Ocean Blvd 11th Floor, Long Beach 90802-4664 PO Box 570 Long Beach 90801	PK Wang 562-901-1759		David Beador 951-674-7352	Bob Ortega 949-678-2041	\$439,371.00	Start Oct 2010 Complete 2012
Long Beach - Bridge Girder Repair	City of Newport Beach 3300 Newport Blvd, PO Box 1768, Newport Beach 92658-8915	Thomas Sanderof 949-644-3312		David Beador 951-674-7352	Ramiro Acevedo 949-279-0057	\$780,759.00	Start Dec 2010 Complete Aug 2011
HD-S2320A SR 710 - Anaheim Street Bridge	City of Newport Beach 3300 Newport Blvd, PO Box 1768, Newport Beach 92658-8915	Thomas Sanderof 949-644-3312		David Beador 951-674-7352	Ramiro Acevedo 949-279-0057	\$3,522,723.00	Start May 2011 Complete 2012
Newport Beach Seismic Retrofit	SANBAG 1170 W 3rd Street 2nd Floor, San Bernardino 92410-1715	Ken Lonchauch 949-283-0854		David Beador 951-674-7352	Ramiro Acevedo 949-279-0057	\$16,083,300.00	Start Feb 2011 Complete 2013
#3531 Bridge Seismic Retrofit	City of Newport Beach 3300 Newport Blvd, PO Box 1768, Newport Beach 92658-8915	AB Fakhouri 949-644-3312		David Beador 951-674-7352	Ramiro Acevedo 949-279-0057	\$3,522,723.00	Start May 2011 Complete 2012
I-10 WB Lane addition C10190 STPLN 6053(088) Rte 10 in Redlands & Yucaipa	City of Moreno Valley 11-22679828	Viren Shah 951-314-2288		David Beador 951-674-7352	Bob Ortega 949-678-2041	\$229,000.00	Start April 2011 Complete June 2011
City of Newport Beach	County of Riverside 08-027004	Vu Thanh Nguyen 909-425-2753		David Beador 951-674-7352	Bob Ortega 949-678-2041	\$11,870.00	Start July 2011 Completed July 2011
#3724 Jamboree Road over SR-73	County of Orange 12-0M1904	Mo Rousta 949-279-8803		David Beador 951-674-7352	Ramiro Acevedo 949-279-0057	\$235,551.00	Start Sept 2011 Completed Oct 2011
City of Los Angeles PCH Bridge Emergency Job	County of Los Angeles 07-3X4804	Hassan Fayad 562-860-3085 x-107		David Beador 951-674-7352	Bob Ortega 949-678-2041	\$1,169,693.00	Start May 2011 Completed Jan 2012
County of San Bernardino Hwy 330	County of San Bernardino 08-0J8004	Ken Tran		David Beador 951-674-7352	Bob Ortega 949-678-2041	\$360,422.00	Start May 2012 Complete Aug 2012
County of Riverside 15/215/91	City of Corona/Murietta 08-0Q2104			David Beador 951-674-7352	Bob Ortega 949-678-2041	\$726,521.00	Completed Nov 2012
County of Orange #ER08990 Antonio Parkway	County of Orange 1152 E. Fruit St, Santa Ana 92701	Hiram Downard 714-567-7838		David Beador 951-674-7352	Ramiro Acevedo 949-279-0057	\$20,053,300.00	Start June 2011 Complete 2013
County of LA Route 105, West of Façade Ave	Caltrans 07-453404	Juan C. Arias		David Beador 951-674-7352	Bob Ortega 949-678-2041	\$769,700.00	Start July 2012 Completed July 2013
57 FWY Rte 57 in Placentia & Fullerton	Caltrans 12-069144	Adrian Wu 949-279-8468		David Beador 951-674-7352	Jeff B & Bob Ortega 951-674-7352	\$28,581,800.00	Start Feb 2011 Complete Dec 2013
City of Carlsbad 9016/3557 Carlsbad Blvd. OH Railing Improvements	City of Carlsbad 1635 Faraday Ave, Carlsbad 92008-7314	Casey Annot (760) 602-2780 x7320		David Beador 951-674-7352	Ramiro Acevedo 949-279-0057	\$860,000.00	Start Jan 2015 Complete August 2015
City of Tustin CIP 50041 Install Biofiltration Units	City of Tustin 300 Centennial Way, Tustin 92780	Jon Draugelis 714-573-3164		David Beador 951-674-7352	Ramiro Acevedo 949-279-0057	\$1,560,000.00	Start August 2015 Complete April 2016
County of Riverside Project No. C6-0081 Exchange Club Park	County of Riverside 4080 Lemon Street, 8th Floor, PO Box 1090, Riverside 92501	Trai Nguyen 951-961-5363		David Beador 951-674-7352	Larry Coleman 949-279-0057	\$960,000.00	Start June 2016 Completed Oct 2016
City of Diamond Bar Project No. 26315 Diamond Bar Blvd/Brea Canyon Rd Enhancement	City of Diamond Bar 21810 Copley Dr, Diamond Bar 91765	John Beshay 909-839-7043		David Beador 951-674-7352	Larry Coleman 949-279-0057	\$465,502.00	Start Sept 2016 Completed Jan 2017
City of Torrance Project No. B-2016-19 PCH from Calle Mayor to Janet Lane Safety Enhancement Project, I- 133	City of Torrance 3031 Torrance Blvd, Torrance 90503	Elizabeth Overstreet 310-618-3074		David Beador 951-674-7352	Larry Coleman 949-279-0057	\$786,400.00	Start Sept 2016 Completed Jan 2017
Park West Rescom, Inc.	Forestar Toscana Development 4580 MacArthur Blvd Suite 600, Newport Beach 92660			David Beador 951-674-7352	Ramiro Acevedo 949-279-0057	\$329,950.00	Start Jan 2017 Completed Mar 2017
Temescal Canyon Road	County of LA / City of Porter Ranch Tampa Ave Off Ramp on Route 118	Caltrans 07-2B4914		David Beador 951-674-7352	Ramiro Acevedo 949-279-0057	\$1,367,300.00	Start Oct 2016 Completed June 2017
City of Torrance Bluff Drive Storm Drain	City of Torrance 3031 Torrance Blvd, Torrance 90503	Angel Lotus 310-618-3079	alotus@torranceca.gov	David Beador 951-674-7352	Ramiro Acevedo 949-279-0057	\$80,300.00	Start Apr 2017 Completed May 2017
Forestar Chatsworth, LLC	Forestar Chatsworth, LLC 4590 MacArthur Blvd Suite 600, Newport Beach 92660	Brian Woods 949-748-6714 x-204		David Beador 951-674-7352	Ramiro Acevedo 949-279-0057	\$3,676,700.00	Start Oct 2016 Completed
Canoga Avenue Bridge	Forestar Chatsworth, LLC 4590 MacArthur Blvd Suite 600, Newport Beach 92660	Brian Woods 949-748-6714 x-204		David Beador 951-674-7352	Ramiro Acevedo 949-279-0057	After CO's - \$3,873,610.50 \$7,550,300.00	Completed Start Sept 2016
Poema Bridge	City of Costa Mesa 77 Fair Drive, Costa Mesa 92628	Baltazar Mejia 714-754-5291	baltazar.mejia@coslamesaca.gov	David Beador 951-674-7352	Bodean Matheson 619-889-0515	\$1,682,300.00	Completed Apr 2019 Start Sept 2017
City of Costa Mesa Project No. 16-04 - Placentia Ave Median Improvements	City of Stanton 7800 Katella Ave, Stanton 90680	Guillermo Perez 714-890-4204		David Beador 951-674-7352	Larry Coleman 949-279-0057	\$1,700,259.00 \$517,700.00	Completed March 2018 Start Aug 2017
City of Stanton Thunderbird Lane Sewer & Street Improvements	City of Laguna Beach 505 Forest Ave, Laguna Beach 92651	Louis Kneip 949-454-6688		David Beador 951-674-7352	Ramiro Acevedo 949-279-0057	\$1,824,816.00	Completed Dec 2017 Start Sept 2017
City of Laguna Beach CIP 436 - Agate and Thalia Street Beach stair replacement	City of Torrance 3031 Torrance Blvd, Torrance 90503	Angel Lotus 310-618-3079		David Beador 951-674-7352	Ramiro Acevedo 949-279-0057	\$372,300.00	Completed Sept 2018 Start Dec 2017
East Orange County Water District Open Trench Sewer Line Replacement	East Orange County Water District 185 N. McPherson Rd, Orange 92689	Lisa Ohlund 714-538-5815		David Beador 951-674-7352	Larry Coleman 949-279-0057	\$393,000.00	Completed Feb 2018 Start Jan 2018
Jurupa Valley Care Clinic	Pacific Construction Group 17895 Sky Park Circle Unit K, Irvine 92614	Shane Dixon 714-460-3573		David Beador 951-674-7352	Adam Prieto 714-552-5818	\$350,000.00	Start Jan 2018 Completed Feb 2018
Jurupa Valley Brookhurst Ave Bridge	City of Huntington Beach 2000 Main Street, PO Box 190, Huntington Beach 92648	John Giffin 714-375-5011		David Beador 951-674-7352	Adam Prieto 714-552-5818	\$866,300.00	Start Feb 2018 Completed May 2018
CC-1449 - Bridge Preventive Maintenance	City of Huntington Beach 2000 Main Street, PO Box 190, Huntington Beach 92648	John Giffin 714-375-5011		David Beador 951-674-7352	Adam Prieto 714-552-5818	\$833,700.00	Start Feb 2018 Completed 7/7/18
Magnolia Ave Bridge	City of Norco 2870 Clark Ave, Norco 92860	Chad Brians 951-270-5578		David Beador 951-674-7352	Jose Lopez Lemus 949-445-9289	\$372,300.00	Start 9/17/18 Completed Dec 2018
City of Norco Norco NDP Line Bluff Street Storm Drain	City of Laguna Beach 505 Forest Ave, Laguna Beach 92651	Tin Nguyen 949-497-0741		David Beador 951-674-7352	Jose Lopez Lemus 949-445-9289	\$262,700.00	Start 9/10/18 Completed Dec 2018
Dorn Court Storm Drain Improvements CIP 509 Storm Drain Improvements on Dorn Court	Caltrans 07-1XG904 - damaged concrete barrier & sign structure	Kris Venkatarajaman 714-376-2022		David Beador 951-674-7352	Bodean Matheson 619-889-0515	\$420,000.00	Completed Dec 2018 Start Nov 2018
07-1XG904-Emergency Caltrans	Caltrans 07-1XJ504 - damaged bridge	Pravin Patel 213-798-6053		David Beador 951-674-7352	Larry Coleman 949-279-0057	\$386,279.20	Start Nov 2018 Complete July 2019
Rte N5W/118 connector	City of Irvine 1 Civic Center Plaza, PO Box 19575 Irvine 92623-9575	Alex Salazar 949-724-7408	asalazar@cityofirvine.org	David Beador 951-674-7352	Ramiro Acevedo 949-279-0057	\$11,472,300.00	Start Mar 2018 Est Completion Feb 2019
University Drive Widening Improvements CIP 311306 - University Drive Widening Improvements	City of Irvine 1 Civic Center Plaza, PO Box 19575, Irvine 92623-9575	Reza Jafari 92623-9575		David Beador 951-674-7352	Adam Prieto 714-393-9855	\$3,549,300.00	Start 12/10/18 200 WD's
Culver / University Intersection CIP 318030 - Bid No 18-1336				David Beador 951-674-7352	Adam Prieto 714-552-5818		

PROJECT NAME	OWNER	PHONE NUMBER CONTACT PERSON	Email	PROJECT MGR PHONE NUMBER	PROJECT SUPT PHONE NUMBER	CONTRACT AMOUNT	DATE COMPLETION
07-326104-Soldier Pile Wall Construct soldier pile wall at bottom of slope	Caltrans 07-326104	Fuad Aziz 310-403-9747		David Beador 951-674-7352	Adam Prieto 714-552-5818	\$1,395,300.00	Start Aug 2018 Est Completion Jan 2019
Construction on Hwy 605 @ Live Oak P-974, interchange improvements	City of Irwindale 5050 N. Irwindale Ave. Irwindale 91706	A.B. Fakhour 714-225-9007		David Beador 951-674-7352	Bodean Matheson 619-889-0515	\$1,869,300.00	Start 01/7/19 250 WD's
Temescal Canyon Widening Projects Project No. CS-0072, C6-0066 & 69- 0988Widening, Slurry & Drainage Improvements	County of Riverside 2950 Washington St., Riverside 92504	Hector Davila 951-955-6885	hedavila@rivco.org	David Beador 951-674-7352	Adam Prieto 714-552-5818	\$13,581,730.00	Start 12/10/18 180 WD's
12-0N3004-ramp realignment, paving, stripin Route 241, Rancho Santa Margarita	Caltrans 12-0N3004	Nabil Ruda 949-279-8491		David Beador 951-674-7352		\$937,300.00	Start Approx Apr 2019 90WD's
Oliver Street Bridge Oliver Street/JFK, Moreno Valley	DR Horton Oliver Street			David Beador 951-674-7352	Omar Lara	\$485,000.00	Start 9/3/2019
08-0H4704-Widen bridge for sid shoulders Route 2, San Bernardino County, in Wrightwood at Sheep Creek Bridge	Caltrans 08-0H4704	John Santos 951-538-5315		David Beador 951-674-7352	Ron Hernandez	\$2,740,300.00	Start Approx Feb 2019 267WD's
07-313804 - install RCP & Corrugated metal Route 110 near Redondo Beach Blvd	Caltrans 07-313804	Edgar Hernandez		David Beador 951-674-7352	Adam Prieto 714-552-5818	\$1,078,700.00	Start Approx Nov 2019 120 WD's
08-1J3904 Widen off ramp with HMA Route 210 in San Bernardino at Del Rosa AveEB Ramp exit	Caltrans 08-1J3904			David Beador 951-674-7352		\$731,700.00	Start Approx Dec 2019 65 WD's
12-0N9204 - upgrade drainage system Route 22 at Haster Street in Garden Grove	Caltrans 12-0N9204			David Beador 951-674-7352		\$919,700.00	Start Approx Jan 2020 90 WD's
12-0Q6604 - RR structural concrete roadway, approach slabs & sign structures Route 55/405 separation in Costa Mesa/Santa Ana	Caltrans 12-0Q6604			David Beador 951-674-7352		\$2,260,300.00	Start Approx Jan 2020 190 WD's
Temple Hills Drive Pedestrian Improvements Temple Hills Drive from Thalia Street to Alta Laguna Blvd	City of Laguna Beach CIP 241			David Beador 951-674-7352		\$1,050,700.00	Start Approx Dec 2019 60 WD's

CONTRACTOR'S LICENSING STATEMENT

BIDDER certifies that the following is true and correct. The undersigned is licensed in accordance with the laws of the State of California providing for the registration of Contractors.

Contractor's License Number 720483

DIR Registration No. 1000009909

Name of Individual Contractor (Print or type):

Signature of Owner(s) _____

Business Address _____

or

Name of Company _____

Business Address _____

Officers:

Name _____ Title _____

Name _____ Title _____

Name _____ Title _____

or

Name of Corporation Beador Construction Company, Inc.

Business Address 26320 Lester Circle, Corona, CA 92883

Corporation organized under the laws of the State of California

Subscribed and sworn to before me
this 11 day of February, 2020

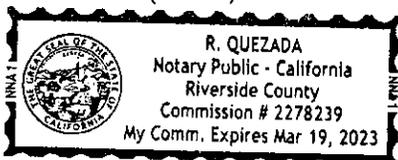
P. Quezada
(Signature of Notary Public)

[Signature]
Signature of President of Corp./Company

[Signature]
Signature of Secretary of Corp./Company

(SEAL)

(SEAL)



State of California

County of Riverside } SS.

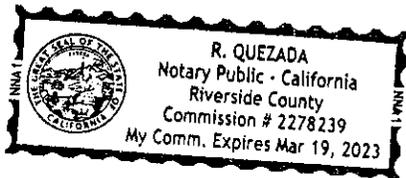
On February 11, 2020 before me, R. Quezada, Notary Public
Date Name and Title of Officer

Personally appeared David Beador
Name(s) of Signer(s)

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

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

WITNESS my hand and official seal.



R. Quezada
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

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

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Signer's Name: _____

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

Signer is Representing: _____



Signer's Name: _____

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

Signer is Representing: _____



BID BOND (Page 1 of 1)

CITY OF RANCHO SANTA MARGARITA

BID BOND
FOR
SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT
FROM SAN SEBASTIAN TO SR-241

KNOW ALL MEN BY THESE PRESENTS that BEADOR CONSTRUCTION COMPANY, INC., as BIDDER, and Nationwide Mutual Insurance Company, as SURETY, are held and firmly bound unto the **City of Rancho Santa Margarita**, as CITY, in the penal sum of Two Hundred Fifty Three Thousand Six Hundred Seventy & 00/100 dollars (\$253,670.00), which is ten percent (10%) or more of the total amount bid by BIDDER to CITY for the above stated project, for the payment of which sum, BIDDER and SURETY agree to be bound, jointly and severally, firmly by these presents.

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

In the event suit is brought upon this bond by CITY and judgement is recovered, the Surety shall pay all costs incurred by the CITY in such suit, including reasonable attorney's fee to be fixed by the Court.

WITNESS our hands this 18th day of March, 2020.

(SEAL)

BEADOR CONSTRUCTION COMPANY, INC.
CONTRACTOR (CORPORATION)-TYPE

By: [Signature] President

By: [Signature] Secretary/Treasurer

Subscribed and sworn to before me
this _____ day of _____, 20____.

See attached
(Signature of Notary Public)

(SEAL)

SURETY'S NAME-TYPE -Nationwide Mutual Insurance Company
7 World Trade Center, 37th Floor, New York NY 10007-0033
MAILING ADDRESS (SURETY)

BY: [Signature] **MAR 18 2020**
Name
Edward N. Hackett, Attorney-in-Fact
Title

State of California

County of Riverside } ss.

On March 19, 2020 before me, R. Quezada, Notary Public
Date Name and Title of Officer

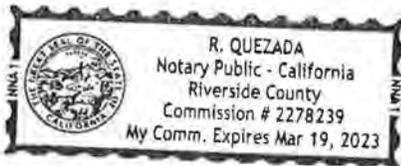
Personally appeared David Beador Name(s) of Signer(s)

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

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

WITNESS my hand and official seal,

R. Quezada
Signature of Notary Public



Place Notary Seal Above

OPTIONAL

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

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Signer's Name: _____

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

Signer is Representing: _____



Signer's Name: _____

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

Signer is Representing: _____



CALIFORNIA ALL-PURPOSE CERTIFICATE OF ACKNOWLEDGMENT

State of California

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

County of Orange

On MAR 18 2020 before me, C. Maestas, Notary Public
(Here insert name and title of the officer)

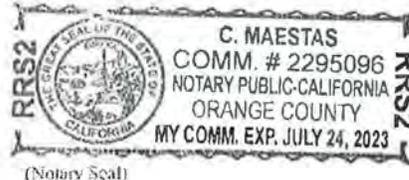
personally appeared Edward N. Hackett

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

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

WITNESS my hand and official seal.


Signature of Notary Public



ADDITIONAL OPTIONAL INFORMATION

INSTRUCTIONS FOR COMPLETING THIS FORM

Any acknowledgment completed in California must contain verbiage exactly as appears above in the notary section or a separate acknowledgment form must be properly completed and attached to that document. The only exception is if a document is to be recorded outside of California. In such instances, any alternative acknowledgment verbiage as may be printed on such a document so long as the verbiage does not require the notary to do something that is illegal for a notary in California (i.e. certifying the authorized capacity of the signer). Please check the document carefully for proper notarial wording and attach this form if required.

DESCRIPTION OF THE ATTACHED DOCUMENT

City of Rancho Santa Margarita Bid Bond
(Title or description of attached document)

(Title or description of attached document continued)

Number of Pages () Document Date MAR 18 2020

(Additional information)

- State and County information must be the State and County where the document signer(s) personally appeared before the notary public for acknowledgment.
 - Date of notarization must be the date that the signer(s) personally appeared which must also be the same date the acknowledgment is completed.
 - The notary public must print his or her name as it appears within his or her commission followed by a comma and then your title (notary public).
 - Print the name(s) of document signer(s) who personally appear at the time of notarization.
 - Indicate the correct singular or plural forms by crossing off incorrect forms (i.e. ~~he/she/they~~ is/are) or circling the correct forms. Failure to correctly indicate this information may lead to rejection of document recording.
 - The notary seal impression must be clear and photographically reproducible. Impression must not cover text or lines. If seal impression smudges, re-seal if a sufficient area permits, otherwise complete a different acknowledgment form.
 - Signature of the notary public must match the signature on file with the office of the county clerk.
 - ca Additional information is not required but could help to ensure this acknowledgment is not misused or attached to a different document.
 - ca Indicate title or type of attached document, number of pages and date.
 - ca Indicate the capacity claimed by the signer. If the claimed capacity is a corporate officer, indicate the title (i.e. CEO, CFO, Secretary).
- Securely attach this document to the signed document

CAPACITY CLAIMED BY THE SIGNER

Individual (s)

Corporate Officer

(Title)

Partner(s)

Attorney-in-Fact

Trustee(s)

Other _____

Power of Attorney

KNOW ALL MEN BY THESE PRESENTS THAT:

Nationwide Mutual Insurance Company, an Ohio corporation

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

Edward N. Hackett

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

UNLIMITED

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

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

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

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

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

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

IN WITNESS WHEREOF, the Company has caused this instrument to be sealed and duly attested by the signature of its officer the 27th day of February, 2019.

Antonio C. Albanese

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

ACKNOWLEDGMENT

STATE OF NEW YORK, COUNTY OF NEW YORK: ss

On this 27th day of February, 2019, before me came the above-named officer for the Company aforesaid, to me personally known to be the officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, deposes and says, that he is the officer of the Company aforesaid, that the seal affixed hereto is the corporate seal of said Company, and the said corporate seal and his signature were duly affixed and subscribed to said instrument by the authority and direction of said Company.



Suzanne C. Della
Notary Public, State of New York
No. 02066126649
Qualified in Westchester County
Commission Expires September 16, 2021

Suzanne C. Della
Notary Public,
My Commission Expires
September 16, 2021

CERTIFICATE

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

IN WITNESS WHEREOF, I have hereunto subscribed my name as Assistant Secretary, and affixed the corporate seal of said Company this 18th day of March, 2020

Laura B. Guy

Assistant Secretary

BDJ 1(02-19)00

STATE OF CALIFORNIA
DEPARTMENT OF INSURANCE
SAN FRANCISCO

Amended
Certificate of Authority

THIS IS TO CERTIFY that, pursuant to the Insurance Code of the State of California,

Nationwide Mutual Insurance Company

of Ohio, organized under the laws of Ohio, subject to its Articles of Incorporation or other fundamental organizational documents, is hereby authorized to transact within this State, subject to all provisions of this Certificate, the following classes of insurance:

- Fire, Marine, Surety, Disability, Plate Glass, Liability, Workers' Compensation,**
- Common Carrier Liability, Boiler and Machinery, Burglary, Sprinkler,**
- Team and Vehicle, Automobile, Aircraft, Legal, and Miscellaneous**

as such classes are now or may hereafter be defined in the Insurance Laws of the State of California.

THIS CERTIFICATE is expressly conditioned upon the holder hereof now and hereafter being in full compliance with all, and not in violation of any, of the applicable laws and lawful requirements made under authority of the laws of the State of California as long as such laws or requirements are in effect and applicable, and as such laws and requirements now are, or may hereafter be changed or amended.

IN WITNESS WHEREOF, effective as of the 22nd day of May, 2013,
I have hereunto set my hand and caused my official seal to be affixed
this 22nd day of May, 2013.



Dave Jones
Insurance Commissioner

Valerie J. Sarfaty
for Nettie Hoge
Chief Deputy

By

NOTICE:

Qualification with the Secretary of State must be accomplished as required by the California Corporations Code promptly after issuance of this Certificate of Authority. Failure to do so will be a violation of Insurance Code section 701 and will be grounds for revoking this Certificate of Authority pursuant to the covenants made in the application therefor and the conditions contained herein.

BIDDERS NAME Beador Construction Company, Inc.

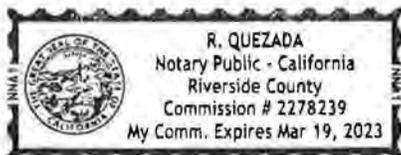
NON-COLLUSION AFFIDAVIT TO BE EXECUTED
BY BIDDER AND SUBMITTED WITH BID

STATE OF CALIFORNIA)
) SS
COUNTY OF Riverside)

In conformance with Title 23 United States Code Section 112 and Public Contract Code Section 7106, the party making the foregoing bid declares that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that such bid is genuine and not collusive or sham; that said bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

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.

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 02/25/2020 [date], at Corona [city], CA [state]."



Signed [Signature]
President
Title

Subscribed and sworn to before me
this 25th day of February, 2020.

[Signature]
Signature of Notary Public

(SEAL)

P-8

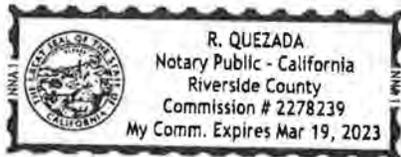
State of California

County of Riverside } ss.

On February 25, 2020 before me, R. Quezada, Notary Public
Date Name and Title of Officer

Personally appeared David Beador
Name(s) of Signer(s)

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



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

WITNESS my hand and official seal.

R. Quezada
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

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

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

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



Signer is Representing: _____

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



Signer is Representing: _____

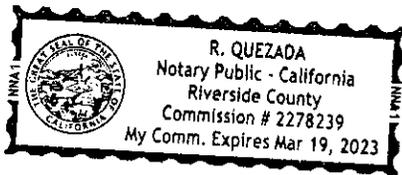
State of California

County of Riverside } ss.

On February 11, 2020 before me, R. Quezada, Notary Public
Date Name and Title of Officer

Personally appeared David Beador
Name(s) of Signer(s)

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



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

WITNESS my hand and official seal,

R. Quezada
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

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Signer is Representing: _____



Signer's Name: _____

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

Signer is Representing: _____



CITY OF RANCHO SANTA MARGARITA
PROPOSAL BID SHEETS
FOR
SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT
FROM SAN SEBASTIAN TO SR-241

BID ITEMS 1-77:

Item	Description	Est. Quantity	Units	Unit Price	Total Cost
1	Lead Compliance Plan	1	LS	5,500	5,500
2	Dust Abatement	1	LS	17,500	17,500
3	Prepare Storm Water Pollution Prevention Plan	1	LS	2,500	2,500
4	Water Pollution Control	1	LS	32,000 43,654.70	32,000 43,654.70
5	Clearing And Grubbing	1	LS	215,000 150,000	215,000 150,000
6	Hazardous Waste Testing	1	LS	10,500	10,500
7(F)	Roadway Excavation (Detour)	825	CY	86	70,950
8(F)	Roadway Excavation (Detour Removal)	1,190	CY	79	94,010
9	Imported Borrow	1,460	CY	37	54,020
10	Class 2 Aggregate Base	850	CY	52	48,450
11	Hot Mix Asphalt (Type A)	700	TON	105	73,500
12	Rubberized Hot Mix Asphalt (Gap Graded)	50	TON	315	15,750
13	Concrete Median Curb, Per OCPW STD 120-2-OC Detail "B"	1,828	LF	30	54,840
14	Temporary Traffic Stripe (Paint)	15,200	LF	.55	8,360
15	Temporary Pavement Marking (Paint)	190	SQFT	3.30	627
16	Remove Painted Traffic Stripe	27,200	LF	.50	13,600
17	Channelizer (Surface Mounted)	250	EA	32	8,000
18	Flashing Arrow Sign	1	EA	5,500	5,500
19	Temporary Railing (Type K)	400	LF	55	22,000
20	Temporary Crash Cushion Module	2	EA	3,000	6,000
21	Roadside Sign - One Post	25	EA	260	6,500
22	Install Roadside Sign Panel On Existing Post	31	EA	135	4,185
23	Type II Barricade	7	EA	79	553
24	Remove Sign Panel	3	EA	105	315
25	Portable Changeable Message Sign (Ea)	2	EA	6,600	13,200
26	Remove Pavement Marking	570	SF	2.60	1,482
27	Remove Sign	25	EA	105	2,625
28	Remove Channelizer (Surface Mounted)	250	EA	20	5,000
29	Remove Crash Cushion	2	EA	525	1,050
30	Remove Concrete Barrier (Type K)	400	FT	2.60	1,040
31	Paint Traffic Stripe (2 Coat)	12,000	LF	.40	4,800

Item	Description	Est. Quantity	Units	Unit Price	Total Cost
32	Paint Pavement Marking (2 Coat)	380	SQFT	5.50	2,090
33	Install Sign Panel	3	EA	175	525
34	Salvage Irrigation Facility (LS)	1	LS	5,250	5,250
35	Minor Concrete (Stamped Concrete)	7,870	SQFT	7	55,090
36	Prepare And Stain Concrete	7,870	SQFT	1.30	10,231
37	Soil Preparation & Fine Grading	12,130	SF	.90	10,917
38	Imported Topsoil (CY)	167	CY	155	25,885
39	Furnish And Install Irrigation System	1	LS	42,000	42,000
40	Plant (Group B) (5-Gal (Pittosporum Tobira) Shrub)	828	EA	25	20,700
41	Plant (Group U) (15-Gal Magnolia Grandiflora Tree)	17	EA	215	3,655
42	Wood Mulch (2-INCH Deep)	75	CY	112	8,400
43	Root Barrier (LF) (24-INCH Deep)	680	LF	12	8,160
44	90-Day Plant Establishment And Irrigation Maintenance Period	1	LS	8,000	8,000
45	Furnish & Provide Soils Report With Recommendations	1	LS	31,500	31,500
46	Temporary Support	1	LS	3 ⁶⁵ 30 ,000	3 ⁶⁵ 30 ,000
47	Temporary Decking	1	LS	30,000	30,000
48	Jacking Superstructure	1	LS	45,000	45,000
49(F)	Structural Concrete, Bridge	60	CY	1,650	99,000
50	Drill And Bond Dowel	30	LF	52	1,560
51	Joint Seal (MR 2")	77	LF	145	11,165
52	Joint Seal Assembly (MR 3")	59	LF	200	11,800
53	Joint Seal Assembly (MR 4")	75	LF	735	55,125
54(F)	Bar Reinforcing Steel (Bridge)	11,933	LB	2.10	25,059.30
55	Rapid Setting Concrete (Patch)	581	CF	35	20,335
56	Remove Concrete Deck Surface	1,628	SQFT	13	21,164
57	Remove Unsound Concrete	581	CF	35	20,385
58	Prepare Concrete Bridge Deck Surface	70,118	SQFT	.15	10,617.70
59	Furnish Polyester Concrete Overlay	628	CF	75	47,100
60(F)	Place Polyester Concrete Overlay	4,635	SQFT	9	41,715
61(F)	Treat Bridge Deck	70,118	SQFT	.35	24,541.30
62	Furnish Bridge Deck Treatment Material	1,275	GAL	48	61,200
63	Access Opening, Deck	8	EA	6,600	52,800
64	Bridge Removal (Portion)	1	LS	64,000	64,000
65(F)	Miscellaneous Metal (Restrainer - Bar Type)	3,862	LB	14	54,068
66(F)	Miscellaneous Metal (Bridge)	1,605	LB	8.40	13,482
67(F)	Tubular Handrailing	12	LF	875	10,500
68(F)	Concrete Barrier (Type 26)	6	LF	2,200	13,200

DB

Item	Description	Est. Quantity	Units	Unit Price	Total Cost
69(F)	Concrete Barrier (Type 27 Modified)	9	LF	1,460	13,140
70	Temporary Fence (Type ESA)	2,320	LF	4.90	11,208
71	Contractor-Supplied Biologist (LS)	1	LS	85,000	85,000
72	Exclusionary Netting (Bridge)	1	LS	21,000	21,000
73	Not Used				
74	Plant Establishment Period	1	LS	5,500	5,500
75	Revegetation	1	LS	27,500	27,500
76	Restoration Plan	1	LS	5,250	5,250
77	Not Used				
78	Mobilization	1	LS	250,000	250,000

SUPPLEMENTAL ITEMS 78-84:

Item	Description	Est. Quantity	Units	Unit Price	Total Cost
79	Rain Event Action Plan	30	EA	210	6,300
80	Storm Water Sampling And Analysis Day	30	EA	175	5,250
81	Storm Water Annual Report	2	EA	1,050	2,100
82	Engineer Specified Positive Location (Pothole)	20	EA	1,050	21,000
83	Remove Yellow Painted Traffic Stripe (Hazardous Waste)	12,000	LF	40	4,800
84	Remove Yellow Painted Pavement Marking (Hazardous Waste)	570	SQFT	1.00	570
85	Remove Soil (Hazardous Waste)	1	LS	2,000	2,000

TOTAL BID IN FIGURES (BID ITEMS 1-85):

\$ 2,536,700.00

TOTAL BID IN WORDS (BID ITEMS 1-85):

Two Million, Five Hundred-Thirty Six Thousand and Seven Hundred DOLLARS

AND Zero CENTS.

NOTE: THE ESTIMATED QUANTITIES SHOWN HEREIN ARE APPROXIMATE AND ARE TO BE USED ONLY AS COMPARISON OF BIDS. PAYMENT FOR QUANTITIES WILL BE MADE FOR ACTUAL MATERIALS USED ON THE JOB. THE CITY RESERVES THE RIGHT TO INCREASE OR DECREASE THE AMOUNT OF ANY QUANTITY SHOWN AND TO DELETE ALL OR ANY ITEM FROM THE CONTRACT. IF THERE IS A CONFLICT BETWEEN THE UNIT

PRICE PROVIDED AND TOTAL COST, THE UNIT PRICE SHALL PREVAIL. IF THERE IS A CONFLICT BETWEEN THE "TOTAL BID FIGURES" AND THE "TOTAL BID IN WORDS", THE "TOTAL BID IN WORDS" SHALL PREVAIL.

CITY OF RANCHO SANTA MARGARITA

PROPOSAL BID SHEETS
FOR
SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT
FROM SAN SEBASTIAN TO SR-241

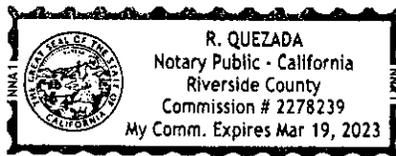
PROPOSAL

IN WITNESS WHEREOF, BIDDER executes and submits this proposal with the names, titles, hands, and seals of all forenamed principals this 11 day of February, 2020.

BIDDER Beador Construction Company, Inc.

Subscribed and sworn to before me this 11 day of February, 2020.

SIGNATURE NOTARY PUBLIC R. Quezada (Attach Jurat)



(SEAL)

By David Beador (PRINT)

[Signature] (SIGNATURE)

Title President

CITY acknowledges that this proposal was received and opened at the time and in the place specified, and that it was accompanied by the required guarantee in the minimum amount of ten percent (10%) of the total bid.

By _____

Title _____

State of California

County of Riverside } ss.

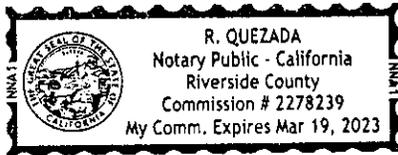
On February 11, 2020 before me, R. Quezada, Notary Public
Date Name and Title of Officer

Personally appeared David Beador
Name(s) of Signer(s)

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

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

WITNESS my hand and official seal,



R. Quezada
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

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

Description of Attached Document

Title or Type of Document: _____

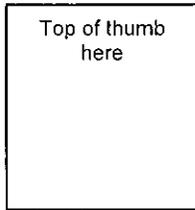
Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Signer's Name: _____

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

Signer is Representing: _____



Signer's Name: _____

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

Signer is Representing: _____



BIDDERS NAME Beador Construction Company, Inc.

**BIDDER'S CERTIFICATION FOR
ACKNOWLEDGEMENT OF COMPLIANCE WITH INSURANCE
REQUIREMENTS FOR PUBLIC WORKS CONSTRUCTION
CITY OF RANCHO SANTA MARGARITA**

BIDDER agrees, acknowledges and is fully aware of the insurance requirements as specified in the INSTRUCTIONS TO BIDDERS FOR SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT FROM SAN SEBASTIAN TO SR-241 AND IN THE SPECIAL PROVISIONS FOR SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT FROM SAN SEBASTIAN TO SR-241 and accepts all conditions and requirements contained therein.

Beador Construction Company, Inc.
Bidder


By

- David Beador

02/11/2020
Date

******* SUBMIT THIS EXECUTED FORM WITH THE BID**

BIDDER'S DEBARMENT AND SUSPENSION CERTIFICATION

BIDDER's signature affixed herein, shall constitute a certification under penalty of perjury under the laws of the State of California, that BIDDER has complied with Title 2 CFR, Part 180, "OMB Guidelines to Agencies on Government wide Debarment and Suspension (nonprocurement)", as adopted and supplemented by U.S. DOT regulations, "Nonprocurement Suspension and Debarment," 2 CFR part 1200, which certifies that he/she or any person associated therewith in the capacity of owner, partner, director, officer, or manager, is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency; has not been suspended, debarred, voluntarily excluded, or determined ineligible by any federal agency within the past three (3) years; does not have a proposed debarment pending; and has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three (3) years. Any exceptions to this certification must be disclosed to CITY.

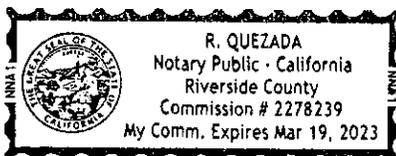
Exceptions will not necessarily result in denial of recommendation for award, but will be considered in determining BIDDER's responsibility. Disclosures must indicate to whom exceptions apply, initiating agency, and dates of action.

Exceptions to the Federal Government Excluded Parties List System maintained by the General Services Administration are to be determined by the Federal highway Administration.

Signed 
President
Title

Subscribed and sworn to before me
this 11 day of February, 2020.


Signature of Notary Public



(SEAL)

BIDDER'S CERTIFICATION OF RESTRICTIONS ON LOBBYING

I, David Beador, hereby certify on behalf (name of bidder) of
Beador Construction Company, Inc. that:
(Firm name)

1. No Federal appropriated funds have been paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any 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.
2. 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 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 of Lobbying Activities", in accordance with its instructions.

This certification is a material representation of fact upon which CITY relied when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

BIDDER also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such subrecipients shall certify and disclose accordingly.

Executed this 11 day of February, 2020

By  _____
 (Signature of authorized official)

President

 (Title of authorized official)

DISCLOSURE OF LOBBYING ACTIVITIES

COMPLETE THIS FORM TO DISCLOSE LOBBYING ACTIVITIES PURSUANT TO 31 U.S.C. 1352

NA

<p>1. Type of Federal Action:</p> <input type="checkbox"/> a. contract <input type="checkbox"/> b. grant <input type="checkbox"/> c. cooperative agreement <input type="checkbox"/> d. loan <input type="checkbox"/> e. loan guarantee <input type="checkbox"/> f. loan insurance	<p>2. Status of Federal Action:</p> <input type="checkbox"/> a. bid/offer/application <input type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award	<p>3. Report Type:</p> <input type="checkbox"/> a. initial <input type="checkbox"/> b. material change
<p>For Material Change Only: year _____ quarter _____ date of last report _____</p>		
<p>4. Name and Address of Reporting Entity</p> <input type="checkbox"/> Prime <input type="checkbox"/> Subawardee Tier _____, if known	<p>5. If Reporting Entity in No. 4 is Subawardee, Enter Name and Address of Prime:</p>	
<p>6. Federal Department/Agency:</p>	<p>7. Federal Program Name/Description:</p> <p>CFDA Number, if applicable _____</p>	
<p>8. Federal Action Number, if known:</p>	<p>9. Award Amount, if known:</p>	
<p>10. a. Name and Address of Lobby Entity (If individual, last name, first name, MI)</p>	<p>b. Individuals Performing Services (including address if different from No. 10a) (last name, first name, MI)</p>	
<p>(attach Continuation Sheet(s) if necessary)</p>		
<p>11. Amount of Payment (check all that apply)</p> \$ _____ <input type="checkbox"/> actual <input type="checkbox"/> planned	<p>13. Type of Payment (check all that apply)</p> <input type="checkbox"/> a. retainer <input type="checkbox"/> b. one-time fee <input type="checkbox"/> c. commission <input type="checkbox"/> d. contingent fee <input type="checkbox"/> e. deferred <input type="checkbox"/> f. other, specify _____	
<p>12. Form of Payment (check all that apply):</p> <input type="checkbox"/> a. cash <input type="checkbox"/> b. in-kind; specify: nature _____ value _____		
<p>14. Brief Description of Services Performed or to be performed and Date(s) of Service, including officer(s), employee(s), or member(s) contacted, for Payment Indicated in Item 11:</p>		
<p>(attach Continuation Sheet(s) if necessary)</p>		
<p>15. Continuation Sheet(s) attached: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>		
<p>16. Information requested through this form is authorized by Title 31 U.S.C. Section 1352. This disclosure of lobbying reliance was placed by the tier above when his transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to Congress semiannually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.</p>		
		<p>Signature: </p> <p>Print Name: <u>David Bendre</u></p> <p>Title: <u>President</u></p> <p>Telephone No.: <u>951-674-7352</u> Date: <u>02/14/2020</u></p>
<p>Authorized for Local Reproduction Standard Form - LLL</p>		
Federal Use Only:		

EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION

BIDDER Beador Construction Company, Inc.
and/or proposed subcontractor _____,
hereby certifies that he has X, has not _____, participated in a previous contract or subcontract subject to the equal opportunity clauses, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Beador Construction Company, Inc.
Bidder _____
By  _____

02/11/2020
Date

Subcontractor
By _____

Date

Note:

The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b)(1)), and must be submitted by bidders and proposed subcontractors in connection with contracts and subcontracts which are subject to the equal opportunity clause.

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b)(1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

ACKNOWLEDGEMENT OF ADDENDA

BIDDER'S CERTIFICATION

Federal Project No. BPMPL - 5478(013)

I acknowledge receipt of the foregoing Addendum No. 1 and accept all conditions contained therein.

Beador Construction Company, Inc.
Bidder

By 

- David Beador

02/11/2020

Date

*******Submit this executed form with the bid.**

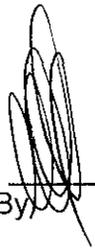
ACKNOWLEDGEMENT OF ADDENDA

BIDDER'S CERTIFICATION

Federal Project No. BPMPL - 5478(013)

I acknowledge receipt of the foregoing Addendum No. 2 and accept all conditions contained therein.

Beador Construction Company, Inc.
Bidder

By 

- David Beador

02/11/2020

Date

*******Submit this executed form with the bid.**

ACKNOWLEDGEMENT OF ADDENDA

BIDDER'S CERTIFICATION

Federal Project No. BP MPL - 5478(013)

I acknowledge receipt of the foregoing Addendum No. 3 and accept all conditions contained therein.

Beador Construction Company, Inc.
Bidder


By

- David Beador

02/11/2020

Date

*******Submit this executed form with the bid.**

PUBLIC CONTRACT CODE
PUBLIC CONTRACT CODE SECTION 10285.1 STATEMENT

In conformance with Public Contract Code Section 10285.1 (Chapter 376, Stats. 1985), the bidder hereby declares under penalty of perjury under the laws of the State of California that the bidder has ____, has not been convicted within the preceding three years of any offenses referred to in that section, including any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or Federal antitrust law in connection with the bidding upon, award of, or performance of, any public works contract, as defined in Public Contract Code Section 1101, with any public entity, as defined in Public Contract Code Section 1100, including the Regents of the University of California or the Trustees of the California State University. The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1.

Note: The bidder must place a checkmark after "has" or "has not" in one of the blank spaces provided. The above Statement is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

PUBLIC CONTRACT CODE SECTION 10162 QUESTIONNAIRE

In conformance with Public Contract Code Section 10162, the Bidder shall complete, under penalty of perjury, the following questionnaire:

Has the bidder, any officer of the bidder, or any employee of the bidder who has a proprietary interest in the bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local government project because of a violation of law or a safety regulation?

Yes No

If the answer is yes, explain the circumstances in the following space.

PUBLIC CONTRACT CODE 10232 STATEMENT

In conformance with Public Contract Code Section 10232, the Contractor, hereby states under penalty of perjury, that no more than one final unappealable finding of contempt of court by a federal court has been issued against the Contractor within the immediately preceding two-year period because of the Contractor's failure to comply with an order of a federal court which orders the Contractor to comply with an order of the National Labor Relations Board.

Note: The above Statement and Questionnaire are part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement and Questionnaire.
Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

CITY OF RANCHO SANTA MARGARITA**CONTRACT AGREEMENT
FOR
SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT
FROM SAN SEBASTIAN TO SR-241**

THIS CONTRACT AGREEMENT (hereinafter "Agreement" or "Contract" or "Contract Agreement") is made and entered into for the above stated Project this 23rd day of March, 2020, BY AND BETWEEN THE **CITY OF RANCHO SANTA MARGARITA**, as CITY, and **BEADOR CONSTRUCTION COMPANY, INC.**, as CONTRACTOR.

WITNESSETH that CITY and CONTRACTOR have mutually agreed as follows:

ARTICLE I

The contract documents for the aforesaid Project shall consist of the Notice Inviting Sealed Bids, Instructions to Bidders, Proposal Documents, General Specifications, Standard Specifications, Special Provisions, Plans, and all referenced specifications, details, standard drawings, and all appendices attached hereto, together with this Contract Agreement and all required bonds, insurance coverage, permits, notices, and affidavits; and also including any and all addenda or supplemental agreements clarifying, amending, or extending the work contemplated as may be required to ensure its completion in an acceptable manner (hereinafter collectively the "Contract Documents"). All of the provisions of said Contract Documents are attached hereto and are incorporated by reference herein and made a part of this Contract Agreement as though fully set forth herein.

CONTRACTOR shall be familiar with, observe, and comply at all times during the term of this Agreement with any work rules for contractors as may be established and promulgated by the City Manager, which work rules shall be additional terms and conditions for providing the work and services to the CITY pursuant to this Agreement, as may be updated and/or amended from time to time at the sole discretion of the City Manager.

ARTICLE II

For and in consideration of the payments and agreements to be made and performed by CITY, CONTRACTOR agrees to furnish all materials and perform all work required for the above stated project, and to fulfill all other obligations as set forth in the aforesaid Contract Documents.

ARTICLE III

CONTRACTOR agrees to receive and accept the prices set forth in the Proposal as full compensation for furnishing all materials, performing all work, and fulfilling all obligations hereunder. Said compensation shall cover all expenses, losses, damages, and consequences arising out of the nature of work during its progress or prior to its acceptance including those for well and faithfully completing the work and the whole thereof in the manner and time specified in the aforesaid Contract Documents; and also including those arising from actions of the elements, unforeseen difficulties or obstructions encountered in the prosecution of the work, suspension or discontinuance of the work, and all other unknowns or risks of any description connected with the work.

ARTICLE IV

CITY hereby promises and agrees to employ, and does hereby employ, CONTRACTOR to provide the materials, do the work, and fulfill the obligations according to the terms and conditions herein contained and referred to, for the prices aforesaid, and hereby contracts to pay the same at the time, in the manner, and upon the conditions set forth in the Contract Documents.

ARTICLE V

CONTRACTOR acknowledges the provisions of the Labor Code requiring every employer to be insured against liability for workers' compensation, or to undertake self-insurance in accordance with the provisions of that code, and certifies compliance with such provisions.

ARTICLE VI

CONTRACTOR affirms that the signatures, titles, and seals set forth hereinafter in execution of this Agreement represent all individuals, firm members, partners, joint ventures, and/or corporate officers having a principal interest herein.

ARTICLE VII

CONTRACTOR hereby represents and warrants that it will comply with all of the provisions of the Federal Immigration and Nationality Act, 8 U.S.C. §§1101, *et seq.*, as amended, and in connection therewith, shall not employ unauthorized aliens as defined therein. Should CONTRACTOR so employ such unauthorized aliens for the performance of any work and/or services under this Agreement, and should any liability or sanctions be imposed against CITY for such use of unauthorized aliens, CONTRACTOR hereby agrees to reimburse CITY for any and all liabilities, actions, suits, claims, demands, losses, costs, judgments, arbitration awards, settlements, damages, demands, orders, or penalties which arise out of or are related to such employment, together with any and all costs, including attorneys' fees, incurred by CITY.

ARTICLE VIII

The provisions of Form FHWA 1273 are hereby physically attached, unmodified as a part of this Contract (Exhibit A). Form FHWA 1273 applies to federal-aid contracts and all work performed by subcontracts and subsequent lower-tier subcontracts and is required be physically included in each executed contract at any tier.

ARTICLE IX

CONTRACTOR understands and agrees that all provisions of the California Department of Transportation ("Caltrans") Local Assistance Procedures Manual, "Exhibit 12-G Required Federal-Aid Contract Language," attached hereto as Appendix C and hereby incorporated into this Agreement, are applicable and shall be complied with by CONTRACTOR in the performance of this Agreement.

ARTICLE X

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 Agreement 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 Agreement, 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 ("City 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 Agreement, an adjustment, excluding anticipated profits, will be made and the Agreement modified in writing accordingly. The Engineer will notify the CONTRACTOR of the determination whether or not an adjustment of the Agreement is warranted.
3. No contract adjustment which results in a benefit to CONTRACTOR will be allowed unless CONTRACTOR has provided the required written notice.

4. No contract adjustment will be allowed under this clause for any effects caused on unchanged work.

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 in the construction industry) and 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 seven (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 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 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. 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 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:
 - A. 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
 - B. When a major item of work 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.

ARTICLE XI

- a. CONTRACTOR shall comply with the "Buy America" requirements of 23 U.S.C. Section 313 and Title 23 of the Code of Federal Regulations ("CFR"), Section 635.410. In conformance with the law and regulations, all manufacturing processes for steel and iron materials furnished for incorporation into the work on this Project shall occur in the United States. The application of coatings, such as epoxy coating, galvanizing, painting, and other coating that protects or enhances the value of steel or iron materials shall be considered a manufacturing process subject to the "Buy America" requirements.
- b. A Certificate of Compliance, conforming to the provisions of this Article shall be furnished for steel and iron materials. The certificates, in addition to certifying that the materials comply with the specifications, shall specifically certify that all manufacturing processes for the materials occurred in the United States, except for the exceptions listed herein.
- c. Exceptions:
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)). Production includes processing steel and iron materials, including smelting or other processes that alter the physical form or shape (such as rolling, extruding, machining, bending, grinding, and drilling) or chemical composition. Production also includes coating application, including epoxy coating, galvanizing, and painting, that protects or enhances the value of steel and iron materials.
 2. The requirements imposed by law and regulations do not prevent a minimal use of foreign steel and iron materials if the total combined cost of the materials used does not exceed one-tenth of one percent (0.1 percent) of the total Agreement cost, or \$2,500, whichever is greater. CONTRACTOR shall furnish the CITY acceptable documentation of the quantity and value of the foreign steel and iron prior to incorporating the materials in the work.
- d. Production includes:
1. Processing steel and iron materials, including smelting or other processes that alter the physical form or shape (such as rolling, extruding, machining, bending, grinding, and drilling) or chemical composition;
 2. Coating application, including epoxy coating, galvanizing, and painting, that protects or enhances the value of steel and iron materials.

ARTICLE XII

CONTRACTOR acknowledges that CITY uses a Quality Assurance Program (QAP) to ensure a material is produced to comply with the Agreement. CONTRACTOR may examine the records and reports of tests CITY performs if they are available at the job site. CONTRACTOR shall schedule work to allow time for QAP.

ARTICLE XIII

In order to comply with Section II, "Nondiscrimination," of "Required Contract Provisions Federal-Aid Construction Contracts" of Form FHWA-1273, CONTRACTOR shall use the following female and minority utilization goals for this Agreement:

- i. The nationwide goal for female utilization of 6.9 percent.
- ii. The applicable goals for minority utilization [45 Fed Reg 65984 (10/3/1980)] provided in Section 12 of Appendix E.

- b. For the last full week in July during which work is performed under the Agreement, 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). CONTRACTOR shall submit the forms to CITY by August 15.

ARTICLE XIV

- a. To comply with the Federal training program, the number of trainees or apprentices shall be 0. As part of CONTRACTOR's equal opportunity affirmative action program, CONTRACTOR shall provide on-the-job training to develop full journeymen in the types of trades or job classifications involved. CONTRACTOR has primary responsibility for meeting this training requirement. If CONTRACTOR subcontracts an Agreement part, CONTRACTOR must determine how many trainees or apprentices are to be trained by the subcontractor. CONTRACTOR shall include these training requirements in any subcontract.
- b. Where feasible, 25 percent of apprentices or trainees in each occupation must be in their first (1st) year of apprenticeship or training. CONTRACTOR shall distribute the number of apprentices or trainees among the work classifications on the basis of CONTRACTOR's needs and the availability of journeymen in the various classifications within a reasonable recruitment area.
- c. Before starting work, CONTRACTOR shall submit to CITY:
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.
- d. CONTRACTOR shall obtain CITY's approval for this submitted information before CONTRACTOR begins work. CITY shall credit CONTRACTOR for each apprentice or trainee CONTRACTOR employs on the work who is currently enrolled or becomes enrolled in an approved program. The primary objective of this Article is to train and upgrade minorities and women toward journeymen status. 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. CONTRACTOR must show that CONTRACTOR has made the efforts. In making these efforts, CONTRACTOR shall not discriminate against any applicant for training.
- e. CONTRACTOR shall not employ as an apprentice or trainee an employee:
4. 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.
 5. Who is not registered in a program approved by the US Department of Labor, Bureau of Apprenticeship and Training.
- f. 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. CONTRACTOR's records must show the employee's answers to the questions. In CONTRACTOR's training program, CONTRACTOR shall establish the minimum length and training type for each classification. CITY and Federal Highway Administration (FHWA) may approve a program if one of the following is met:
6. It is calculated to:
 - a. Meet CONTRACTOR's equal employment opportunity responsibilities

- b. Qualify the average apprentice or trainee for journeyman status in the classification involved by the end of the training period.
- 7. 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.
- b. CONTRACTOR shall obtain the State's approval for CONTRACTOR's training program before CONTRACTOR starts work involving the classification covered by the program. 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.
- c. CITY shall reimburse CONTRACTOR 80 cents per hour of training given an employee on this Agreement 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 CONTRACTOR does at least one of the following:
 - a. Contributes to the cost of the training;
 - b. Provides the instruction to the apprentice or trainee; or
 - c. Pays the apprentice's or trainee's wages during the off-site training period.
 - 3. If CONTRACTOR complies with this section.
- d. 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.
- e. CONTRACTOR shall furnish the apprentice or trainee:
 - 1. Copy of the program CONTRACTOR will comply with in providing the training.
 - 2. Certification showing the type and length of training satisfactorily completed.

ARTICLE XV

During the performance of this Contract Agreement, CONTRACTOR, its assignees, and successors in interest agree 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 CFR 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 Contract 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 Contract 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 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 Caltrans 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 Caltrans 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, Caltrans shall impose such contract sanctions as it or the FHWA may determine to be appropriate, including, but not limited to:
 1. withholding of payments to CONTRACTOR under the Contract Agreement within a reasonable period of time, not to exceed 90 days; and/or
 2. cancellation, termination or suspension of the Contract Agreement, in whole or in part.
- f. Incorporation of Provisions: CONTRACTOR shall include the provisions of paragraphs (a) through (f) in every sub-agreement, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto.
 1. CONTRACTOR shall take such action with respect to any sub-agreement or procurement as Caltrans 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 Caltrans 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.

ARTICLE XVI

CONTRACTOR agrees:

- a. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carries, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this Agreement, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.
- b. To furnish within twenty (20) days following the date of loading for shipments originating within the United State or within thirty (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 (1) of this section to both the Engineer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

- c. To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this Contract Agreement.

ARTICLE XVII

CITY may terminate this Contract Agreement for any reason, with or without cause, upon giving CONTRACTOR thirty (30) days' written notice. Upon such notice, CITY shall pay CONTRACTOR for work performed through the date of termination. Upon receipt of such notice, CONTRACTOR shall immediately cease all work under this Contract Agreement, unless the notice provides otherwise. Thereafter, CONTRACTOR shall have no further claims against the CITY under this Contract Agreement. Upon termination of the Contract Agreement pursuant to this section, CONTRACTOR shall submit to the CITY an invoice for work and services performed prior to the date of termination.

- a. In the event either party defaults in the performance of any of their obligations under this Contract Agreement or breaches any of the provisions of this Contract Agreement, the non-defaulting party shall have the option to terminate this Contract Agreement upon thirty (30) days' prior written notice to the other party. Upon receipt of such notice, CONTRACTOR shall immediately cease work, unless the notice from CITY provides otherwise. Upon receipt of the notice from CITY, CONTRACTOR shall submit an invoice for work and/or services performed prior to the date of termination. CITY shall pay CONTRACTOR for work and/or services satisfactorily provided to the date of termination in compliance with this Contract Agreement. Thereafter, CONTRACTOR shall have no further claims against CITY under this Contract Agreement. CITY shall not be liable for any claim of lost profits or damages for such termination.
- b. If CONTRACTOR refuses or fails to prosecute the work, or any separable part thereof, with such diligence as will ensure its completion within the time specified in this Contract Agreement, or any extension thereof, or fails to complete said work within such time, CITY may, by written notice to CONTRACTOR that specifies the nature of the default, terminate CONTRACTOR's right to proceed with the work or such part of the work as to which there has been delay. In such event, CITY may take over the work and prosecute the same to completion, by contract or otherwise, and may take possession of and utilize in completing the work such materials, appliances and plant as may be on the site of the work and necessary therefore. Whether or not CONTRACTOR's right to proceed with the work is terminated, it and its sureties shall be liable for any damage to CITY resulting from its refusal or failure to complete the work within the specified time.
- c. If CITY so terminates CONTRACTOR's right to proceed, the resulting damage will consist of such liquidated damages as set forth in Section 6-9 of the Special Provisions in this Agreement entitled "Liquidated Damages," until such reasonable time as may be required for final completion of the work together with any increased costs incurred by the CITY in completing the work. If CITY does not so terminate CONTRACTOR's right to proceed, the resulting damage will consist of such liquidated damages until the work is completed or accepted.
- d. CONTRACTOR's right to proceed shall not be so terminated nor the CONTRACTOR charged with resulting damage if:
1. The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of CONTRACTOR, including but not restricted to, acts of God, acts of the public enemy, acts or omissions of CITY, acts of another contractor in the performance of an agreement with CITY, fires, floods, epidemics, quarantine restrictions, freight embargoes, unusually severe weather, or delays of subcontractors or suppliers arising from unforeseeable causes beyond the control and without the fault or negligence of both CONTRACTOR and such subcontractors or suppliers; and
 2. CONTRACTOR, within ten (10) calendar days from the beginning of any such delay, notifies CITY in writing of the causes of delay. CITY shall ascertain the facts and the extent of the delay and extend the time for completing the work when, in its judgment, the findings of fact justify such an extension, and its findings of fact shall be final and conclusive on the parties, subject only to review as provided in Article XVII of this Contract Agreement.

- e. If, after notice of termination of CONTRACTOR's right to proceed under the provisions of this clause, it is determined for any reason that CONTRACTOR was not in default under the provisions of this clause, or that the delay was excusable under the provisions of this clause, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to paragraph a. of this Article.
- f. The rights and remedies of CITY provided in this clause are in addition to any other rights and remedies provided by law or under this Agreement.
- g. As used in paragraph d.1 of this Article, the term "subcontractors or suppliers," means subcontractors or suppliers at any tier.

ARTICLE XVIII

- a. Any dispute, other than audit, concerning only a question of fact arising under this Contract Agreement that is not disposed of by agreement shall be decided by a committee consisting of City's Contract Officer and City Manager, who may consider written or verbal information submitted by CONTRACTOR.
- b. Not later than 30 days after completion of all deliverables necessary to complete the plans, specifications, and estimate, CONTRACTOR may request review by Rancho Santa Margarita City Council of unresolved claims or disputes, other than audit. The request for review will be submitted in writing.
- c. Neither the pendency of a dispute nor its consideration by the committee will excuse CONTRACTOR from full and timely performance in accordance with the terms of this Contract Agreement.

ARTICLE XIX

- a. At the time of Contract execution, CONTRACTOR committed to utilize Disadvantaged Business Enterprise(s) ("DBE") in the performance of this Contract, and further agrees to ensure that any DBE subcontractor listed on the "Exhibit 15-G Construction Contract DBE Commitment Form" (attached hereto in Appendix J) will perform work and/or supply materials in accordance with original commitments, unless otherwise directed and/or approved by CITY prior to CONTRACTOR effectuating any changes to its DBE participation commitment(s).
- b. CONTRACTOR shall take necessary and reasonable steps to ensure that DBEs have the opportunity to participate in the Contract Agreement in accordance with 49 CFR Part 26. CONTRACTOR shall make work available to DBEs and select work parts consistent with available DBE subcontractors and suppliers. CONTRACTOR shall meet the CITY's DBE contract goal of 9% or demonstrate that CONTRACTOR made adequate good faith efforts to meet this goal.
- c. CONTRACTOR, subrecipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract Agreement. CONTRACTOR shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of this Agreement. Failure by CONTRACTOR to carry out these requirements is a material breach of this Agreement, which may result in the termination of the Agreement or such other remedy as CITY 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 CONTRACTOR from future bidding as non-responsible.
- d. CONTRACTOR agrees to include Subparagraph (b) in all of its subcontracts.

- e. CONTRACTOR shall use each DBE subcontractor as listed on "Exhibit 12-B Bidder's List of Subcontractors (DBE and Non-DBE)" and "Exhibit 15-G Construction Contract DBE Commitment" form (attached hereto in Appendix J) unless CONTRACTOR receives prior authorization by CITY for a substitution. DBEs shall perform all work or supply materials as listed in the "Exhibit 15-G Construction Contract DBE Commitment form."
- f. CONTRACTOR shall:
 - 1. Notify Engineer of any changes to its anticipated DBE participation;
 - 2. Provide this notification before starting the affected work; and
 - 3. Maintain records including:
 - a. Name and business address of each first-tier subcontractor.
 - b. Name and business address of each DBE subcontractor, DBE vendor, and DBE trucking company, regardless of tier.
 - c. Date of payment and total amount paid to each business.
- g. If CONTRACTOR is a DBE contractor, CONTRACTOR shall maintain in its records the date of work performed by CONTRACTOR's own forces and the corresponding value of the work.
- h. Prior to the 15th day of each month, CONTRACTOR shall submit to CITY a Monthly DBE Trucking Verification form.
- i. If a DBE is decertified before completing its work, the DBE must notify CONTRACTOR in writing of the decertification date. If a subcontractor becomes a certified DBE before completing its work, the business must notify CONTRACTOR in writing of the certification date. CONTRACTOR shall submit such notifications to CITY.
- j. Upon completion of the work under this Contract Agreement, CONTRACTOR shall complete the "EXHIBIT 17-O Disadvantaged Business Enterprise (DBE) Certification Status Change" form (attached hereto in Appendix K) within thirty (30) days of Contract acceptance. CONTRACTOR shall also complete "Exhibit 17-F Final Report-Utilization of Disadvantaged Business Enterprises (DBE) and First-Tier Subcontractors" form (attached hereto in Appendix L) and submit within ninety (90) days of Contract acceptance. CITY shall withhold \$10,000 until such forms are submitted and shall release the withheld funds upon submission of both forms.
- k. DBEs shall perform work or supply materials as listed in the "Exhibit 15-G Construction Contract DBE Commitment form."
- l. CONTRACTOR shall not terminate or substitute a listed DBE for convenience and perform the work with CONTRACTOR's own forces or obtain materials from other sources without prior authorization from CITY. CITY may authorize a request to use other forces or sources of materials if CONTRACTOR shows any of the following justifications:
 - 1. Listed DBE fails or refuses to execute a written contract based on plans and specifications for the project.
 - 2. CONTRACTOR and DBE stipulated that a bond is a condition of executing the subcontract, and the listed DBE fails to meet the bond requirements.
 - 3. Work requires a contractor's license and listed DBE does not have a valid license under Contractors License Law.

4. Listed DBE fails or refuses to perform the work or furnish the listed materials.
 5. Listed DBE's work is unsatisfactory and not in compliance with the Agreement.
 6. Listed DBE is ineligible to work on the project because of suspension or debarment.
 7. Listed DBE becomes bankrupt or insolvent.
 8. Listed DBE voluntarily withdraws with written notice from the agreement
 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.
 11. CITY determines other documented good cause.
- m. CONTRACTOR shall notify a DBE of CONTRACTOR's intent to use other forces or material sources and provide the reasons therefor. CONTRACTOR shall provide the DBE with five (5) days to respond to such notice and advise CONTRACTOR and CITY of the reasons why the use of other forces or sources of materials should not occur. CONTRACTOR's request to use other forces or material sources must include:
1. One or more of the reasons listed in the above Subparagraph (l).
 2. Notices from CONTRACTOR to the DBE regarding the request.
 3. Notices from the DBEs to CONTRACTOR regarding the request.
- n. If a listed DBE is terminated or substituted, CONTRACTOR shall make good faith efforts to find another DBE to substitute for the original DBE. The substitute DBE must perform at least the same amount of work as the original DBE under the Contract Agreement to the extent needed to meet the DBE goal. The substitute DBE must be certified as a DBE at the time of request for substitution. Unless CITY authorizes (1) a request to use other forces or sources of materials or (2) a good faith effort for a substitution of a terminated DBE, CITY will not pay for work listed on "Exhibit 15-G Construction Contract DBE Commitment" form unless it is performed or supplied by the listed DBE or an authorized substitute.

ARTICLE XX STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

a. As used in these specifications:

1. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
2. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
3. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
4. "Minority" includes:
 - a. Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

- b. Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - c. Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - d. American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
- b. Whenever CONTRACTOR, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this Contract Agreement resulted.
- c. If CONTRACTOR is participating (pursuant to 41 CFR part 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
- d. CONTRACTOR shall implement the specific affirmative action standards provided in paragraphs g(1) through g(16) of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization CONTRACTOR should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered Construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. CONTRACTOR is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.
- e. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom CONTRACTOR has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
- f. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by CONTRACTOR during the training period, and CONTRACTOR must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
- g. CONTRACTOR shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. CONTRACTOR shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
- 1. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. CONTRACTOR, where possible,

will assign two or more women to each construction project. CONTRACTOR shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out CONTRACTOR's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

2. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when CONTRACTOR or its unions have employment opportunities available, and maintain a record of the organizations' responses.
3. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to CONTRACTOR by the union or, if referred, not employed by CONTRACTOR, this shall be documented in the file with the reason therefor, along with whatever additional actions CONTRACTOR may have taken.
4. Provide immediate written notification to the Director when the union or unions with which CONTRACTOR has a collective bargaining agreement has not referred to CONTRACTOR a minority person or woman sent by CONTRACTOR, or when CONTRACTOR has other information that the union referral process has impeded CONTRACTOR's efforts to meet its obligations.
5. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to CONTRACTOR's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under g(2) above.
6. Disseminate CONTRACTOR's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting CONTRACTOR in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
7. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
8. Disseminate CONTRACTOR's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing CONTRACTOR's EEO policy with other contractors and subcontractors with whom CONTRACTOR does or anticipates doing business.
9. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving CONTRACTOR's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, CONTRACTOR shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
10. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of CONTRACTOR's work force.

11. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR part 60-3.
 12. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
 13. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the CONTRACTOR's obligations under these specifications are being carried out.
 14. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 15. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 16. Conduct a review, at least annually, of all supervisors' adherence to and performance under CONTRACTOR's EEO policies and affirmative action obligations.
- h. CONTRACTOR is encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (g(1) through g(16)). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which CONTRACTOR is a member and participant, may be asserted as fulfilling any one or more of its obligations under g(1) through g(16) of this Article provided that CONTRACTOR actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in CONTRACTOR's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of CONTRACTOR. The obligation to comply, however, is CONTRACTOR's and failure of such a group to fulfill an obligation shall not be a defense for CONTRACTOR's noncompliance.
 - i. A single goal for minorities and a separate single goal for women have been established. CONTRACTOR, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, CONTRACTOR may be in violation of Executive Order 11246 if a particular group is employed in a substantially disparate manner (for example, even though CONTRACTOR has achieved its goals for women generally, CONTRACTOR may be in violation of Executive Order 11246 if a specific minority group of women is underutilized).
 - j. CONTRACTOR shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, sexual orientation, gender identity, or national origin.
 - k. CONTRACTOR shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
 - l. CONTRACTOR shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

- m. CONTRACTOR, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in subsection 7 of this Article, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If CONTRACTOR fails to comply with the requirements of Executive Order 11246, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR part 60-4.8.
- n. CONTRACTOR shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
- o. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

ARTICLE XXI

CONTRACTOR must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

ARTICLE XXII

PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT

- a. Definition. Commercially available off-the-shelf (COTS) item, as used in this clause—
 - 1. Means any item of supply (including construction material) that is—
 - a. A commercial item (as defined in paragraph (1) of the definition in Federal Acquisition Regulation (FAR) section 2.101);
 - b. Sold in substantial quantities in the commercial marketplace; and
 - c. Offered to the Government, under a contract or subcontract at any tier, without modification, in the same form in which it is sold in the commercial marketplace; and
 - 2. Does not include bulk cargo, as defined in 46 U.S.C. 40102(4), such as agricultural products and petroleum products.
- b. The Government suspends or debars contractors to protect the Government's interests. Other than a subcontract for a commercially available off-the-shelf item, CONTRACTOR shall not enter into any

subcontract, in excess of \$35,000 with a contractor that is debarred, suspended, or proposed for debarment by any executive agency unless there is a compelling reason to do so.

- c. CONTRACTOR shall require each proposed subcontractor whose subcontract will exceed \$35,000, other than a subcontractor providing a commercially available off-the-shelf item, to disclose to CONTRACTOR, in writing, whether as of the time of award of the subcontract, the subcontractor, or its principals, is or is not debarred, suspended, or proposed for debarment by the Federal Government.
- d. A corporate officer or a designee of CONTRACTOR shall notify the Engineer, in writing, before entering into a subcontract with a party (other than a subcontractor providing a commercially available off-the-shelf item) that is debarred, suspended, or proposed for debarment (see FAR 9.404 for information on the System for Award Management (SAM) Exclusions). The notice must include the following:
 - 1. The name of the subcontractor.
 - 2. The CONTRACTOR's knowledge of the reasons for the subcontractor being listed with an exclusion in SAM.
 - 3. The compelling reason(s) for doing business with the subcontractor notwithstanding its being listed with an exclusion in SAM.
 - 4. The systems and procedures CONTRACTOR has established to ensure that it is fully protecting the Government's interests when dealing with such subcontractor in view of the specific basis for the party's debarment, suspension, or proposed debarment.
- e. Subcontracts. CONTRACTOR shall include the requirements of this clause, including this paragraph (e) (appropriately modified for the identification of the parties), in each subcontract that—
 - 1. Exceeds \$35,000 in value; and
 - 2. Is not a subcontract for commercially available off-the-shelf items.

ARTICLE XXIII

- a. CONTRACTOR agrees that the Contract Cost Principles and Procedures, 48 CFR, Federal Acquisition Regulations System, Chapter 1, Part 31.000 et seq., shall be used to determine the cost allowability of individual Project cost items. CONTRACTOR shall include the requirements of this clause in each subcontract.
- b. CONTRACTOR and any subcontractor shall comply with 2 CFR., Part 200, 23 CFR., 49 CFR. Chapter 1, Part 31, Local Assistance Procedures, Public Contract Code (PCC) 10300-10334 (procurement of goods), PCC 10335-10381 (non-A&E services), and other applicable state and Federal regulations.
- c. Any costs for which payment has been made to CONTRACTOR that are determined by subsequent audit to be unallowable under 49 CFR, Part 18 and 48 CFR, Federal Acquisition Regulations System, Chapter 1, Part 31.000 et seq., are subject to repayment by CONTRACTOR to CITY.

ARTICLE XXIV

- a. The State of California, acting by and through its Department of Transportation (hereinafter referred to as "STATE"), reserves the right to conduct technical and financial audits of Project work and records and CONTRACTOR, and any subcontractor, agrees to cooperate with STATE by making all appropriate and relevant Project records available for audit and copying as required by subparagraph (c) below.
- b. CONTRACTOR and any subcontractor shall establish and maintain a financial management system and records that properly accumulate and segregate reasonable, allowable, and allocable incurred Project costs

and matching funds by line item for the Project. The financial management system contractor and any subcontractor shall conform to Generally Accepted Accounting Principles, enable the determination of incurred costs at interim points of completion, and provide support for reimbursement payment vouchers or invoices sent to or paid by STATE.

- c. CONTRACTOR and any subcontractor shall each maintain and make available for inspection and audit by the CITY, STATE, the California State Auditor, or any duly authorized representative of CITY, STATE or the United States all books, documents, papers, accounting records, and other evidence pertaining to the performance of the Contract Agreement (collectively, "Records"), including, but not limited to, the costs of administering those various contracts, and CONTRACTOR and any subcontractor shall furnish copies thereof if requested. CONTRACTOR and any subcontractor shall make such Records available at their respective offices at all reasonable times during the entire Project period and for three (3) years from the date of submission of the final expenditure report by STATE to the FHWA.

ARTICLE XXV

- a. All invoices shall be submitted on CONTRACTOR's letterhead that includes the address of CONTRACTOR and shall be formatted in accordance with the STATE Local Assistance Procedures Manual and the Local Assistance Program Guidelines, hereinafter collectively referred to as "Local Assistance Procedures."
- b. CONTRACTOR must provide at least one copy of supporting backup documentation for costs incurred and claimed for reimbursement by CONTRACTOR. CONTRACTOR agrees to submit supporting backup documentation with invoices if requested by CITY or STATE. Acceptable backup documentation includes, but is not limited to, progress payments to CONTRACTOR and any subcontractor, copies of cancelled checks showing amounts made payable to vendors and subcontractors, and/or a computerized summary of Project costs.
- c. Payments to CONTRACTOR for Project-related travel and subsistence (per diem) expenses of CONTRACTOR forces and any subcontractors claimed for reimbursement or as local match credit shall not exceed rates authorized to be paid rank and file STATE employees under current State Department of Personnel Administration (DPA) rules. If the rates invoiced by CONTRACTOR are in excess of DPA rates, CONTRACTOR is responsible for the cost difference, and any overpayments inadvertently paid by CITY shall be reimbursed to CITY by CONTRACTOR on demand within thirty (30) days of such invoice.

ARTICLE XXVI

CONTRACTOR agrees to comply with the Fair Employment Practices Addendum, attached hereto as Appendix H and incorporated into this Contract Agreement by this reference. CONTRACTOR further agrees to comply with the Nondiscrimination Assurances, attached hereto as Appendix I and incorporated into this Contract Agreement by this reference. CONTRACTOR shall include the requirements of this clause in each subcontract.

ARTICLE XXVII

The Minimum Federal Wage Rates Determination is hereby physically attached, in conformance with federal 10-day rule, as a part of this Contract (Exhibit B). This Wage Rate Determination applies to federal-aid contracts and all work performed exceeding \$2000 by subcontracts and subsequent lower-tier subcontracts and is required to be physically included in each executed contract.

[SIGNATURES ON NEXT PAGE]

CONTRACT AGREEMENT

IN WITNESS WHEREOF the parties hereto have caused this Agreement to be executed the day and year first written.

CITY:

BRADLEY J. MCGIRR, MAYOR
CITY OF RANCHO SANTA MARGARITA

ATTEST:

AMY DIAZ, CITY CLERK
CITY OF RANCHO SANTA MARGARITA

GREGORY E. SIMONIAN, CITY ATTORNEY
CITY OF RANCHO SANTA MARGARITA

CONTRACTOR:

Beard Construction Company, Inc.
(CORPORATION (NAME - TYPE))

BY: David Beard
(PRINT)

[Signature]
(SIGNATURE)

President
(TITLE)

BY: David Beard
(PRINT)

[Signature]
(SIGNATURE)

Secretary
(TITLE)

NOTE: SIGNATURES OF CORPORATE OFFICIALS MUST BE NOTARIZED, ATTACH JURAT.

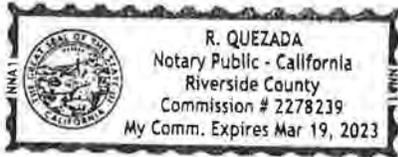
State of California

County of Riverside } SS.

On March 19, 2020 before me, R. Quezada, Notary Public
Date Name and Title of Officer

Personally appeared David Beador
Name(s) of Signer(s)

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



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

WITNESS my hand and official seal,

R. Quezada
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

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

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Signer's Name: _____

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

Signer is Representing: _____



Signer's Name: _____

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

Signer is Representing: _____



X will submit within 10 days of contract award date per contract specs

(PAGE 1 OF 2)

CITY OF RANCHO SANTA MARGARITA

**FAITHFUL PERFORMANCE BOND
FOR**

**SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT
FROM SAN SEBASTIAN TO SR-241**

KNOW ALL MEN BY THESE PRESENTS that, _____ as CONTRACTOR, and _____, as SURETY, are held and firmly bound unto the **City of Rancho Santa Margarita**, as CITY, in the penal sum of _____ dollars (\$ _____), which is one hundred (100%) of the total contract amount for the above stated project, for the payment of which sums, CONTRACTOR and SURETY agree to be bound, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH that, whereas CONTRACTOR has been awarded and is about to enter into the annexed Contract Agreement with CITY for the above stated project, which is incorporated herein by reference. If CONTRACTOR faithfully performs and fulfills all obligations under the contract documents in the manner and time specified therein, including, but not limited to, any applicable warranty required of CONTRACTOR by the Contract Agreement, then this obligation shall be null and void, otherwise it shall remain in full force and effect in favor of CITY; provided that any alterations in the obligations or time for completion made pursuant to the terms of the contract documents shall not in any way release either CONTRACTOR or SURETY, and notice of such alterations is hereby waived by SURETY.

WITNESS our hands this _____ day of _____, 20__.

CONTRACTOR (CORPORATION)-TYPE

(SEAL)

By _____
President

By _____
Secretary/Treasurer

FAITHFUL PERFORMANCE BOND
(PAGE 2 OF 2)

SURETY'S NAME-TYPE

MAILING ADDRESS (SURETY)

BY: _____

Name

Title

(SEAL)

NOTE: SIGNATURES OF CORPORATE OFFICIALS AND SURETY MUST BE NOTARIZED, ATTACH JURAT.

BOND APPROVED AS TO FORM:

GREGORY E. SIMONIAN, CITY ATTORNEY
CITY OF RANCHO SANTA MARGARITA

(PAGE 1 OF 2)

CITY OF RANCHO SANTA MARGARITA
MATERIAL AND LABOR BOND
FOR
SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT
FROM SAN SEBASTIAN TO SR-241

KNOW ALL MEN BY THESE PRESENTS:

THAT, WHEREAS, THE CITY OF RANCHO SANTA MARGARITA has awarded to _____, hereinafter designated as the "Contractor," a contract for the work described as follows:

_____ and WHEREAS, said Contractor is required by the provisions of said contract and of the Civil Code to furnish a bond in connection with said contract, as hereinafter set forth.

NOW, THEREFORE, WE, the undersigned Contractor, as Principal, and

(Name and Address of Surety)

duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto the City of Rancho Santa Margarita in the sum of _____ dollars (\$ _____), said sum being not less than one hundred percent (100%) of the estimated amount payable by the said Contractor under the terms of the contract, for which payment will and truly be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION IS SUCH that, if said Principal or his subcontractors, or the heirs, executors, administrators, successors or assigns thereof, shall fail to pay any of the persons named in Section 3181 of the Civil Code of the State of California for any materials, provisions, provender or other supplies used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or shall fail to pay any amounts due under the Unemployment Insurance Code with respect to work or labor performed by any such claimant or any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board from the wages of employees of the Contractor and his subcontractor pursuant to Section 18806 of the Revenue and Taxation Code, with respect to such work and labor, then said Surety will pay for the same, in an amount not exceeding the sum set forth hereinabove, and in addition, in case suit is brought upon the bond, will pay a reasonable attorneys' fee to be fixed by the court. This bond shall inure to the benefit of any and all persons named in the aforesaid Civil Code Section 3181 so as to give a right of action to them or their assigns in any suit brought upon the bond.

Further, the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alternation or modification of the contract documents or of the work to be performed thereunder shall in any way affect its obligations on this bond; and it hereby waives notice of any and all such changes, extensions of time, and alternations or modifications of the contract documents and/or of the work to be performed thereunder.

IN WITNESS WHEREOF, we have hereunto set our hand and seals this ____ day of _____, 20__.

CONTRACTOR

By _____
President

(SEAL)

By _____
Secretary/Treasurer

SURETY'S NAME-TYPE

MAILING ADDRESS (SURETY)

(SEAL)

By _____
Name

Title

NOTE: SIGNATURES OF CORPORATE OFFICIALS AND SURETY MUST BE NOTARIZED, ATTACH JURAT.

BOND APPROVED AS TO FORM:

GREGORY E. SIMONIAN, CITY ATTORNEY
CITY OF RANCHO SANTA MARGARITA

COMPENSATION INSURANCE CERTIFICATE

Pursuant to Section 1861 of the State Labor Code, each contractor to whom a public works contract has been awarded shall sign the following certificate and shall submit same to the City prior to performing any work on the contract:

"I am aware of the provisions of Section 3700 of the Labor Code which requires 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 work of this contract."

Beadee Construction Company, Inc.
Contractor

By David Beadee
(PRINT)
[Signature]
(SIGNATURE)

President
Title

03/19/2020
Date

Section 3700 of the Labor Code reads as follows:

"Every employer except the State shall secure the payment of compensation in one or more of the following ways:

"(a) By being insured against liability to pay compensation in one or more insurers duly authorized to write compensation insurance in this state.

(b) By securing from the Director of Industrial Relations a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his employee."

COMPENSATION INSURANCE CERTIFICATE

TO BE SUBMITTED WITH CONTRACT

EXHIBIT A

UNMODIFIED FORM FHWA-1273

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Nonsegregated 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. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

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 (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).

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.

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). 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 bid proposal or request for proposal 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).

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.

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. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 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 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, 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 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, 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 230, 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 (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 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 35 and 29 CFR 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.

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, 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 who 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.

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, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure 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. 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, 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, 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 there under. 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, 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 and 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. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor 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 contracting agency deems appropriate.

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 \$10,000 or more.

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, 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). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

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

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. 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 shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall 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 shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore 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 utilized 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) 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 shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. 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.

(3) 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 shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour 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.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

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

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

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, 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.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency.

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(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 of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

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

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

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. 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. 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 journeymen 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.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 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.

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.

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

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

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 watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which 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 (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 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.

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

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

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

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" 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:

- (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.

2. 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. 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.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

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 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.

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 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).

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 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 1, 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

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

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.

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.

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.

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.

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 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee 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 grantee or subgrantee 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.

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.

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. 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 Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

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. 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) 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;

(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; 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.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. 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)

a. By signing and submitting this proposal, the prospective lower tier 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.

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 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 grantee or subgrantee 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 grantee or subgrantee 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.

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.

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 Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

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.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

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 20).

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.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS**

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.

EXHIBIT B

**MINIMUM FEDERAL WAGE RATES DETERMINATIONS
IN CONFORMANCE WITH FEDERAL 10-DAY RULE**

2/5/2020

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"General Decision Number: CA20200024 01/31/2020

Superseded General Decision Number: CA20190024

State: California

Construction Types: Building, Heavy (Heavy and Dredging) and Highway

County: Orange County in California.

BUILDING CONSTRUCTION PROJECTS; DREDGING PROJECTS (does not include hopper dredge work); HEAVY CONSTRUCTION PROJECTS (does not include water well drilling); HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.80 for calendar year 2020 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, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.80 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 calendar year 2020. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/03/2020
1	01/10/2020
2	01/31/2020

ASBE0005-002 09/01/2019

Rates

Fringes

2/5/2020

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Asbestos Workers/Insulator
 (Includes the application of
 all insulating materials,
 protective coverings,
 coatings, and finishes to all
 types of mechanical systems).....\$ 43.77 22.48
 Fire Stop Technician
 (Application of Firestopping
 Materials for wall openings
 and penetrations in walls,
 floors, ceilings and curtain
 walls).....\$ 28.92 18.73

 ASBE0005-004 07/01/2019

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)....\$ 20.63 12.17

 * BRCA0004-010 05/01/2018

Rates Fringes

BRICKLAYER; MARBLE SETTER.....\$ 39.98 14.90

*The wage scale for prevailing wage projects performed in
 Blythe, China lake, Death Valley, Fort Irwin, Twenty-Nine
 Palms, Needles and 1-15 corridor (Barstow to the Nevada
 State Line) will be Three Dollars (\$3.00) above the
 standard San Bernardino/Riverside County hourly wage rate

 BRCA0018-004 06/01/2019

Rates Fringes

MARBLE FINISHER.....\$ 33.43 14.11
 TILE FINISHER.....\$ 28.23 12.65
 TILE LAYER.....\$ 40.07 18.36

 BRCA0018-010 09/01/2018

Rates Fringes

2/5/2020

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TERRAZZO FINISHER.....	\$ 31.25	13.41
TERRAZZO WORKER/SETTER.....	\$ 38.39	14.18

CARP0409-001 07/01/2018

	Rates	Fringes
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CARPENTER

(1) Carpenter, Cabinet Installer, Insulation Installer, Hardwood Floor Worker and acoustical installer.....	\$ 41.84	19.17
(2) Millwright.....	\$ 42.91	19.17
(3) Piledrivermen/Derrick Bargeman, Bridge or Dock Carpenter, Heavy Framer, Rock Bargeman or Scowman, Rockslinger, Shingler (Commercial).....	\$ 42.54	19.17
(4) Pneumatic Nailer, Power Stapler.....	\$ 40.09	19.17
(5) Sawfiler.....	\$ 39.83	19.17
(6) Scaffold Builder.....	\$ 31.60	19.17
(7) Table Power Saw Operator.....	\$ 40.93	19.17

FOOTNOTE: Work of forming in the construction of open cut sewers or storm drains, on operations in which horizontal lagging is used in conjunction with steel H-Beams driven or placed in pre- drilled holes, for that portion of a lagged trench against which concrete is poured, namely, as a substitute for back forms (which work is performed by piledrivers): \$0.13 per hour additional.

CARP0409-005 07/01/2015

	Rates	Fringes
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Drywall

DRYWALL INSTALLER/LATHER....	\$ 37.35	11.08
STOCKER/SCRAPPER.....	\$ 10.00	7.17

CARP0409-008 08/01/2010

	Rates	Fringes
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Modular Furniture Installer.....	\$ 17.00	7.41
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ELEC0011-002 12/31/2018

2/5/2020

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COMMUNICATIONS AND SYSTEMS WORK

	Rates	Fringes
Communications System		
Installer.....	\$ 36.07	3%+14.43
Technician.....	\$ 33.30	3%+27.82

SCOPE OF WORK:

Installation, testing, service and maintenance of systems utilizing the transmission and/or transference of voice, sound, vision and digital for commercial, educational, 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 systems, radio page, school intercom and sound, burglar alarms, fire alarm (see last paragraph below) and low voltage master clock systems in commercial buildings. Communication Systems that transmit or receive information and/or control systems that are intrinsic to the above listed systems; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding all other data systems or multiple systems which include control function or power supply; excluding installation of raceway systems, conduit systems, line voltage work, and energy management systems. Does not cover work performed at China Lake Naval Ordnance Test Station. Fire alarm work shall be performed at the current inside wireman total cost package.

ELEC0441-001 08/26/2019

	Rates	Fringes
CABLE SPLICER.....	\$ 46.72	21.59
ELECTRICIAN.....	\$ 44.67	21.53

* ELEC0441-003 12/31/2018

COMMUNICATIONS & SYSTEMS WORK (excludes any work on Intelligent Transportation Systems or CCTV highway systems)

	Rates	Fringes
Communications System		
Installer.....	\$ 35.12	13.77
Technician.....	\$ 31.23	15.39

2/5/2020

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SCOPE OF WORK The work covered shall include the installation, testing, service and maintenance, of the following systems that utilize the transmission and/or transference of voice, sound, vision and digital for commercial, education, security and entertainment purposes for 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. Communication systems that transmit or receive information and/or control systems that are intrinsic to the above listed systems SCADA (Supervisory control/data acquisition PCM (Pulse code modulation) Inventory control systems Digital data systems Broadband & baseband and carriers Point of sale systems VSAT data systems Data communication systems RF and remote control systems Fiber optic data systems

B. Sound and Voice Transmission/Transference Systems Background-Foreground Music Intercom and Telephone Interconnect Systems Sound and Musical Entertainment Systems Nurse Call Systems Radio Page Systems School Intercom and Sound Systems Burglar Alarm Systems Low-Voltage Master Clock Systems Multi-Media/Multiplex Systems Telephone Systems RF Systems and Antennas and Wave Guide

C. *Fire Alarm Systems-installation, wire pulling and testing.

D. Television and Video Systems Television Monitoring and Surveillance Systems Video Security Systems Video Entertainment Systems Video Educational Systems CATV and CCTV

E. Security Systems, Perimeter Security Systems, Vibration Sensor Systems Sonar/Infrared Monitoring Equipment, Access Control Systems, Card Access Systems

*Fire Alarm Systems

1. Fire Alarms-In Raceways: Wire and cable pulling in raceways performed at the current electrician wage rate and fringe benefits.
2. Fire Alarms-Open Wire Systems: installed by the Technician.

ELEC0441-004 08/26/2019

Rates Fringes

ELECTRICIAN (TRANSPORTATION SYSTEMS, TRAFFIC SIGNALS & STREET LIGHTING)

Cable Splicer/Fiber Optic Splicer.....	\$ 45.27	21.55
Electrician.....	\$ 44.67	21.53
Technician.....	\$ 33.50	21.20

SCOPE OF WORK: Electrical work on public streets, freeways, toll-ways, etc, above or below ground. All work necessary for the installation, renovation, repair or removal of Intelligent Transportation Systems, Video Surveillance Systems (CCTV), Street Lighting and and Traffic Signal work or systems whether underground or on bridges. Includes dusk to dawn lighting installations and ramps for access to or egress from freeways, toll-ways, etc. Intelligent Transportation Systems shall include all systems and components to control, monitor, and communicate with pedestrian or vehicular traffic, included but not limited to: installation, modification, removal of all Fiber optic Video System, Fiber Optic Data Systems, Direct interconnect and Communications Systems, Microwave Data and Video Systems, Infrared and Sonic Detection Systems, Solar Power Systems, Highway Advisory Radio Systems, highway Weight and Motion Systems, etc.

Any and all work required to install and maintain any specialized or newly developed systems. All cutting, fitting and bandaging of ducts, raceways, and conduits. The cleaning, rodding and installation of ""fish and pull wires"". The excavation, setting, leveling and grouting of precast manholes, vaults, and pull boxes including ground rods or grounding systems, rock necessary for leveling and drainagae as well as pouring of a concrete envelope if needed.

JOURNEYMAN TRANSPORTATION ELECTRICIAN shall perform all tasks necessary toinstall the complete transportation system. JOURNEYMAN TECHNICIAN duties shall consist of: Distribution of material at job site, manual excavation and backfill, installation of system conduits and raceways for electrical, telephone, cable television and communication systems. Pulling, terminating and splicing of traffic signal and street lighting conductors and electrical systems including interconnect, dector loop, fiber optic cable and video/data.

 ELEC1245-001 06/01/2019

Rates Fringes

2/5/2020

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LINE CONSTRUCTION

(1) Lineman; Cable splicer..	\$ 58.09	19.36
(2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), overhead & underground distribution line equipment).....	\$ 46.40	18.17
(3) Groundman.....	\$ 35.47	17.79
(4) Powderman.....	\$ 49.55	3%+17.65

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

ELEV0018-001 01/01/2019

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 55.58	34.125

FOOTNOTE:

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.
PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day,
Labor Day, Veterans Day, Thanksgiving Day, Friday after
Thanksgiving, and Christmas Day.

ENGI0012-003 07/01/2018

	Rates	Fringes
OPERATOR: Power Equipment (All Other Work)		
GROUP 1.....	\$ 45.30	25.25
GROUP 2.....	\$ 46.08	25.25
GROUP 3.....	\$ 46.37	25.25
GROUP 4.....	\$ 47.86	25.25
GROUP 5.....	\$ 48.96	25.25
GROUP 6.....	\$ 48.08	25.25
GROUP 8.....	\$ 48.19	25.25
GROUP 9.....	\$ 49.29	25.25
GROUP 10.....	\$ 48.31	25.25
GROUP 11.....	\$ 49.41	25.25
GROUP 12.....	\$ 48.48	25.25
GROUP 13.....	\$ 48.58	25.25

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GROUP 14.....	\$ 48.61	25.25
GROUP 15.....	\$ 48.69	25.25
GROUP 16.....	\$ 48.81	25.25
GROUP 17.....	\$ 48.98	25.25
GROUP 18.....	\$ 49.08	25.25
GROUP 19.....	\$ 49.19	25.25
GROUP 20.....	\$ 49.31	25.25
GROUP 21.....	\$ 49.48	25.25
GROUP 22.....	\$ 49.58	25.25
GROUP 23.....	\$ 49.69	25.25
GROUP 24.....	\$ 49.81	25.25
GROUP 25.....	\$ 49.98	25.25

OPERATOR: Power Equipment
(Cranes, Piledriving &
Hoisting)

GROUP 1.....	\$ 46.65	25.25
GROUP 2.....	\$ 47.43	25.25
GROUP 3.....	\$ 47.72	25.25
GROUP 4.....	\$ 47.86	25.25
GROUP 5.....	\$ 48.08	25.25
GROUP 6.....	\$ 48.19	25.25
GROUP 7.....	\$ 48.31	25.25
GROUP 8.....	\$ 48.48	25.25
GROUP 9.....	\$ 48.65	25.25
GROUP 10.....	\$ 49.65	25.25
GROUP 11.....	\$ 50.65	25.25
GROUP 12.....	\$ 51.65	25.25
GROUP 13.....	\$ 52.65	25.25

OPERATOR: Power Equipment
(Tunnel Work)

GROUP 1.....	\$ 47.15	25.25
GROUP 2.....	\$ 47.93	25.25
GROUP 3.....	\$ 48.22	25.25
GROUP 4.....	\$ 48.39	25.25
GROUP 5.....	\$ 48.58	25.25
GROUP 6.....	\$ 48.69	25.25
GROUP 7.....	\$ 48.81	25.25

PREMIUM PAY:

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

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

SEE ZONE DEFINITIONS AFTER CLASSIFICATIONS

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

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

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

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

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

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

GROUP 6: Articulating material hauler; Asphalt plant engineer; Batch plant operator; Bit sharpener; Concrete joint machine operator (canal and similar type); Concrete planer operator; Dandy digger; Deck engine operator; Derrickman (oilfield type); Drilling machine operator, bucket or auger types (Calweld 100 bucket or similar types - Watson 1000 auger or similar types - Texoma 330, 500 or 600 auger or similar types - drilling depth of 45'

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maximum); Drilling machine operator; Hydrographic seeder machine operator (straw, pulp or seed), Jackson track maintainer, or similar type; Kalamazoo Switch tamper, or similar type; Machine tool operator; Maginnis internal full slab vibrator, Mechanical berm, curb or gutter (concrete or asphalt); Mechanical finisher operator (concrete, Clary-Johnson-Bidwell or similar); Micro tunnel system (below ground); Pavement breaker operator (truck mounted); Road oil mixing machine operator; Roller operator (asphalt or finish), rubber-tired earth moving equipment (single engine, up to and including 25 yds. struck); Self-propelled tar pipelining machine operator; Skiploader operator (crawler and wheel type, over 3/4 yd. and up to and including 1-1/2 yds.); Slip form pump operator (power driven hydraulic lifting device for concrete forms); Tractor operator-bulldozer, tamper-scraper (single engine, up to 100 h.p. flywheel and similar types, up to and including D-5 and similar types); Tugger hoist operator (1 drum); Ultra high pressure waterjet cutting tool system operator; Vacuum blasting machine operator

GROUP 8: Asphalt or concrete spreading operator (tamping or finishing); Asphalt paving machine operator (Barber Greene or similar type); Asphalt-rubber distribution operator; Backhoe operator (up to and including 3/4 yd.), small ford, Case or similar; Cast-in-place pipe laying machine operator; Combination mixer and compressor operator (gunite work); Compactor operator (self-propelled); Concrete mixer operator (paving); Crushing plant operator; Drill Doctor; Drilling machine operator, Bucket or auger types (Calweld 150 bucket or similar types - Watson 1500, 2000 2500 auger or similar types - Texoma 700, 800 auger or similar types - drilling depth of 60' maximum); Elevating grader operator; Grade checker; Gradall operator; Grouting machine operator; Heavy-duty repairman; Heavy equipment robotics operator; Kalamazoo balliste regulator or similar type; Kolman belt loader and similar type; Le Tourneau blob compactor or similar type; Loader operator (Athey, Euclid, Sierra and similar types); Mobark Chipper or similar; Ozzie padder or similar types; P.C. slot saw; Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pumpcrete gun operator; Rock Drill or similar types; Rotary drill operator (excluding caisson type); Rubber-tired earth-moving equipment operator (single engine, caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator (multiple engine up to and including 25 yds. struck); Rubber-tired scraper operator (self-loading paddle wheel type-John Deere, 1040 and similar single unit); Self-propelled curb and gutter machine operator; Shuttle buggy; Skiploader operator (crawler and wheel type over 1-1/2 yds.

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up to and including 6-1/2 yds.); Soil remediation plant operator; Surface heaters and planer operator; Tractor compressor drill combination operator; Tractor operator (any type larger than D-5 - 100 flywheel h.p. and over, or similar-bulldozer, tamper, scraper and push tractor single engine); Tractor operator (boom attachments), Traveling pipe wrapping, cleaning and bending machine operator; Trenching machine operator (over 6 ft. depth capacity, manufacturer's rating); trenching Machine with Road Miner attachment (over 6 ft depth capacity): Ultra high pressure waterjet cutting tool system mechanic; Water pull (compaction) operator

GROUP 9: Heavy Duty Repairman

GROUP 10: Drilling machine operator, Bucket or auger types (Calweld 200 B bucket or similar types-Watson 3000 or 5000 auger or similar types-Texoma 900 auger or similar types-drilling depth of 105' maximum); Dual drum mixer, dynamic compactor LDC350 (or similar types); Monorail locomotive operator (diesel, gas or electric); Motor patrol-blade operator (single engine); Multiple engine tractor operator (Euclid and similar type-except Quad 9 cat.); Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Pneumatic pipe ramming tool and similar types; Prestressed wrapping machine operator; Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Rubber tired earth moving equipment operator (multiple engine, Euclid, caterpillar and similar over 25 yds. and up to 50 yds. struck), Tower crane repairman; Tractor loader operator (crawler and wheel type over 6-1/2 yds.); Woods mixer operator (and similar Pugmill equipment)

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

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

GROUP 13: Rubber-tired earth-moving equipment operator

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operating equipment with push-pull system (single engine, up to and including 25 yds. struck)

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

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

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

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

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

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

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

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Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

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

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

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

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

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

CRANES, PILEDIVING AND HOISTING EQUIPMENT CLASSIFICATIONS

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

GROUP 2: Truck crane oiler

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

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

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

GROUP 6: Bridge crane operator; Cretor crane operator; Hoist

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

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

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

GROUP 9: Crane operator (over 25 tons and up to and including 50 tons mrc); Derrick barge operator (over 25 tons up to and including 50 tons mrc); Highline cableway operator; Hoist operator, stiff legs, Guy derrick or similar type (over 25 tons up to and including 50 tons mrc); K-crane operator; Polar crane operator; Self erecting tower crane operator maximum lifting capacity ten tons

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

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

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

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

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TUNNEL CLASSIFICATIONS

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

GROUP 2: Power-driven jumbo form setter operator

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

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

GROUP 5: Backhoe operator (up to and including 3/4 yd.); Small Ford, Case or similar; Drill doctor; Grouting machine operator; Heading shield operator; Heavy-duty repairperson; Loader operator (Athey, Euclid, Sierra and similar types); Mucking machine operator (1/4 yd., rubber-tired, rail or track type); Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pneumatic heading shield (tunnel); Pumpcrete gun operator; Tractor compressor drill combination operator; Tugger hoist operator (2 drum); Tunnel locomotive operator (over 30 tons)

GROUP 6: Heavy Duty Repairman

GROUP 7: Tunnel mole boring machine operator

ENGINEERS ZONES

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

That area within the following Boundary: Begin in San Bernardino County, approximately 3 miles NE of the intersection of I-15 and the California State line at that point which is the NW corner of Section 1, T17N,m R14E, San Bernardino Meridian. Continue W in a straight line to that point which is the SW corner of the northwest quarter of Section 6, T27S, R42E, Mt. Diablo Meridian. Continue North to the intersection with the Inyo County Boundary at that point which is the NE corner of the western half of the northern quarter of Section 6, T25S, R42E, MDM. Continue W along the Inyo and San Bernardino County boundary until the intersection with Kern County, as that point which is the SE corner of Section 34, T24S, R40E, MDM. Continue W along the Inyo and Kern County boundary until the intersection with Tulare County, at that

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point which is the SW corner of the SE quarter of Section 32, T24S, R37E, MDM. Continue W along the Kern and Tulare County boundary, until that point which is the NW corner of T25S, R32E, MDM. Continue S following R32E lines to the NW corner of T31S, R32E, MDM. Continue W to the NW corner of T31S, R31E, MDM. Continue S to the SW corner of T32S, R31E, MDM. Continue W to SW corner of SE quarter of Section 34, T32S, R30E, MDM. Continue S to SW corner of T11N, R17W, SBM. Continue E along south boundary of T11N, SBM to SW corner of T11N, R7W, SBM. Continue S to SW corner of T9N, R7W, SBM. Continue E along south boundary of T9N, SBM to SW corner of T9N, R1E, SBM. Continue S along west boundary of R1E, SMB to Riverside County line at the SW corner of T1S, R1E, SBM. Continue E along south boundary of T1s, SBM (Riverside County Line) to SW corner of T1S, R10E, SBM. Continue S along west boundary of R10E, SBM to Imperial County line at the SW corner of T8S, R10E, SBM. Continue W along Imperial and Riverside county line to NW corner of T9S, R9E, SBM. Continue S along the boundary between Imperial and San Diego Counties, along the west edge of R9E, SBM to the south boundary of Imperial County/California state line. Follow the California state line west to Arizona state line, then north to Nevada state line, then continuing NW back to start at the point which is the NW corner of Section 1, T17N, R14E, SBM

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

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

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to the Kings County and Kern County border at the NE corner of T25S, R21E, MDM, continue West along the Kings County and Kern County Boundary until the intersection of San Luis Obispo County. Continue west along the Kings County and San Luis Obispo County boundary until the intersection with Monterey County. Continue West along the Monterey County and San Luis Obispo County boundary to the beginning point at the NW corner of T25S, R16E, MDM.

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

That area within the following Boundary: Begin at the intersection of the northern boundary of Mono County and the California state line at the point which is the center of Section 17, T10N, R22E, Mt. Diablo Meridian. Continue S then SE along the entire western boundary of Mono County, until it reaches Inyo County at the point which is the NE corner of the Western half of the NW quarter of Section 2, T8S, R29E, MDM. Continue SSE along the entire western boundary of Inyo County, until the intersection with Kern County at the point which is the SW corner of the SE 1/4 of Section 32, T24S, R37E, MDM. Continue E along the Inyo and Kern County boundary until the intersection with San Bernardino County at that point which is the SE corner of section 34, T24S, R40E, MDM. Continue E along the Inyo and San Bernardino County boundary until the point which is the NE corner of the Western half of the NW quarter of Section 6, T25S, R42E, MDM. Continue S to that point which is the SW corner of the NW quarter of Section 6, T27S, R42E, MDM. Continue E in a straight line to the California and Nevada state border at the point which is the NW corner of Section 1, T17N, R14E, San Bernardino Meridian. Then continue NW along the state line to the starting point, which is the center of Section 18, T10N, R22E, MDM.

REMAINING AREA NOT DEFINED ABOVE RECIEVES BASE RATE

 ENGI0012-004 08/01/2015

	Rates	Fringes
OPERATOR: Power Equipment		
(DREDGING)		
(1) Leverman.....	\$ 49.50	23.60
(2) Dredge dozer.....	\$ 43.53	23.60
(3) Deckmate.....	\$ 43.42	23.60
(4) Winch operator (stern winch on dredge).....	\$ 42.87	23.60
(5) Fireman-Oiler,		

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Deckhand, Bargeman,		
Leveehand.....	\$ 42.33	23.60
(6) Barge Mate.....	\$ 42.94	23.60

IRON0377-002 07/01/2019

	Rates	Fringes
Ironworkers:		
Fence Erector.....	\$ 33.58	24.66
Ornamental, Reinforcing and Structural.....	\$ 40.00	33.30

PREMIUM PAY:

\$6.00 additional per hour at the following locations:

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

\$4.00 additional per hour at the following locations:

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

\$2.00 additional per hour at the following locations:

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

LABO0300-005 01/01/2018

	Rates	Fringes
Asbestos Removal Laborer.....	\$ 33.19	17.78

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

LABO0345-001 07/01/2019

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	Rates	Fringes
LABORER (GUNITE)		
GROUP 1.....	\$ 44.05	18.42
GROUP 2.....	\$ 43.10	18.42
GROUP 3.....	\$ 39.56	18.42

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

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Rodmen, Nozzlemen

GROUP 2: Gunmen

GROUP 3: Reboundmen

LAB00652-001 07/01/2019

	Rates	Fringes
LABORER (TUNNEL)		
GROUP 1.....	\$ 40.19	19.07
GROUP 2.....	\$ 40.51	19.07
GROUP 3.....	\$ 40.97	19.07
GROUP 4.....	\$ 41.66	19.07
LABORER		
GROUP 1.....	\$ 35.24	20.09
GROUP 2.....	\$ 35.79	20.09
GROUP 3.....	\$ 36.34	20.09
GROUP 4.....	\$ 37.89	20.09
GROUP 5.....	\$ 38.24	20.09

LABORER CLASSIFICATIONS

GROUP 1: Cleaning and handling of panel forms; Concrete screeding for rough strike-off; Concrete, water curing;

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Demolition laborer, the cleaning of brick if performed by a worker performing any other phase of demolition work, and the cleaning of lumber; Fire watcher, limber, brush loader, piler and debris handler; Flag person; Gas, oil and/or water pipeline laborer; Laborer, asphalt-rubber material loader; Laborer, general or construction; Laborer, general clean-up; Laborer, landscaping; Laborer, jetting; Laborer, temporary water and air lines; Material hose operator (walls, slabs, floors and decks); Plugging, filling of shee bolt holes; Dry packing of concrete; Railroad maintenance, repair track person and road beds; Streetcar and railroad construction track laborers; Rigging and signaling; Scaler; Slip form raiser; Tar and mortar; Tool crib or tool house laborer; Traffic control by any method; Window cleaner; Wire mesh pulling - all concrete pouring operations

GROUP 2: Asphalt shoveler; Cement dumper (on 1 yd. or larger mixer and handling bulk cement); Cesspool digger and installer; Chucktender; Chute handler, pouring concrete, the handling of the chute from readymix trucks, such as walls, slabs, decks, floors, foundation, footings, curbs, gutters and sidewalks; Concrete curer, impervious membrane and form oiler; Cutting torch operator (demolition); Fine grader, highways and street paving, airport, runways and similar type heavy construction; Gas, oil and/or water pipeline wrapper - pot tender and form person; Guinea chaser; Headerboard person - asphalt; Laborer, packing rod steel and pans; Membrane vapor barrier installer; Power broom sweeper (small); Riprap stonepaver, placing stone or wet sacked concrete; Roto scraper and tiller; Sandblaster (pot tender); Septic tank digger and installer(lead); Tank scaler and cleaner; Tree climber, faller, chain saw operator, Pittsburgh chipper and similar type brush shredder; Underground laborer, including caisson bellower

GROUP 3: Buggymobile person; Concrete cutting torch; Concrete pile cutter; Driller, jackhammer, 2-1/2 ft. drill steel or longer; Dri-pak-it machine; Gas, oil and/or water pipeline wrapper, 6-in. pipe and over, by any method, inside and out; High scaler (including drilling of same); Hydro seeder and similar type; Impact wrench multi-plate; Kettle person, pot person and workers applying asphalt, lay-kold, creosote, lime caustic and similar type materials ("applying" means applying, dipping, brushing or handling of such materials for pipe wrapping and waterproofing); Operator of pneumatic, gas, electric tools, vibrating machine, pavement breaker, air blasting, come-alongs, and similar mechanical tools not separately classified herein; Pipelayer's backup person, coating, grouting, making of joints, sealing, caulking, diapering and including rubber gasket joints, pointing and any and all other services; Rock slinger; Rotary scarifier or multiple head concrete

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chipping scarifier; Steel headerboard and guideline setter; Tamper, Barko, Wacker and similar type; Trenching machine, hand-propelled

GROUP 4: Asphalt raker, lute person, ironer, asphalt dump person, and asphalt spreader boxes (all types); Concrete core cutter (walls, floors or ceilings), grinder or sander; Concrete saw person, cutting walls or flat work, scoring old or new concrete; Cribber, shorer, lagging, sheeting and trench bracing, hand-guided lagging hammer; Head rock slinger; Laborer, asphalt- rubber distributor boot person; Laser beam in connection with laborers' work; Oversize concrete vibrator operator, 70 lbs. and over; Pipelayer performing all services in the laying and installation of pipe from the point of receiving pipe in the ditch until completion of operation, including any and all forms of tubular material, whether pipe, metallic or non-metallic, conduit and any other stationary type of tubular device used for the conveying of any substance or element, whether water, sewage, solid gas, air, or other product whatsoever and without regard to the nature of material from which the tubular material is fabricated; No-joint pipe and stripping of same; Prefabricated manhole installer; Sandblaster (nozzle person), water blasting, Porta Shot-Blast

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

TUNNEL LABORER CLASSIFICATIONS

GROUP 1: Batch plant laborer; Changehouse person; Dump person; Dump person (outside); Swamper (brake person and switch person on tunnel work); Tunnel materials handling person; Nipper; Pot tender, using mastic or other materials (for example, but not by way of limitation, shotcrete, etc.)

GROUP 2: Chucktender, cabetender; Loading and unloading agitator cars; Vibrator person, jack hammer, pneumatic tools (except driller); Bull gang mucker, track person; Concrete crew, including rodder and spreader

GROUP 3: Blaster, driller, powder person; Chemical grout jet person; Cherry picker person; Grout gun person; Grout mixer person; Grout pump person; Jackleg miner; Jumbo person; Kemper and other pneumatic concrete placer operator; Miner, tunnel (hand or machine); Nozzle person; Operating of troweling and/or grouting machines; Powder person (primer

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house); Primer person; Sandblaster; Shotcrete person; Steel form raiser and setter; Timber person, retimber person, wood or steel; Tunnel Concrete finisher

GROUP 4: Diamond driller; Sandblaster; Shaft and raise work

LABO0652-003 07/01/2018

	Rates	Fringes
Brick Tender.....	\$ 32.26	18.40

LABO1184-001 07/01/2019

	Rates	Fringes
Laborers: (HORIZONTAL DIRECTIONAL DRILLING)		
(1) Drilling Crew Laborer...	\$ 36.70	15.05
(2) Vehicle Operator/Hauler.	\$ 36.87	15.05
(3) Horizontal Directional Drill Operator.....	\$ 38.72	15.05
(4) Electronic Tracking Locator.....	\$ 40.72	15.05
Laborers: (STRIPING/SLURRY SEAL)		
GROUP 1.....	\$ 37.91	18.06
GROUP 2.....	\$ 39.21	18.06
GROUP 3.....	\$ 41.22	18.06
GROUP 4.....	\$ 42.96	18.06

LABORERS - STRIPING CLASSIFICATIONS

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

GROUP 2: Traffic surface abrasive blaster; pot tender - removal of all traffic lines and markings by any method (sandblasting, waterblasting, grinding, etc.) and preparation of surface for coatings. Traffic control person: controlling and directing traffic through both conventional and moving lane closures; operation of all related machinery and equipment

GROUP 3: Traffic delineating device applicator: Layout and application of pavement markers, delineating signs, rumble and traffic bars, adhesives, guide markers, other traffic delineating devices including traffic control. This

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category includes all traffic related surface preparation (sandblasting, waterblasting, grinding) as part of the application process. Traffic protective delineating system installer: removes, relocates, installs, permanently affixed roadside and parking delineation barricades, fencing, cable anchor, guard rail, reference signs, monument markers; operation of all related machinery and equipment; power broom sweeper

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

LAB01414-001 08/07/2019

	Rates	Fringes
LABORER		
PLASTER CLEAN-UP LABORER....	\$ 34.82	20.02
PLASTER TENDER.....	\$ 37.37	20.02

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

* PAIN0036-001 07/01/2019

	Rates	Fringes
Painters: (Including Lead Abatement)		
(1) Repaint (excludes San Diego County).....	\$ 28.59	15.97
(2) All Other Work.....	\$ 32.12	16.09

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

* PAIN0036-008 10/01/2019

	Rates	Fringes
DRYWALL FINISHER/TAPER.....	\$ 42.18	19.52

PAIN0036-015 06/01/2018

Rates	Fringes
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GLAZIER.....\$ 42.20 25.50

FOOTNOTE: Additional \$1.25 per hour for work in a condor,
 from the third (3rd) floor and up Additional \$1.25 per
 hour for work on the outside of the building from a swing
 stage or any suspended contrivance, from the ground up

 PAIN1247-002 01/01/2019

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 35.35	14.56

 PLAS0200-009 08/07/2019

	Rates	Fringes
PLASTERER.....	\$ 43.73	16.03

 PLAS0500-002 07/01/2019

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 37.00	25.53

 PLUM0016-001 09/01/2018

PLUMBER/PIPEFITTER

	Rates	Fringes
Plumber and Pipefitter All other work except work on new additions and remodeling of bars, restaurant, stores and commercial buildings not to exceed 5,000 sq. ft. of floor space and work on strip malls, light commercial, tenant improvement and remodel work.....	\$ 50.13	22.16

Work ONLY on new additions and remodeling of bars, restaurant, stores and commercial buildings not to exceed 5,000 sq. ft. of floor space.....	\$ 48.58	21.18
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Work ONLY on strip malls,
 light commercial, tenant
 improvement and remodel

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work.....\$ 37.10 19.51

PLUM0345-001 09/01/2019

Rates Fringes

PLUMBER

Landscape/Irrigation Fitter.\$ 34.40 23.05
Sewer & Storm Drain Work....\$ 34.40 23.05

ROOF0036-002 08/01/2019

Rates Fringes

ROOFER.....\$ 39.52 17.47

FOOTNOTE: Pitch premium: Work on which employees are exposed to pitch fumes or required to handle pitch, pitch base or pitch impregnated products, or any material containing coal tar pitch, the entire roofing crew shall receive \$1.75 per hour "pitch premium" pay.

SFCA0669-008 04/01/2019

DOES NOT INCLUDE SAN CLEMENTE ISLAND, THE CITY OF SANTA ANA, AND THAT PART OF ORANGE COUNTY WITHIN 25 MILES OF THE CITY LIMITS OF LOS ANGELES:

Rates Fringes

SPRINKLER FITTER.....\$ 38.85 23.85

SFCA0709-003 01/01/2018

SAN CLEMENTE ISLAND, THE CITY OF SANTA ANA, AND THAT PART OF ORANGE COUNTY WITHIN 25 MILES BEYOND THE CITY LIMITS OF LOS ANGELES:

Rates Fringes

SPRINKLER FITTER (Fire).....\$ 42.26 25.92

SHEE0105-003 01/01/2020

LOS ANGELES (South of a straight line drawn between Gorman and Big Pines)and Catalina Island, INYO, KERN (Northeast part, East of Hwy 395), MONO ORANGE, RIVERSIDE, AND SAN BERNARDINO COUNTIES

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	Rates	Fringes
SHEET METAL WORKER		
(1) Commercial - New Construction and Remodel work.....	\$ 45.78	28.96
(2) Industrial work including air pollution control systems, noise abatement, hand rails, guard rails, excluding aritechtrual sheet metal work, excluding A-C, heating, ventilating systems for human comfort...	\$ 45.78	28.96

TEAM0011-002 07/01/2019

	Rates	Fringes
TRUCK DRIVER		
GROUP 1.....	\$ 31.59	29.59
GROUP 2.....	\$ 31.74	29.59
GROUP 3.....	\$ 31.87	29.59
GROUP 4.....	\$ 32.06	29.59
GROUP 5.....	\$ 32.09	29.59
GROUP 6.....	\$ 32.12	29.59
GROUP 7.....	\$ 32.37	29.59
GROUP 8.....	\$ 32.62	29.59
GROUP 9.....	\$ 32.82	29.59
GROUP 10.....	\$ 33.12	29.59
GROUP 11.....	\$ 33.62	29.59
GROUP 12.....	\$ 34.05	29.59

WORK ON ALL MILITARY BASES:

PREMIUM PAY: \$3.00 per hour additional.

[29 palms Marine Base, Camp Roberts, China Lake, Edwards AFB, El Centro Naval Facility, Fort Irwin, Marine Corps Logistics Base at Nebo & Yermo, Mountain Warfare Training Center, Bridgeport, Point Arguello, Point Conception, Vandenberg AFB]

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1: Truck driver

GROUP 2: Driver of vehicle or combination of vehicles - 2 axles; Traffic control pilot car excluding moving heavy equipment permit load; Truck mounted broom

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GROUP 3: Driver of vehicle or combination of vehicles - 3 axles; Boot person; Cement mason distribution truck; Fuel truck driver; Water truck - 2 axle; Dump truck, less than 16 yds. water level; Erosion control driver

GROUP 4: Driver of transit mix truck, under 3 yds.; Dumpcrete truck, less than 6-1/2 yds. water level

GROUP 5: Water truck, 3 or more axles; Truck greaser and tire person (\$0.50 additional for tire person); Pipeline and utility working truck driver, including winch truck and plastic fusion, limited to pipeline and utility work; Slurry truck driver

GROUP 6: Transit mix truck, 3 yds. or more; Dumpcrete truck, 6-1/2 yds. water level and over; Vehicle or combination of vehicles - 4 or more axles; Oil spreader truck; Dump truck, 16 yds. to 25 yds. water level

GROUP 7: A Frame, Swedish crane or similar; Forklift driver; Ross carrier driver

GROUP 8: Dump truck, 25 yds. to 49 yds. water level; Truck repair person; Water pull - single engine; Welder

GROUP 9: Truck repair person/welder; Low bed driver, 9 axles or over

GROUP 10: Dump truck - 50 yds. or more water level; Water pull - single engine with attachment

GROUP 11: Water pull - twin engine; Water pull - twin engine with attachments; Winch truck driver - \$1.25 additional when operating winch or similar special attachments

GROUP 12: Boom Truck 17K and above

 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

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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 www.dol.gov/whd/govcontracts.

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

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

Union Rate Identifiers

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

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

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and

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the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

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

Union Average Rate Identifiers

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

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

WAGE DETERMINATION APPEALS PROCESS

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

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the

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Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

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

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

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

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

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

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

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

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

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END OF GENERAL DECISION"

CITY OF RANCHO SANTA MARGARITA
GENERAL SPECIFICATIONS
FOR
SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT
FROM SAN SEBASTIAN TO SR-241

SCOPE OF WORK

The work to be performed and completed by Contractor consists of reconstruction of the hinge and performing various general preventive maintenance as shown on the plans and as required to complete the work.

LOCATION OF WORK

The general location and limits of the work are on Santa Margarita Parkway from San Sebastian to SR-241, as shown on the plans.

TIME OF COMPLETION

The Contractor shall complete all work in every detail within 180 working days after the date of the Notice to Proceed.

TRAFFIC REQUIREMENTS

The Contractor shall provide delineation in accordance with the latest updated version of the California Manual on Uniform Traffic Control Devices (MUTCD). The Contractor shall schedule the order of his work such that no travel lanes are closed before 9:00 A.M. or after 3:30 P.M. daily. A minimum of one through travel lane and all turning lanes in all directions shall be maintained during construction between 9:00 A.M. and 3:30 P.M. The same number of travel lanes currently in use (at the time of bid) shall be opened to traffic each and every day between 3:30 P.M. and 9:00 A.M. No work that interferes with public traffic shall be performed after 3:30 P.M. or before 9:00 A.M. No street closures shall be made. The traffic signal and traffic signal detectors shall remain operational during the construction until their replacement is scheduled within 5 days of disruption.

Separation between travel lanes shall be accomplished by the use of delineators placed at a maximum of 15' on center. Traffic channelization at intersections shall be accomplished by the use of delineators placed at a maximum of 10' on center.

UTILITY REQUIREMENTS

The Contractor is advised of the existence of the utility notification service provided by UNDERGROUND SERVICE ALERT (USA). USA member utilities will provide the Contractor with the precise locations of their substructures in the construction area when the Contractor gives at least 48 hours notice to the Underground Service Alert by calling 1(800) 422-4133. Contractor shall provide the CITY with proof of contact with USA upon request.

The Contractor shall notify the following agencies at least 48 hours in advance of excavating around any of their structures. The utility companies listed below can be contacted as indicated.

1. Southern California Gas Company
1919 State College
Anaheim, California 92806
Ian Burns (714) 749-0328
Leonard Deleon (909) 518-96437

2. Southern California Edison
1444 E. McFadden Avenue
Santa Ana, CA 92705
Peter Pham (714) 614-5463

The California Public Utilities Commission mandates that, in the interest of public safety, main line gas valves be maintained in a manner to be readily accessible and in good operating condition. The Contractor shall notify the Southern California Gas Company (714) 634-3185 at least 2 working days prior to the start of construction.

The Contractor shall exercise extreme care to protect all existing utilities in place whether shown on the plans or not, and shall assume full responsibility for all damage resulting from his operations. The Contractor shall coordinate with each utility company as to the requirements and methods for protection of their facilities during the construction period, and shall be responsible for preparation and processing of any required plans or permits. The Contractor shall assume full responsibility to maintain uninterrupted service for all utilities.

By submitting a bid, the Contractor acknowledges the above referenced utility work to be done in conjunction with this project. The Contractor shall schedule his work and conduct his operations so as to permit access and time for the required utility work to be accomplished during the progress of the work.

The Contractor shall coordinate with each utility company as to the extent of required work and the time required to do so. The Contractor shall include this time in his schedule. Payment for the above, if any, shall be deemed as included in the items of work as shown on the proposal bid sheet and no additional compensation will be allowed.

FLOW AND ACCEPTANCE OF WATER

It is anticipated that storm, surface or other waters will be encountered at various times and locations during the work herein contemplated. The Contractor, by submitting a bid, acknowledges that he has investigated the risk arising from such waters and has prepared his bid accordingly, and Contractor, by submitting a bid, assumes all of said risk.

STANDARD SPECIFICATIONS

The Standard Specifications of the CITY are contained in the 2015 STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, also known as the "Greenbook", including all supplements, as written and promulgated by the Joint Cooperative Committee of the Southern California Chapter of the American Public Works Association and the Southern California District of the Associated General Contractors of California. Copies of these Standard Specifications are available from the publisher:

BNi Building News
 Division of BNi Publications, Inc.
 990 Park Center Drive, Suite E
 Vista, California 92801
 (760) 734-1113

The Standard Specifications set forth above will control the general provisions for this contract except as amended by the Plans, General Specifications, Special Provisions, Technical Provisions, or other contract documents.

The section numbers of the following Special Provisions coincide with those of the said Standard Specifications. Only those sections requiring amendment or elaboration, or specifying options, are called out.

In case of conflict between the Standard Specifications and the General Specifications or Special Provisions or Technical Provisions, the General Specifications, Special Provisions and Technical Provisions shall take precedence over and be used in lieu of such conflicting portions of the Standard Specifications.

References in the Special Provisions to "CALTRANS Standard Specifications" shall mean the 2015 edition of the Standard Specifications of the State of California, Department of Transportation. Copies of these specifications and standard drawings may be obtained from:

California Department of Transportation
 Publications Distribution Unit
 1900 Royal Oaks Drive
 Sacramento, California 95815-3800
 Telephone (916) 263-0822
 Fax (916) 263-0470

References in the Special Provisions to Standard Plans shall mean the Standard Plans for Public Works Construction, 2015 edition (written and promulgated by the Public Works Standards, Inc.), and, where applicable and as determined and selected by the Engineer, those specific standard plans of the City of Rancho Santa Margarita, the County of Orange and/or the State Department of Transportation, 2015 editions.

Where the Plans or Specifications describe portions of the work in general terms, but not in complete detail, it is understood that the item is to be furnished and installed complete and in place and that only the best general practice is to prevail and that only materials and workmanship of the first quality are to be used. Unless otherwise specified, the Contractor shall furnish all labor, materials, tools, equipment and incidentals, and do all the work involved in executing the contract.

RESOLUTION OF CONSTRUCTION CLAIMS

California Public Contract Code (PCC) section 9204 as adopted by Assembly Bill 626 prescribes a process to present, confer, and mediate all construction claims relating to the City's public works project.

"Public works project" means the erection, construction, alteration, repair, or improvement of any public structure, building, road, or another public improvement of any kind.

"Claim" means a separate demand by the Contractor sent by registered mail or certified mail with return receipt requested for (A) a time extension, including, without limitation for relief from damages or penalties for delay assessed by a public entity under a contract for a public works project (B) payment of money or damages arising from work done by or on behalf of the Contractor pursuant to the contract for a public works project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled, or the amount the payment of which is disputed by the local agency. (PCC 9204(c)(1))

For any claim subject to this article, PCC section 9204 requires the following:

- a) The claim shall be submitted by the Contractor in writing, sent by registered mail or certified mail with return receipt requested and must include the documents necessary to substantiate the claim. Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims. However, upon receipt of a claim, the City, and the Contractor may, by mutual agreement, extend the time period provided by statute.
- b) For claims of all amounts, the City shall respond within 45 days of receipt of the claim, and provide the claimant a written statement identifying which portion of the claim is disputed and which portion of the claim is undisputed. If the City requires approval from the City Council, and the City Council does not meet within the 45-day period to respond, the City shall have up to three days to issue its response following the City Council meeting.
- c) For all portions of a claim determined to be undisputed, the City must process payment to the claimant within 60 days of issuing the City's written determination.
- d) If the claimant disputes the City's response, or if the City fails to respond within the time limits provided, the claimant may demand an informal conference to meet and confer for settlement of the issues in dispute. The demand must be sent in writing by registered or certified mail, return receipt requested. Upon receipt of a demand, the City must schedule a meet and confer conference within 30 days for settlement of the disputed claim.
- e) Within 10 business days following the conclusion of the meet and confer conference, if any portion of the claim remains in dispute, the City shall provide the claimant an addition written statement identifying the portion of the claim that is undisputed and the portion that remains in dispute.
- f) For all portions of a claim determined to be undisputed, the City must process payment to the claimant within 60 days of issuing the City's written determination.
- g) Any remaining undisputed portion of the claim, as identified by the Contractor in writing, shall be submitted to nonbinding mediation in which the parties share the cost evenly. The City and

the claimant shall mutually agree on a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree, each party shall select a mediator and those mediators shall jointly select a qualified, neutral third party to mediate the remaining undisputed claim. Each party shall bear the respective costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside of PCC section 9204.

Unless otherwise agreed to by the City and the Contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under PCC Section 20104.4 to mediate after litigation has been commenced.

PCC Section 9204 does not preclude the City from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program if mediation under this section does not resolve the parties' dispute.

Should the City fail to respond to a claim, or fail to issue written statements as required, the Contractor's claim is deemed denied. A claim denied by reason of the City's failure to respond shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.

Amounts not paid in a timely manner as required by PCC 9204 shall bear interest at seven percent per annum.

CITY OF RANCHO SANTA MARGARITA

SPECIAL PROVISIONS
FOR
SPECIFICATIONS FOR

SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT
FROM SAN SEBASTIAN TO SR-241

PART 1 - GENERAL PROVISIONS

SECTION 1 - TERMS, DEFINITIONS, ABBREVIATIONS AND SYMBOLS.

1-2 DEFINITIONS.

CITY/City	- City of Rancho Santa Margarita
Board	- City Council
Caltrans	- California Department of Transportation
County	- County of Orange
Engineer	- City Engineer
Federal	- United States of America
State	- State of California
Contractor	- Contractor, its workers, employees and agents

1-3 ABBREVIATIONS.

1-3.2 Common Usage. [Add the following to this section]:

MUTCD	- Manual of Uniform Traffic Control Devices, including the California Supplement
OCPW	- Orange County Public Works Department
SPPWC	- Standard Plans for Public Works Construction
SSPWC	- Standard Specifications for Public Works Construction
FHWA	- Federal Highway Administration

SECTION 2 - SCOPE AND CONTROL OF THE WORK.

2-1 AWARD AND EXECUTION OF CONTRACT.

Within three (3) days of bid opening contractor must submit:

- All DBE commitment forms as specified in the required federal documents appendix sections.
- If a bid bond is submitted with a 10% of Bid designation for the amount as noted in the City Approved Bid Bond form, a revised Bid Bond with numerical dollar values, both in words and with digits, shall be submitted to the City within three (3) days of bid opening.

Within five (5) working days after the date of the Notice of Apparent Low Bidder, the Contractor shall execute and return the following documents to the CITY:

- All Insurance Requirements set forth herein
- Two (2) Original Signed Contract Agreements

Within ten (10) working days after the date of the Notice of Award, the Contractor shall execute and return the following documents to the CITY:

- Faithful Performance Bond
- Material and Labor Bond
- Construction Schedule
- Traffic Control Plan
- Water Pollution Control Plan
- Form W-9
- Encroachment Permit Application
- Construction Materials Submittals

FAILURE TO COMPLY WITH ALL OF THE ABOVE WILL RESULT IN ANNULMENT OF THE AWARD AND FORFEITURE OF THE PROPOSAL GUARANTEE AT THE SOLE DISCRETION OF CITY.

The Contract Agreement shall not be considered binding upon the CITY until executed by the authorized CITY officials. A corporation to which an award is made may be required, before the Contract Agreement is executed by the CITY, to furnish evidence of its corporate existence, of its right to enter into contracts in the State of California, and that the officers signing the contract and bonds for the corporation have the authority to do so.

2-4 CONTRACT BONDS.

Both the Faithful Performance Bond and the Material and Labor Bond shall each be for not less than one hundred percent (100%) of the total contract amount. The Material and Labor Bond shall remain in force until thirty-five (35) days after the date of recordation of the Notice of Completion. The Faithful Performance Bond will be held for one year after the date of recordation of the Notice of Completion.

Prior to the acceptance of any bond, the City shall verify that the surety is an admitted surety in the State of California. If requested by the City, the Contractor shall provide other information specified in the Code of Civil Procedure Section 995.660 to enable the City to verify the sufficiency of the bond.

Should any bond become insufficient, the Contractor shall correct the insufficiency within ten (10) calendar days after receiving notice from the City. The Contractor shall provide the City with evidence of the correction within ten (10) calendar days of said correction. Should any surety at any time be unsatisfactory to the City, written notice will be given to the Contractor to that effect. No further payments shall be deemed due or will be payable under the Contract until Contractor submits an acceptable bond from a surety accepted by the City. Changes to the work or extensions of time made pursuant to the Contract Agreement shall in no way release the Contractor or the surety from its obligations. Notice of such changes or extensions shall be waived by the surety.

2-5 PLANS AND SPECIFICATIONS.

2-5.1 General.

The Contractor shall maintain a control set of Plans and Specifications on the project site at all times. All final locations determined in the field, and any deviations from the Plans and Specifications, shall be marked in red on this control set to show the as-constructed conditions. Upon completion of all work, the Contractor shall return the control set to the Engineer. Final payment will not be made until this requirement has been met.

2-8 RIGHT-OF-WAY.

The CITY will acquire all rights of way, easements and rights of entry as required for this project. The Contractor shall verify that the acquisition(s) is completed prior to beginning any work outside of the public right of way. All cost for re-mobilization, downtime, etc. due to delays in obtaining the required rights of way, easements and rights of entry shall be included in all other items of work and no additional compensation will be allowed. In the event the required easements have not yet been acquired by the City, the Contractor shall conduct his operation so as to confine his work to the limits of the existing right-of-way.

2-9 SURVEYING.

2-9.1 Permanent Survey Markers. [Add the following to this section]:

Prior to start of construction, the Contractor shall inventory all existing survey monuments and ties within the project limits. Monument records are for information purposes only, and can be provided by the City upon request. The Contractor is responsible for ensuring that all survey monuments and ties are restored. The Contractor shall file a Corner Record Form referencing survey monuments subject to disturbance in the Office of the County Surveyor. A copy of the filing shall be provided to the City prior to commencement of any work.

The Contractor shall obtain prior approval from the Engineer before setting new survey monuments. When a change is made in the finished elevation of the pavement of any roadway in which a permanent survey marker is located, the Contractor shall install a new survey monument to the new grade within seven (7) days of finished paving. The survey monument shall be installed to match the existing type destroyed. The Contractor will then reset ties and file a Corner Record Form in the Office of the County Surveyor.

2-9.2 Survey Services.

The Contractor will provide the initial surveying and the initial construction staking, if required for the construction of this project. The cost of any additional surveying and/or construction staking primarily for the convenience of the Contractor and for replacement of stakes lost for any reason will be the responsibility of the Contractor.

The Contractor shall be responsible for the finished work's conforming to the lines, grades and benchmarks given by the Engineer. The Contractor shall establish supplementary benchmarks, elevations, lines and grades and any other necessary controls which are not established by the Engineer and which are necessary to complete the work. Compensation for above work by the Contractor shall be included within the various items of work and no additional compensation will be allowed.

SECTION 3 - CHANGES IN WORK

3-3 EXTRA WORK.

3-3.2 Payment.

3-3.2.2.1 Labor. [Add the following to this section]:

Employer payments for payroll taxes, workers compensation insurance, liability insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs resulting from Federal, State, or local laws, as well as assessments or benefits required by lawful collective bargaining agreements shall not exceed twenty percent (20%) of the actual cost for employee wages.

3-3.2.3 Markup.

(a) **Work by Contractor.** The following percentages shall be the maximum added to the Contractor's costs and shall constitute the markup for all overhead and profits:

1) Labor	20
2) Materials	15
3) Equipment Rental	15
4) Other Items and Expenditures	15

To the sum of the Costs and markups provided for in this subsection, 1 percent shall be added as compensation for bonding.

(b) **Work by Subcontractor.** When all or any part of the extra work is performed by a Subcontractor, the markup established in 3-3.2.3(a) shall be applied to the Subcontractor's actual cost of such work. A markup of 10 percent on the first \$5,000 of the subcontracted portion of the extra work and a markup of five (5) percent on work added in excess of \$5,000 of the subcontracted portion of the extra work may be added by the Contractor.

The markups mentioned hereinafter shall include, but are not limited to, all costs for the services of superintendents, project managers, timekeepers and other personnel not working directly on the change order and pickup or yard trucks used by the above personnel. These costs shall be reported as labor or equipment elsewhere except when actually performing work directly on the change order and then shall only be reported at the labor classification of the work performed.

The costs of rental equipment shall not exceed the equipment rental rates in the Surcharge and Equipment Rental Rates, as published by the State of California Business, Transportation, and Housing Agency and the California Department of Transportation, Division of Construction for the current fiscal year.

3-5 DISPUTED WORK.

If the Contractor and the City are unable to reach an agreement on disputed work, the City may direct the Contractor to proceed as directed. The City shall have the option, at its own discretion, to pay for said work through unilateral change order executed by the City after conducting its own analysis of the reasonable costs thereof. Although not to be construed as proceeding under extra work provisions in Section 3-3, the Contractor shall keep and furnish records of disputed work in accordance with Section 3-3.

In any case where the Contractor believes extra compensation is due the Contractor for work or materials not clearly covered in the Contract, or not ordered by the City as "extra work", the Contractor shall notify the City in writing of the Contractor's intention to make claim for such extra compensation before the Contractor begins the work on which Contractor bases the claim. If such notification is not given, or the City is not afforded proper supporting documentation by the Contractor for keeping strict account of actual cost, then the Contractor shall be deemed to have waived the claims for such extra compensation. Such notice by the Contractor, and the fact that the City has kept account of the cost as aforesaid, shall not in any way be construed as proving the validity of the claim. The validity of the claim must be determined by the City. If the City determines that the claim is well founded, it shall be allowed and paid for as "extra work"; if the City determines that the claim is not well founded, it shall be disallowed and not paid.

SECTION 4 - CONTROL OF MATERIALS

4-1 MATERIALS AND WORKMANSHIP.

4-1.3 Inspection Requirements.

4-1.3.1 General.

The CITY will pay for inspection and materials testing as part of its quality assurance program. The Contractor shall pay for retests and re-inspections due to failure to meet specifications. The Contractor pays for inspection and material testing in relation to their quality control program.

SECTION 5 - UTILITIES

5-1 LOCATION.

The Contractor shall notify the utilities designated in the General Specifications at least 48 hours in advance of excavating around any of their structures.

The existence and locations of utilities shown on the drawings have been determined by a search of the available records as provided by the respective utility owner. The exact locations have not been determined by potholing unless so indicated on the drawings. The Contractor shall determine the exact location of all existing utilities prior to commencing work. Contractor agrees to be fully responsible for any and all damages which may be caused by his failure to exactly locate and preserve any and all underground utilities, whether shown on the plans or not. In the event the Contractor encounters underground utilities not shown on the plans, he shall verify the exact location of the utility and immediately notify the Engineer, regardless of whether the unknown utility conflicts with the proposed construction or not. In the event of such a previously unknown conflict, the Contractor shall immediately notify the Engineer as to the extent, if any, of delays or additional costs resulting from said conflict. The Contractor shall perform work and provide necessary materials to disconnect or relocate existing utilities as indicated. Record on record drawings all existing utility termination points before disconnecting.

When uncharted or incorrectly charted underground piping or other utilities and services are encountered during site work operations, notify the applicable utility company immediately to obtain procedure directions. Cooperate with the applicable utility company in maintaining active services in operation.

SECTION 6 - PROSECUTION, PROGRESS, AND ACCEPTANCE OF THE WORK

6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF WORK.

The Contractor's proposed Construction Schedule shall be submitted to the Engineer within ten (10) working days after the date of the Notice of Award of Contract. The schedule shall be supported by written statements from each supplier of materials or equipment indicating that all orders have been placed and acknowledged, and setting forth the dates that each item will be delivered. The schedule shall establish the order of work which minimizes disruption of existing travel lanes.

Prior to issuing the Notice to Proceed, the Engineer will schedule a preconstruction meeting with the respective Contractor to review the proposed Construction Schedule and delivery dates, arrange the utility coordination, discuss construction methods, and clarify inspection procedures.

The Contractor shall submit periodic Progress Reports to the Engineer by the tenth day of each month. The report shall include an updated Construction Schedule. Any deviations from the original schedule shall be explained. Liquidated damages will be assessed pending receipt of any outstanding reports, as set forth in Section 6-9.1 below.

6-1.3 Construction Schedule (Critical Path Method) [Add the following to this section]:

The Contractor shall submit to the Engineer practicable critical path method (CPM) progress schedules in conformance with these Special Provisions. Whenever the term "schedule" is used in this section it shall mean CPM progress schedule illustrated by the Gantt Bar method. The schedule shall be prepared by qualified and experienced scheduling staff.

Schedules shall show the order in which the Contractor proposes to carry out the work with logical links between time-scaled work activities, and calculations made using the critical path method to determine the controlling operation or operations. The Contractor is responsible for assuring that all activity sequences are logical and that each schedule shows a coordinated plan for complete performance of the work.

The Contractor shall produce schedules using computer software and shall furnish compatible software for the Engineer's exclusive possession and use. The Contractor shall furnish network diagrams, narrative reports, tabular reports and schedule data as parts of each schedule submittal.

The number of activities shall be sufficient to assure adequate planning of the project, to permit monitoring and evaluation of progress, and to do an analysis of time impacts.

Schedule activities shall include the following:

- A. A clear legible description.
- B. Start and finish dates.
- C. A duration of not less than one working day, except for event activities, and not more than 20 working days, unless otherwise authorized by the Engineer.
- D. At least one predecessor and one successor activity, except for project start and finish milestones.
- E. Required constraints.

- F. Codes for responsibility, stage, work shifts, location and contract pay item numbers.

The Contractor may show a scheduled completion date that is later than the Contract completion date on an update schedule, after the baseline schedule is accepted. The Contractor shall provide an explanation for a late scheduled completion date in the narrative report that is included with the schedule.

The Engineer's review and acceptance of schedules shall not waive any contract requirements and shall not relieve the Contractor of any obligation thereunder or responsibility for submitting complete and accurate information. Schedules that are rejected shall be correct by the Contractor and resubmitted to the Engineer within five (5) working days of notification by the Engineer, at which time a new review period of one week will begin.

Errors or omissions on schedules shall not relieve the contractor from finishing all work within the time limit specified for completion of the Contract. If, after, a schedule has been accepted by the Engineer, either the Contractor or the Engineer discovers that any aspect of the schedule has an error or omission, it shall be corrected by the Contractor on the next schedule.

Contractor shall submit an updated two-week look-ahead schedule weekly on a day to be specified by the Engineer.

Payment for the project schedule and revisions/updates to the schedule shall be made under other items of work and no additional payment shall be made therefore.

6-6 DELAYS AND EXTENSIONS OF TIME.

6-6.5 Extended Field Office Overhead Costs.

Within fourteen (14) calendar days after receipt of the Notice to Proceed, the Contractor shall submit written statement to the City detailing its field office overhead costs which are time related. The City will review this first cost submittal and reach a written agreement with the Contractor on a daily field office overhead cost rate which shall be memorialized in a no cost change order. The daily rate agreed to in this change order will be applicable throughout the duration of the Contract. No field office costs will be paid until such an agreement is reached between the City and the Contractor and the change order concerning this daily rate is executed by both parties. Progress payments will be withheld pending receipt of the above-referenced cost submittal and executed change order.

The individual cost components of the daily field office overhead rate shall represent costs which increase as a direct result of any time extension caused solely and exclusively by an act or omission of the City. This listing may include such cost items as on-site project management, supervision, Engineering and clerical salaries; on-site utilities and rent; on-site company vehicles and their operating expenses; and site maintenance and security expenses. Field office overhead costs which are unaffected by increased time shall not be allowable cost in calculating the daily field office overhead rate. These non-time related costs include, but are not limited to, acquisition and installation of stationary equipment; temporary construction facilities; utilities and office furnishings (unless such items are rented or leased); the preparation of the site including clearing, grubbing, grading, fencing, mobilizations and demobilization costs; and the costs of permits, bonds and insurance coverage for the project.

The individual wage cost components used to calculate the daily field office rate shall be supported by actual employee payroll records, not salary ranges or estimates. Hourly rates for management, supervisory, engineering, and clerical employees shall be based upon 2080 work hours per year and shall not include allowances for holidays, vacations, or sick time.

When applicable, the daily field office overhead rate shall be multiplied by the number of days the Contract is delayed or extended by change order and shall be added to the agreed upon change order cost. The days of delay shall be those caused solely by the acts or omissions of the City and documented by a time impact analysis prepared and submitted by the Contractor. In the event a deductive change order is issued which reduces time under the Contract, the daily field office overhead rate shall be used to calculate the deductive amount. No allowance for overhead costs and no profit allowance shall be added to the extended field office overhead cost.

6-7 TIME OF COMPLETION.

6-7.1 General.

The time for completion shall be as set forth in the General Specifications.

6-7.2 Working Day.

The Contractor's activities shall be confined to the hours between 8:00 AM and 4:00 PM, Monday through Friday, excluding holidays, unless otherwise specified. Work shall be prohibited any time on Saturday, Sunday or Federal Holidays except as provided herein. Deviation from these hours will not be permitted without the prior consent of the Engineer, except in emergencies involving immediate hazard to persons or property.

In the event of either a requested or emergency deviation, inspection service fees will be charged against the Contractor. The service fees will be calculated at overtime rates (premium time) including benefits, overhead, and travel time and are established based on the City's current fee schedule or professional services agreement for construction inspection services. The service fees will be deducted from any amounts due the Contractor.

Construction activities during CITY Special Events may be restricted by CITY to exclude all or part of the work on primary arterial or access roads to the Special Events as determined by Engineer. The Contractor shall be responsible to ascertain the exact times of any such events within his proposed construction schedule which may restrict his operation and shall adjust his schedule accordingly. The construction restrictions shall only be for the actual days the events occur. All costs for maintaining traffic control, protection of work site and re-mobilization shall be deemed as included in the lump sum contract for their respective items and no additional compensation will be allowed.

6-8 COMPLETION, ACCEPTANCE, AND WARRANTY. [Add the following to this section]:

Work will be deemed completed on the same date when the Notice of Completion is recorded with the County of Orange.

6-9 LIQUIDATED DAMAGES.

It is agreed by the parties to the Contract that time is of the essence and that in the case that all the work is not complete before or upon the expiration of the time limit set forth, damage will be

sustained by the City. For each consecutive calendar day in excess of the time specified for the completion of the work, the Contractor shall pay to the City \$2,500.00. The Contractor shall also pay to the City \$500.00 for each occurrence of work in the through or turning lanes in violation of these specifications as solely determined by City.

6-11 ACCELERATION.

The City reserves the right to accelerate the work of the Contract at any time during its performance. In the event the City directs acceleration, such directive will be given to the Contractor in writing. The Contractor shall keep cost and other Project records related to the acceleration directive separately from the normal Project cost records and shall provide a written record of acceleration costs to the City on a daily basis.

In the event the Contractor believes that some action or inaction on the part of the City constitutes an acceleration directive, the Contractor shall immediately notify the City in writing that the Contractor considers the actions or inactions an acceleration directive. The Contractor shall not accelerate their work efforts until the City responds to the written notification. If acceleration is then directed or required by the City, all cost records referred to in the previous paragraph shall be maintained by the Contractor and provided to the City on a daily basis.

In order to recover additional costs due to acceleration, the Contractor must document that additional expenses were incurred and paid by the Contractor. Labor costs recoverable will only be overtime or shift premium costs or the cost of additional laborers brought to the site to accomplish the accelerated work effort. Equipment costs recoverable will only be the cost of added equipment mobilized to the site to accomplish the accelerated work effort.

SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR

7-1 CONTRACTOR'S EQUIPMENT AND FACILITIES.

Conduct of the Work. The Contractor shall behave, at all times, in a courteous, professional manner. While on site, or entering or exiting the site, there shall be no extraneous activity that might cause disruption to the project site, surrounding areas, or residents. Failure to comply may result in the suspension of work.

Noise Levels. A noise level limit of 86 dbA at a distance of fifty feet (50') shall apply to all construction equipment on or related to the job whether owned by the Contractor or not. The use of excessively loud warning signals shall be avoided except in those cases required for the protection of personnel.

7-2 LABOR.

7-2.2 Laws.

The Contractor, and all subcontractors, suppliers and vendors, shall comply with all CITY, State, and Federal orders regarding affirmative action to ensure equal employment opportunities and fair employment practices. Failure to file any report due under said orders will result in suspension of periodic progress payments.

The Contractor shall ensure unlimited access to the job site for all equal employment opportunity compliance officers.

7-3 INDEMNIFICATION

To the fullest extent permitted by law, Contractor shall indemnify, defend (at Contractor's sole cost and expense), protect and hold harmless City and its officers, council members, officials, employees, agents and volunteers and all other public agencies whose approval of the Project is required, (individually "Indemnified Party"; collectively "Indemnified Parties") against any and all liabilities, claims, judgments, arbitration awards, settlements, costs, demands, orders, and penalties (collectively "Claims"), including but not limited to Claims arising from injuries or death of persons (Contractor's employees included) and damage to property, which Claims, including alleged Claims, arise out of, pertain to, or are related to the negligent acts or omissions, recklessness, or willful misconduct of Contractor, its agents, employees, or subcontractors, or arise from Contractor's negligent, reckless, or willful performance of or failure to perform any term, provision, covenant, or condition of this Agreement ("Indemnified Claims"), but Contractor's liability for Indemnified Claims shall be reduced to the extent such Claims arise from the willful misconduct or gross negligence of the City, its officers, council members, officials, or employees.

Contractor shall reimburse the Indemnified Parties for any reasonable expenditures, including reasonable attorneys' fees, expert fees, litigation costs, and expenses that each Indemnified Party may incur by reason of Indemnified Claims. Upon request by an Indemnified Party, Contractor shall defend with legal counsel reasonably acceptable to the Indemnified Party all Claims against the Indemnified Party that may arise out of, pertain to, or relate to Indemnified Claims, whether or not Contractor is named as a party to the Claim proceeding. The determination whether a Claim "may arise out of, pertain to, or relate to Indemnified Claims" shall be based on the allegations made in the Claim and the facts known or subsequently discovered by the Parties. In the event a final judgment, arbitration award, order, settlement, or other final resolution expressly determines that Claims did not arise out of, pertain to, nor relate to the negligence, recklessness, or willful misconduct of Contractor to any extent, then City shall reimburse Contractor for the reasonable costs of defending the Indemnified Parties against such Claims, except City shall not reimburse Contractor for attorneys' fees, expert fees, litigation costs, and expenses that were incurred defending Contractor or any parties other than Indemnified Parties against such Claims.

Contractor's indemnification obligation hereunder shall survive the expiration or earlier termination of this Agreement until all actions against the Indemnified Parties for such matters indemnified hereunder are fully and finally barred by the applicable statute of limitations or, if an action is timely filed, until such action is final. This provision is intended for the benefit of third party Indemnified Parties not otherwise a party to this Agreement.

7-4 INSURANCE REQUIREMENTS.

7-4.1 Compliance with Insurance Requirements.

Contractor shall obtain, maintain, and keep in full force and effect during the term of this Agreement, at its sole cost and expense, and in a form and content satisfactory to City, all insurance required under this section. Contractor shall not commence any work or services under this Agreement unless and until it has provided evidence satisfactory to City that it has secured all insurance required under this section. If Contractor's existing insurance policies do not meet the insurance requirements set forth herein, Contractor agrees to amend, supplement or endorse the policies to do so.

7-4.2 Types of Insurance Required.

As a condition precedent to the effectiveness of this Agreement, and without limiting the indemnity provisions set forth in this Agreement, Contractor shall obtain and maintain in full force and effect during the term of this Agreement, including any extension thereof, the following policies of insurance:

A. Commercial General Liability Insurance. Contractor shall obtain and maintain, in full force and effect throughout the term of this Agreement, a policy of Commercial General Liability Insurance (Insurance Services Office form CG 00 01) written on an occurrence basis with limits of at least two million dollars (\$2,000,000.00) per occurrence, four million dollars (\$4,000,000.00) in the general aggregate, and four million dollars (\$4,000,000.00) for completed operations aggregate. Defense costs shall be paid in addition to the limits. The policy shall contain no endorsements or provisions limiting coverage for (1) contractual liability; (2) cross liability exclusion for claims or suits by one insured against another; or (3) contain any other exclusion contrary to the Agreement.

B. Automobile Liability Insurance. Contractor shall obtain and maintain, in full force and effect throughout the term of this Agreement, a policy of Automobile Liability Insurance (Insurance Services Office form CA 001) written on a per occurrence basis with limits of at least one million dollars (\$1,000,000.00) combined limit for each occurrence covering bodily injury and property damage. The policy shall specifically include coverage for owned, non-owned, leased, and hired automobiles.

C. Workers' Compensation Insurance. Contractor shall obtain and maintain, in full force and effect throughout the term of this Agreement, a policy of Workers' Compensation Insurance in at least the minimum statutory amounts, and in compliance with all other statutory requirements, as required by the State of California. Contractor agrees to waive and obtain endorsements from its workers' compensation insurer waiving all subrogation rights under its workers' compensation insurance policy against the City, its officials, officers, employees, agents and volunteers, and to require each of its subcontractors, if any, to do likewise under their workers' compensation insurance policies. Contractor shall obtain and maintain, in full force and effect throughout the term of this Agreement, a policy of Employer's Liability Insurance written on a per occurrence basis with limits of at least one million dollars (\$1,000,000.00) per accident for bodily injury or disease.

7-4.3 Acceptability of Insurers.

Insurance required by this section shall be issued by a licensed company authorized to transact business in the state by the Department of Insurance for the State of California with a current rating of A-:VII or better (if an admitted carrier), or a current rating of A:X or better (if offered by a non-admitted insurer listed on the State of California List of Approved Surplus Line Insurers (LASLI), by the latest edition of A.M. Best's Key Rating Guide, except that the City will accept workers' compensation insurance from the State Compensation Fund. In the event the City determines that the work or services to be performed under this Agreement creates an increased or decreased risk of loss to the City, the Contractor agrees that the minimum limits of the insurance policies may be changed accordingly upon receipt of written notice from the City. Contractor shall immediately substitute any insurer whose A.M. Best rating drops below the levels specified herein.

7-4.4 Insurance Endorsements.

Required insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the City for written approval. Required insurance policies shall contain the following provisions, or Contractor shall provide endorsements on forms approved by the City to add the following provisions to the insurance policies:

A. The policy or policies of insurance required by this section for Commercial General Liability and Automobile Liability Insurance shall be endorsed to provide the following:

(1) Additional Insured: The City, its officials, officers, employees, agents and volunteers, shall be additional insureds with regard to liability and defense of suits or claims arising out of the performance of the Agreement; and

(2) Additional Insured Endorsements: Additional insured endorsements shall not (1) be restricted to “ongoing operations”, (2) exclude “contractual liability”, (3) restrict coverage to “sole” liability of Contractor, or (4) contain any other exclusions contrary to the Agreement; and, the coverage shall contain no special limitations on the scope of protection afforded to additional insureds.

(3) Notice: The policy or policies of insurance required by this section for Commercial General Liability and Automobile Liability Insurance shall be endorsed to state that coverage shall not be suspended, voided, cancelled, or modified, or reduced in coverage or in limits, except after thirty (30) days prior written notice by First Class U.S. Mail, postage-prepaid, has been provided to the City. Notwithstanding the foregoing, if coverage is to be suspended, voided, or cancelled because of Contractor’s failure to pay the insurance premium, the notice provided to City shall be by ten (10) days prior written notice.

B. For all policies of Commercial General Liability Insurance, Contractor shall provide endorsements for completed operations to effectuate this requirement.

7-4.5 Deductibles and Self-Insured Retentions.

Any deductible or self-insured retention must be approved in writing by the City in advance and shall protect the City, its officials, officers, employees, agents and volunteers, in the same manner and to the same extent as they would have been protected had the policy or policies not contained a deductible or self-insured retention.

7-4.6 Primary and Non-Contributing Insurance.

All policies of Commercial General Liability Insurance and Automobile Liability Insurance shall be primary and any other insurance, deductible, or self-insurance maintained by the City, its officials, officers, employees, agents or volunteers, shall not contribute with this primary insurance. Policies shall contain or be endorsed to contain such provisions.

7-4.7 Waiver of Subrogation.

All policies of Commercial General Liability and Automobile Liability Insurance shall contain or be endorsed to waive subrogation against the City, its officials, officers, employees, agents and volunteers, or shall specifically allow Contractor or others providing insurance evidence in compliance with the requirements set forth in this section to waive their right to recovery prior to a loss. Contractor hereby agrees to waive its own right of recovery against the City, its officials,

officers, employees, agents and volunteers, and Contractor hereby agrees to require similar written express waivers and insurance clauses from each of its subcontractors.

7-4.8 Evidence of Coverage.

Concurrently with the execution of the Agreement, Contractor shall deliver certificates of insurance together with original endorsements affecting each of the insurance policies required by this section. Required insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the City for written approval. The certificates of insurance and original endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf. At least fifteen (15) days prior to the expiration of any such policy, evidence of insurance showing that such insurance coverage has been renewed or extended shall be filed with the City. If such coverage is cancelled or reduced and not replaced immediately so as to avoid a lapse in the required coverage, Contractor shall, within ten (10) days after receipt of written notice of such cancellation or reduction of coverage, file with the City evidence of insurance showing that the required insurance has been reinstated or has been provided through another insurance company or companies. Contractor shall promptly furnish, at City's request, copies of actual policies including all declaration pages, endorsements, exclusions and any other policy documents City requires to verify coverage.

7-4.9 Requirements Not Limiting.

Requirement of specific coverage or minimum limits contained in this section are not intended as a limitation on coverage, limits, or other requirements, or a waiver of any coverage normally provided by any insurance. Nothing in this section shall be construed as limiting in any way the indemnification provision contained in this Agreement, or the extent to which Contractor may be held responsible for payments of damages to persons or property.

7-4.10 Enforcement of Agreement (Non-Estoppel).

Contractor acknowledges and agrees that actual or alleged failure on the part of the City to inform Contractor of any non-compliance with any of the insurance requirements set forth in this section imposes no additional obligation on the City nor does it waive any rights hereunder.

7-4.11 Insurance for Subcontractors.

Contractor shall either: (1) include all subcontractors engaged in any work or services for Contractor relating to this Agreement as additional named insureds under the Contractor's insurance policies; or (2) Contractor shall be responsible for causing its subcontractors to procure and maintain the appropriate insurance in compliance with the terms of the insurance requirements set forth in this section, including adding the City, its officials, officers, employees, agents and volunteers, as additional insureds to their respective policies. All policies of Commercial General Liability Insurance provided by Contractor's subcontractors performing any work or services related to this Agreement shall be endorsed to name the City, its officials, officers, employees, agents and volunteers, as additional insureds. Contractor shall not allow any subcontractor to commence any work or services relating to this Agreement unless and until it has provided evidence satisfactory to City that the subcontractor has secured all insurance required under this section.

7-4.12 Other Insurance Requirements.

The following terms and conditions shall apply to the insurance policies required of Contractor pursuant to this Agreement:

A. Contractor shall provide immediate written notice to City if (1) any of the insurance policies required herein are terminated, cancelled or suspended, (2) the limits of any of the insurance coverages required herein are reduced, or (3) the deductible or self-insured retention is increased.

B. All insurance coverage and limits provided by Contractor and available or applicable to this Agreement are intended to apply to each insured, including additional insureds, against whom a claim is made or suit is brought to the full extent of the policies. Nothing contained in this Agreement or any other agreement relating to the City or its operations shall limit the application of such insurance coverage.

C. None of the insurance coverages required herein will be in compliance with the requirements of this section if they include any limiting endorsement which substantially impairs the coverages set forth herein (e.g., elimination of contractual liability or reduction of discovery period), unless the endorsement has first been submitted to the City and approved in writing.

D. Certificates of insurance will not be accepted in lieu of required endorsements, and submittal of certificates without required endorsements may delay commencement of the project. It is Contractor's obligation to ensure timely compliance with all insurance submittal requirements as provided herein.

E. Contractor agrees to ensure that subcontractors, if any, and any other parties involved with the project who are brought onto or involved in the project by Contractor, provide the same minimum insurance coverage required of Contractor. Contractor agrees to monitor and review all such coverage and assumes all responsibility for ensuring that such coverage is provided in conformity with the requirements of this section. Contractor agrees that upon request, all agreements with subcontractors and others engaged in the project will be submitted to the City for review.

F. Contractor agrees to provide immediate written notice to City of any claim, demand or loss against Contractor arising out of the work or services performed under this Agreement and for any other claim, demand or loss which may reduce the insurance available to pay claims, demands or losses arising out of this Agreement.

7-4.13 Contractor's Liability; City Not Liable; Claims Resolution

A. Contractor's liability. The Contractor shall be responsible for any loss or damage that may occur to

- The work or any part thereof;
- Any of the materials or other things used or employed in performing the work;
- Any injury to any person or persons, either workers or the public;
- Any damage to property resulting from any cause which might have been prevented by the Contractor, including defects or obstructions at any time before completion of the work and its final acceptance.

B. City ordered precautions. If, in the opinion of the City Engineer, the precautions taken by Contractor are not safe or adequate at any time during the term of the Contract, he may order the Contractor to take further precautions, and if the Contractor shall fail to do so, the City Engineer may order the work done by others and charge the Contractor for the cost thereof, such cost to be deducted from any moneys due or becoming due the Contractor. Failure of the City Engineer to order such additional precautions, however, shall not relieve the Contractor from his full responsibility for public safety.

C. City not liable. The City shall not be answerable or accountable in any manner, for any loss or damage that may occur to any of the following from any cause which might have been prevented by the Contractor:

- The work or any part thereof;
- Any of the materials or other things used or employed in performing the work;
- Any injury to any person or persons, either workers or the public;
- Any damage to property.

D. Claims Resolution. From time to time during the period of this contract, the City and/or the Contractor may be served with claims, as a result of alleged conduct by Contractor. The following procedures shall be followed by City and Contractor:

For claims received by Contractor:

(1) Contractor shall provide City on a monthly basis details regarding any claim for damages to persons or property, including, date claim made, date of alleged damages, type of damages, alleged cause of damages and, as claims are resolved, details regarding Contractor's denial or payment of such claim and the reasons for denial or payment.

(2) Contractor shall resolve or deny any claim received within thirty (30) days of receipt. If Contractor is unable to resolve a claim within the thirty (30) days set forth above, it shall, prior to the expiration of the thirty (30) days request and extension in writing from the City.

For claims received by City:

(1) City shall process any claims received pursuant to Chapter 1.04 (Claims and Demands) of the Rancho Santa Margarita Municipal Code.

(2) If after investigation of the claim, the City determines the Contractor is liable under this Contract, City shall tender the claim to the Contractor for proper handling and resolution.

E. Retention of Claimed Damages by City. The City may retain so much of the money due the Contractor under and by virtue of the Contract as shall be considered necessary by the City until disposition has been made of such suits or claims for damages aforesaid.

7-5 PERMITS.

Prior to the start of any work, the Contractor shall take out the applicable City and State permits and make arrangements for City and State inspections. Requests for inspections shall be made

to the City at least 24 hours in advance of need. The Contractor and all subcontractors shall each obtain any and all other permits, licenses, inspections, certificates, or authorizations required by any governing body or public utility. Payment for this work shall be included in the bid items of work and no additional compensation will be allowed. The City will waive the usual City encroachment permit fees. **The City's no-fee Encroachment Permit Application is included in Appendix F.**

Further, Contractor shall ensure that its employees, agents, contractors, and subcontractors conduct themselves in compliance with such laws and licensure requirements including, without limitation, compliance with laws applicable to nondiscrimination, sexual harassment, and ethical behavior throughout the duration of the Contract. Contractor shall not retain or employ an unlicensed subcontractor to perform work pursuant to this Contract. Contractor shall notify the City immediately and in writing of its employees', agents', contractors' or subcontractors' inability to obtain or maintain, irrespective of the pendency of any appeal, any such licenses, permits, approvals, certificate, waivers, and exemptions that may be required. Such inability shall be cause for termination of this Contract.

7-7 COOPERATION AND COLLATERAL WORK.

The Contractor is advised as to the possibility of other construction projects within the proposed construction zone by the City, other governing agencies or private enterprises. In the event of such projects, the Contractor shall coordinate with the applicable parties as to the extent of any time required to complete their work and shall schedule its work and conduct its operations so as to permit access and time as required for the concurrent work. The Contractor shall immediately notify the City Engineer in the event of a delay in scheduling caused solely by this concurrent work. Payment for the above, if any, shall be deemed as included in the items of work as shown on the proposal bid sheet and no additional compensation will be allowed.

7-8 PROJECT SITE MAINTENANCE.

7-8.1 Cleanup and Dust Control.

The Contractor shall keep adjacent properties clean and free of rubbish and debris in a timely manner as necessary and/or as directed by the Engineer.

7-10.4 Safety.

7-10.4.2 Safety Orders.

7-10.4.2.1 General. [Add the following to this section]:

The Contractor shall comply with the provisions of any City ordinances or regulations regarding requirements for the protection of excavations and the nature of such protection.

In accordance with Section 6500 of the Labor Code, the Contractor is required to obtain a permit from the Division of Industrial Safety for any trench or excavation which is five feet or more in depth and into which a person is required to descent.

Prior to beginning of excavations requiring shoring, the Contractor shall designate in writing to the Engineer someone whose responsibility it is to supervise the project safety measures and

someone whose responsibility it is to supervise the installation and removal of sheeting, shoring and bracing.

In addition to shoring the excavations in accordance with the minimum requirements of Industrial Safety Orders, it shall be the Contractor's responsibility to provide any and all additional shoring required to support the sides of the excavation against the effects of load which may exceed those desired by using the criteria set forth in the Industrial Safety Orders. The Contractor shall be solely responsible for any damages which may result from his failure to provide adequate shoring of the excavation under any and all of the conditions of loading which may exist or which may arise during construction of the project.

In accordance with Section 7104 of the Public Contract Code, any public works contract which involves excavations that extend deeper than four feet below the surface shall provide as follows:

- I. That the Contractor shall promptly, and before the following conditions are disturbed, notify the local public entity, in writing, of any:
 - A. Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, which is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.
 - B. Subsurface or latent physical conditions at the site differing from those indicated by information about the site made available to bidders prior to the deadline for submitting bids.
 - C. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally as inherent in work of the character provided for in the contract.
- II. The local public entity shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the work shall issue a change order under the procedures described in the contract.
- III. That, in the event that a dispute arises between City and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the work, the Contractor shall not be excused from any scheduled completion date provided for by the contract, but shall proceed with all work to be performed under the contract. The Contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

7-10.6 Storage of Equipment and Materials in Public Streets. [Add this section]:

The Contractor is required to, at his own expense, maintain and operate a work and storage area outside of the public right-of-way. In such case the Contractor shall submit to City written authorization from the owners of the subject property prior to occupation. Occupation of site without written authorization shall be grounds for immediate suspension of work. Location of site to be approved by City. Condition and operation of yard shall conform to these specifications. The

Contractor shall assume full responsibility for all damage to the site resulting from his operations and shall repair and/or replace same, at his own expense, to the satisfaction of the owner of the subject property. The Contractor shall vacate site and return it to pre-project condition within five (5) working days following application for Notice of Completion. The Contractor shall obtain a written release from the property owner accepting the condition of the vacated site and releasing the Contractor from any further clean-up or restoration work and shall submit a copy of such release to City. The Notice of Completion will not be issued until said release is submitted.

Contractor shall not store any material or equipment within the public right-of-way outside working hours. The City will remove any improperly stored material or equipment and will deduct any costs incurred from payments due the Contractor.

7-15 PAYROLL RECORDS. [Add this section]:

Verified payroll records, as described in Labor Code Section 1776, shall be submitted to the CITY by the tenth day of each month. Progress payments will be withheld pending receipt of any outstanding reports.

SECTION 9 - MEASUREMENT AND PAYMENT

9-3 PAYMENT.

9-3.2 Partial and Final Payment.

The closure date for periodic progress payments will be five (5) working days prior to the first Monday of each month. The final progress payment will not be released until the Contractor returns the control set of Plans and Specifications showing the as-constructed conditions. The City shall withhold from the final payment \$15,000 in the event that the Contractor fails to return the control set of Plans and Specifications showing the as-constructed conditions.

SUBSTITUTION OF SECURITIES

In conformance with Public Contract Code Section 22300, the Contractor may substitute securities for any monies withheld by the CITY to ensure performance under the Contract Agreement.

At the request and expense of the Contractor, the Contractor has the option to deposit securities, which have been approved by the CITY, and deposited with a State or Federally chartered bank as the escrow agent. Said securities will be used as a substitute for retention earnings required to be withheld by the CITY, pursuant to the construction contract. The Contractor shall be the beneficial owner of any securities substituted for moneys withheld and shall receive interest thereon. Said securities shall have no obligation to any other construction contract for substitution of securities in lieu of retention. When the Contractor deposits the CITY approved securities with the escrow agent, the escrow agent shall notify the CITY within 10 calendar days of the deposit. Said securities shall be evaluated quarterly by the escrow agent to verify the current market value. If the current market value of said securities falls below the required amount, the escrow agent shall notify the Contractor and require additional securities and/or cash to be submitted for CITY approval, and be held in the escrow account to meet the Contractor's obligations. Said securities shall be held by the escrow agent until such time as the escrow agent receives written notification from the CITY that the Contractor has satisfactorily completed his contract obligations.

Alternatively, the Contractor may request and the City shall make payment of retention earned directly to the escrow agent at the expense of the Contractor. The Contractor may direct the investment of the payment into securities and the Contractor shall receive the interest earned on the investments upon the same terms provided for securities deposited by the Contractor.

The type of securities deposited and the method of release shall be approved by the City Attorney's office.

The full five percent (5%) retention will be deducted from all payments. The City shall hold retainage from the Contractor and shall make prompt and regular incremental acceptances of portions, as determined by the City, of the Contract work, and pay retainage to the Contractor based on these acceptances. The Contractor, or subcontractor, shall return all monies withheld in retention from a subcontractor within 30 days after receiving payment for work satisfactorily completed and accepted including incremental acceptances of portions of the Contract work by the City. Federal law (49 CFR Section 26.29) requires that any delay or postponement of payment over 30 days may take place only for good cause and with the City's prior written approval. Any violation of this provision shall subject the violating Contractor or subcontractor to the penalties, sanctions and other remedies specified in Section 7108.5 of the Business and Professions Code. These requirements 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 subcontract performance, or noncompliance by a subcontractor.

The final retention will be authorized for payment thirty-five (35) days after the date of recordation of the Notice of Completion. The City may withhold from release of the final retention amounts authorized under Public Contracts Code Section 7107 and/or 125% of amounts identified in any Stop Notices received by the City.

9-3.3 Delivered Materials.

Materials and equipment delivered but not incorporated into the work shall not be included in the estimate for progress payment.

9-3.4 Mobilization.

Mobilization shall consist of preparatory work and operations, including but not limited to those necessary for the movement of personnel, equipment, supplies, and incidentals to the project site; for the establishment of all offices, buildings and other facilities necessary for the work on this project; and for all other work and operations which must be performed or cost incurred prior to beginning work on the various contract items on the project site. Mobilization is deemed to include all aspects of mobilization and de-mobilization work occurring during the life of the project for any reason.

Full compensation for mobilization shall be included in the contract lump sum price bid for **Mobilization** and shall include full compensation for all costs incurred by the Contractor for doing all the work involved in mobilization as specified herein, and no additional compensation will be allowed. Mobilization shall not exceed 5% of the entire bid, excluding mobilization and as shown in the Proposal Bid Sheet.

TECHNICAL SPECIFICATIONS

FOR

FEDERAL PROJECT. NO.: **BP MPL-5478(013)**

DISTRICT-COUNTY-ROUTE-KP: **12-ORA-0-RSM**

DESCRIPTION: **SANTA MARGARITA PARKWAY BRIDGE
HINGE REPAIR PROJECT FROM SAN
SEBASTIAN TO SR-241**

KEY STRUCTURE NAME: **SANTA MARGARITA PARKWAY BRIDGE
(BRIDGE NO. 55C0520L)**

STRUCTURE SPECIFICATION WRITER: **NCM ENGINEERING CORPORATION**

PHONE: **(949) 294-7358**

The attached technical specifications are for your use in preparing or coordinating the contract documents for the above project.

08/28/19

The special provisions contained herein have been prepared by or under the direction of the following Registered Persons.

STRUCTURES



REGISTERED CIVIL ENGINEER



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ATTACHMENT

- ATTACHMENT A. REVISED STANDARD SPECIFICATIONS
- ATTACHMENT B. ENVIRONMENTAL PERMITS AND REPORTS
- ATTACHMENT C. UTILITIES
- ATTACHMENT D. REFERENCED STANDARD PLANS

STANDARD PLANS LIST

The standard plan sheets applicable to this Contract include those listed below. The applicable revised standard plans (RSPs) listed below are included in the project plans.

ABBREVIATIONS, LINES, SYMBOLS, AND LEGEND

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)
	PAVEMENT MARKERS, TRAFFIC LINES, AND PAVEMENT MARKINGS
A24D	Pavement Markings - Words
	TEMPORARY CRASH CUSHIONS, RAILING AND TRAFFIC SCREEN
T1A	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)
	TEMPORARY WATER POLLUTION CONTROL
T65	Temporary Water Pollution Control Details [Temporary Fence (Type ESA)]
	BRIDGE DETAILS
B0-5	Bridge Details
B0-13	Bridge Details
	JOINT SEALS
B6-21	Joint Seals (Maximum Movement Rating = 2")
	CHAIN LINK RAILING, CABLE RAILING AND TUBULAR HAND RAILING
RSP B11-51	Tubular Handrailing
	BRIDGE CONCRETE BARRIERS
RSP B11-54	Concrete Barrier Type 26
	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

Limited access to the ESA is allowed for Contractor Supplied Biologist. Notify the Engineer 5 business days or less before the planned entry date. Any other access to the ESA is prohibited.

Add to the 1st paragraph of section 14-6.03A:

This project is within or near habitat for the regulated species shown in the following table:

Regulated Species
Arroyo Toad (ARTO)
Coastal California Gnatcatcher (CAGN)
Least Bell's Vireo (LBVI)
Southwestern Willow Flycatcher (SWFL)

Replace item 1 in the 2nd paragraph of section 14-6.03A with:

1. Stop all work within a 500-foot radius of the discovery.

This section includes specifications for protecting species or their habitat regulated or not.

The measures presented below are directly taken from the Environmental Commitments Record (ECR) for the project and will ensure that no impacts occur to natural resources regardless of regulatory status. The following measures are avoidance and/or minimization measures to reduce impacts to species:

- 1) **BIO-2.** A biologist must monitor all vegetation clearing and any other construction activities associated with falsework installation and removal.
- 2) **BIO-3.** To the extent feasible, native vegetation must be trimmed at the surface leaving roots intact. Following completion of project activities, all areas that supported natural communities must be recontoured to pre-project conditions and revegetated with native plant species found in the existing community.
- 3) **BIO-4.** A qualified biologist must identify and ensure that the limits of alluvial scrub are fenced prior to the beginning of ground disturbing activities to protect it from disturbance.
- 4) **BIO-7.** Weed control must be implemented to minimize the importation of nonnative plant material during and after construction. Eradication strategies must be implemented should an invasion of nonnative plant species occur.
- 5) **BIO-8.** While the removal of mature trees is not anticipated, if any trees larger than 6" diameter at breast height (dbh) within riparian/riverine areas are removed or damaged due to project activities, replacement trees must be planted in-kind within the temporarily disturbed areas at a ratio of 5:1 one-gallon trees or 3:1 five-gallon trees.
- 6) **BIO-9.** Should construction be initiated during ARTO breeding season (March 15 through July 1) clearance surveys must be conducted immediately prior to ground disturbance.
- 7) **BIO-10.** Should construction be initiated during CAGN breeding season (February 15 through August 31) three pre-construction nesting surveys must be conducted within 7 days of construction. Should breeding CAGN be identified within 500 feet of the project, noise abatement measures must be implemented as needed to maintain noise levels of less than 60 dBA Leq at the nest location.
- 8) **BIO-11.** Should construction be initiated during LBVI breeding season (March 15 through September 15) three pre-construction nesting surveys must be conducted within 7 days of construction. Should breeding LBVI be identified within 500 feet of the project, noise abatement measures must be implemented as needed to maintain noise levels of less than 60 dBA Leq at the nest location.
- 9) **BIO-12.** Should construction be initiated during SWFL breeding season (May 15 through September 15) three pre-construction nesting surveys must be conducted within 7 days of construction. Should breeding SWFL be identified within 500 feet of the project, noise

abatement measures must be implemented as needed to maintain noise levels of less than 60 dBA Leq at the nest location.

- 10) **BIO-15.** To avoid direct mortality to bats roosting in portions of the SMP Bridge subject to project impacts, prior to the start of construction activities, the hinge must have temporary bat exclusion devices installed under the supervision of a qualified bat biologist. Exclusion must be conducted during the fall (September or October) to avoid trapping flightless young inside during the summer months or hibernating individuals during the winter. Exclusion efforts must be monitored and continued for the duration of project activities.
- 11) **BIO-16.** An alternative roosting structure(s) must be constructed and installed prior to installation of exclusion devices.
- 12) **BIO-17.** All work conducted on bridges must take place during the day to the extent feasible. If this is not feasible, impacts must be minimized by directing lighting and noise away from night roosting areas as much as possible.
- 13) **BIO-18.** Riparian vegetation adjacent to bat roosting sites must be kept intact to the extent feasible. Removal of mature trees, if necessary, must be conducted outside of the maternity season (May 1 through August 31).
- 14) **BIO-20.** After construction, affected areas adjacent to native vegetation must be revegetated with plant species approved by the Caltrans District Biologist that are native to the vicinity.
- 15) **BIO-21.** After construction, all revegetated areas must avoid the use of species listed in the Cal-IPC California Invasive Plant Inventory that have a high or moderate rating.
- 16) **BIO-22.** A plant establishment period must be developed for revegetated areas during final design. A plant establishment period is a duration of time that allows newly installed plant material to reach a state of maturity, requiring minimal ongoing maintenance for survival. A plant establishment period typically includes the removal of litter and trash, weeding, water application, irrigation repair, replacement of plant material that dies, and other activities required to ensure the long-term survival of plant material.
- 17) **BIO-23.** Any native or exotic vegetation removal or tree trimming activities must occur outside of the nesting season (February 15 through August 31). In the event that vegetation clearing is necessary during the nesting season, a qualified biologist must conduct a preconstruction survey to identify the locations of nests. Should nesting birds be found, an exclusionary buffer must be established by the biologist. This buffer must be clearly marked in the field by construction personnel under the guidance of the biologist, and construction or clearing must not be conducted in this zone until the biologist determines that the young have fledged or the nest is no longer active.
- 18) **BIO-24.** In order to avoid impacts to bridge- and crevice-nesting birds (i.e., swifts and swallows), all work on existing bridges with potential habitat that is conducted between February 15 and October 31 must include the removal of all bird nests prior to February 1 of that year to construction under the guidance and observation of a qualified biologist. Removal of swallow nests that are under construction must be repeated as frequently as necessary to prevent nest completion or until a nest exclusion device is installed (such as netting or a similar mechanism that keeps birds from building nests). Nest removal and exclusion device installation must be monitored by a qualified biologist. Such exclusion efforts must be continued to keep the structures free of swallows until September or the completion of construction. All nest exclusion techniques must be coordinated between the Caltrans District Biologist and the resource agencies.

Replace the 2nd paragraph of section 14-6.03B with:

The City anticipates nesting or attempted nesting by migratory and nongame birds from February 15 to September 15.

Replace item 1 in the list in the 6th paragraph of section 14-6.03B with:

1. Stop all work within a 500-foot radius of the discovery.

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.

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 an incident report within 24 hours of the incident.

The incident report must include:

1. Description of any take incident
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 a final monitoring report no later than 20 days after completion of the project. 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

Add to end of section 14-6.03 :**14-6.03E ALTERNATIVE BAT HOUSING**

You must install alternative bat housing at locations as shown on the plans prior to erecting temporary exclusionary devices at the hinge which are subject to resource agencies approval.

The exclusionary device (bridge) must be installed (using hard surface materials such as plywood or plexiglass, flexible materials such as vinyl, or a similar mechanism that keeps bats from entering the hinge) in the months of September or October and in the evenings after bats have departed the roost to forage and prior to initiation of construction and are subject to resource agencies approval.

Wood must comply with section 57-2.

Hardware must comply with section 75.

Replace section 14-6.05 with:**14-06.05 Habit Restoration Activities****14-6.05A General**

The work includes all services, labor, materials, tools, equipment, transportation, and facilities necessary to perform the work, including all incidental work necessary to make it complete. The work must be carried out in accordance with the Habitat Restoration Plan.

Habitat Restoration must be carried out in accordance with the Habitat Restoration Plan. Habitat restoration must be completed by a qualified firm with experience in habitat restoration, within the region of the project.

14-6.05A(1) Definitions

All areas indicated as “Environmentally Sensitive Areas” or “ESA” on the plans or specifications are environmentally sensitive areas and are not allowed to be impacted. Any disturbance, including foot traffic, within these areas is prohibited unless specifically indicated otherwise herein, on the plans, or in writing by the City or Engineer.

The “Biologist” or “Project Biologist” is a qualified Biologist or Habitat Restoration Specialist that is experienced in native habitat restoration and regulatory agency permit compliance.

The term “Natural Disaster” refers to environmental events that cannot be reasonably controlled through human intervention such as flooding, fire, landslides, and earthquakes. Temporary and/or prolonged drought and erosion can be controlled by the Contractor, and therefore, are not considered a “Natural Disaster.”

The term “weed” “non-native” and “exotic species” means any plant not native to the region or appropriate to the project site, as determined by the Biologist.

Within these specifications the term “Limit of Work” refers to areas within the project limit of work boundary as shown on the plans. Environmentally sensitive areas occur adjacent to the limit of work in many instances and must not be impacted.

Within these specifications “habitat creation,” “habitat establishment”, “habitat restoration” and or “restoration and enhancement” may collectively be referred to as “revegetation” or “restoration.”

The “Resource Agencies” or “Regulatory Agencies” refers to any local, state or federal agency that issues permits and, or enforces permits related to the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), the Federal Clean Water Act, or the Federal Endangered Species Act. The Regulatory Agencies for this project include, but are not limited to the following: The U.S. Army Corps of Engineers (Corps), the California Department of Fish & Wildlife (CDFW), the Regional Water Quality Control Board (RWCQB), the U.S. Fish & Wildlife Service (FWS), and OC Parks.

“Migratory Bird Nesting Season” refers to the period from February 15th through September 15th of each year, unless indicated differently in the Regulatory Agency permits, which take precedence.

14-6.05A(2) Submittals**14-6.05A(2)(a) Product Data:**

The Contractor must submit a typewritten list and cut sheets of all proposed materials to the Biologist for approval prior to ordering. Materials list must include the following: seeds, hydroseed slurry components, backfill soil, soil amendments, mulch, fence materials, plant/root protection devices, any proposed pesticides, and all other materials indicated herein.

14-6.05A(2)(b) Seed Bag Certificates:

Seed bag certificates that indicate weight of seed, seed percent purity, percent germination and seed origins must be provided to the Biologist at least 72 hours prior to hydroseeding. The Biologist may at any time take and analyze samples of materials for conformity to these specifications.

14-6.05A(2)(c) Material Invoices:

Material invoices must be submitted for all container plants, seed, hydroseed slurry components, soil amendments, cuttings and plant protection devices. Invoices must indicate materials delivered, date of delivery, quantity of each item, source of materials and delivery location. Invoices do not need to show prices of materials. Prices may be blacked out.

14-6.05A(3) Rejection and Substitution

All materials not conforming to the requirements specified herein must be considered defective and such materials, whether in place or not, will be rejected and must be immediately removed from the site and replaced with acceptable materials at the Contractor's expense.

The Contractor must remove rejected materials from the site immediately. The Contractor must pay for the removal and replacement cost of materials not in accordance with the plans or specifications.

If the Contractor proposes to use materials, equipment or methods other than those specified in the specifications or shown on the plans the Contractor must submit in writing, to the Engineer and Biologist, a request to deviate from the plans/specifications. Samples of the materials, equipment or methods must accompany the request to assist in the evaluation of the proposed substitution. The burden of proof must be borne by the Contractor. All substitutions are required to be approved by the Engineer and Biologist in writing.

14-6.05A(4) Quality Assurance

14-6.05A(4)(a) Qualifications:

All herbicide treatments must be supervised by a licensed Pest Control Adviser and must be applied by an individual with a Qualified Applicator License.

Project foremen must be able to read and interpret the plans and specifications and be able to identify California native plants and weeds.

14-6.05A(4)(b) Training & Safety Requirements and Restrictions:

Work must be performed in accordance with the best standards of practice relating to various trades under continuous supervision of a qualified foreman, capable of interpreting plans and specifications.

All construction personnel must stay within the project property boundary and Limit of Work at all times. Any unauthorized impacts environmentally sensitive areas, improvements or areas beyond the Limit of Work by the Contractor or any of the Contractor's employees or subcontractors must be repaired, mitigated and paid for by the Contractor.

Access to the work areas must be via roads and paths flagged and pre-approved by the Engineer and Biologist.

All construction trucks and equipment including mowers, chainsaws, string trimmers, and similar must have firefighting equipment on board or within the immediate work area, including a spade shovel and 3 gallon (minimum) pressurized fire extinguisher.

Contractor must notify Engineer and Biologist 72 hours days in advance of the area(s) they plan to work in and the time that work will be performed. Contractor and contractor's employees and any subcontractors must attend a pre-construction meeting with the Biologist prior to beginning work.

All persons working within the project area must wear appropriate protective gear including a hard hat, orange vest, safety glasses and work boots. Other safety items may be required by the Engineer depending on the type of work being performed.

14-6.05A(5) Equipment Restrictions

Only equipment that is appropriately sized such as to avoid impacts to native vegetation not slated for impacts may be used. A list of proposed equipment and access routes must be submitted to the Engineer and Biologist prior to beginning work. All equipment must be able to fit on an 8-foot-wide access path. All equipment must have spark arrestors and mufflers. Regular sized work trucks and vehicles may be used on the designated access/maintenance paths within the project boundary.

14-6.0A(6) County and Regulatory Agency Requirements

Contractor must work during regular work days and hours for construction work in accordance with the City of Rancho Santa Margarita's requirements and as indicated in the Contract documents.

Equipment that produces noise levels above the level indicated in the Regulatory Agency Permits must not be used in areas within or adjacent to sensitive habitats during the Migratory Bird Nesting Season (February 15th—September 15th or as outlined in Regulatory Agency Permits) unless a pre-construction nesting bird survey has confirmed that least Bell's vireo and California gnatcatcher are not present. Adjacent means within 500 feet, or as indicated in the Regulatory Agency Permits. Noise must be measured from the limit of work nearest to the sensitive habitat area/nest, or as required by the Regulatory Agency Permits.

Vegetation clearing, cutting and trimming (including non-native vegetation) must not occur during the migratory bird nesting season unless a nesting bird survey is conducted and the work is pre-approved by the Regulatory Agencies, Project Biologist, and Engineer.

14.60A(7) Storage and Protection

All materials must be stored in areas at least 50 feet from wetland areas and away from areas prone to flow, or where rain may wash them into wetlands or ESA areas, including the pond.

Seed must be stored in a cool, dry place, protected from heat, moisture, weather, rodents, theft and other conditions that would damage or impair the viability of the seed. Seed must be stored for no longer than 60 days.

The Contractor must store container plants, if necessary, in an area with adequate light/shade and water resources for each species. Contractor must protect container plants from theft, vandalism, wind, heat, excessive sun/shade, drought, floods, and other conditions that would damage or impair the health and viability of the plants.

Plants must be stored on site for no longer than thirty (30) days. Contractor must water and maintain plants in a healthy, pest and disease free condition while stored onsite. Any plants that begin to lack vigor or that root into the ground while stored onsite may be rejected by the Biologist or Engineer and must be replaced at the Contractor's expense. Plants left on site for more than thirty (30) calendar days may be considered defective. Defective plants must be replaced in kind, quantity, and size, by the Contractor, at the Contractor's expense.

Bags of gypsum or other soil amendments and conditioners must be stored in locked metal containers that protect them from moisture, rain, wind, excessive heat, vandalism and theft.

Bulk soil amendments must have silt fence placed all around the base of it if, during the course of construction, the National Weather Service, and or National Oceanic and Atmospheric Administration (NOAA) predicts a 50% or greater chance of a rainfall event in the region. Silt fence must be installed per California Stormwater Quality Association (CASQA) standard details.

The Contractor must assume complete responsibility for all materials stored on site.

Contractor must store all materials in accordance with the Regulatory Agency permits.

14-6.05A(8) Site Conditions

Planting and seeding work must be performed during periods when weather and soil conditions are suitable in accordance with locally-accepted horticultural practices. In cases of unseasonable weather, i.e. rainfall, overland flows, saturated or muddy soils, Santa Ana winds, etc., work must be delayed until weather and soil conditions return to normal, as determined by the Biologist.

14-6.05A(8)(a) Existing Conditions:

1. Contractor must locate, identify, and clearly flag all existing utilities prior to beginning work. Plans are not to be used to locate existing utilities.
2. Extreme care should be exercised at all times by the Contractor to avoid any existing utilities and improvements. Contractor must call Dig Alert at least two weeks prior to beginning work and have all existing utilities identified and clearly marked in the field prior to beginning work. Contractor is responsible for expenses incurred in the repair of damages to utilities or improvements caused by his/her operations. Any damages must be repaired immediately.
3. All scaled dimensions on the drawing are approximate. Contractor must check and verify all dimensions, quantities, and grade elevations prior to beginning work. Contractor must report any discrepancies to the Biologist and Engineer immediately.
4. Prior to commencement of work, the Contractor must field verify all access roads, paths and points of entry with the Engineer and Biologist.

14-6.05A(9) Sequencing and Scheduling

Work must begin upon issuance of Notice to Proceed from the Engineer and as indicated in these specifications, Habitat Enhancement Plan, and the accompanying construction plans. Contractor must coordinate and schedule plant, seed and material deliveries to the site as necessary. Materials seed must be stored as specified herein.

Trimming, cutting, and or clearing of native and non-native vegetation must not occur during the Migratory Bird Nesting Season (February 15th—September 15th, or as outlined in Regulatory Agency Permits), unless a bird nesting survey has been conducted by a qualified wildlife biologist and approval granted by the Regulatory Agencies.

Work must be completed by the Contractor within the agreed upon time frame. The construction schedule must be submitted to the Engineer and Biologist for approval.

Contractor must schedule and attend a pre-construction site meeting prior to beginning site work. Contractor must notify the Engineer and Biologist at least three (3) working days in advance of the desired meeting date and time. Contractor must have all foremen, equipment operators, crews, and subcontractors present at the preconstruction meeting. A “contractor environmental education session” regarding environmental conditions and restrictions must be conducted by the Biologist as a part of the pre-construction meeting. Each person must sign the “sign-in” sheet to document that environmental training has been attended by all of the Contractor’s employees and subcontractors that will work on the project.

Restoration of topography to pre-project conditions must be completed and approved by the Engineer and Biologist prior to beginning planting and seeding work.

The project site must be maintained by the Contractor for 120 continuous days following final acceptance of all installation work. Maintenance requirements are described in 14-6.05C(5) “Maintenance & Warranty Period” and 14-6.05C(5) “Performance Standards During Maintenance & Warranty Period.”

14-6.05A(10) Site Observation Visits

The Contractor must schedule and attend site observations with the Engineer and Biologist at milestones during project implementation. Contractor must provide notification at least three (3) working days in advance of milestone meetings. Scheduled site observation visits will be required at the following milestones/stages of the work:

1. Contractor will attend a preconstruction meeting and environmental education training session before beginning work. Contractor must have all of his/her employees including subcontractors present.
2. Contractor must have topography restoration approved by the Engineer and Biologist prior to initiating planting or seeding work.
3. Should container plants be required, when the project work described in Item 2 above is approved by the Biologist, the Contractor must pin flag all of the proposed container plant locations. A different color pin flag must be used to represent each container species. The Biologist will review the pin flagged planting locations and make adjustments as necessary based on site conditions. Contractor

must have the pin-flagged layout reviewed and approved by the Biologist in writing prior to excavating planting holes.

4. Contractor must notify the Biologist of the plant delivery date and time. Biologist will review the plants upon delivery to the site to ensure the proper species are delivered in the proper quantities, and that they met the specified requirements.
5. Contractor must schedule a site review with the Biologist upon completion of planting work and prior to seeding.
6. Contractor must notify the Biologist three (3) days prior to seeding work. Contractor must ensure the Biologist is onsite during seeding activities and have the Biologist present during seed and slurry mixing and seed application. Failure to notify the Biologist may result in rejection of seeding work.
7. When planting, seeding, and all other specified work has been completed, the Contractor will schedule an installation walk-through with the Biologist and Engineer. The walk-through will determine if the project has been installed according to the contract documents.
8. During the Plant Maintenance and Warranty Period, the Contractor will schedule and attend site observation visits with the Biologist monthly. A punch list of any outstanding work items to be corrected will be made during these site visits. The Contractor will correct punch-list items within twenty-one (21) days.
9. At the completion of the Maintenance and Warranty Period, the Contractor will schedule and attend a final walk-through. The Contractor will be notified in writing by the City whether the contract has been fulfilled or if outstanding items need to be remedied prior to final acceptance and payment.

The Contractor or the Contractor's pre-authorized project foreperson must be on site at the time of each scheduled site observation visit. The Engineer will pre-authorize/approve the Contractor's project foreperson.

If the Contractor schedules a site observation visit with the Engineer or Biologist and the work to be observed has not been performed, the Engineer may charge the Contractor \$250.00 for each occurrence. This fee may be deducted from the final payment due to the Contractor.

14-6.05B Products

14-6.05B(1) Material Sources

Contractor must provide native seeds for the seed mix(es) from a reputable native seed supplier such as S&S Seeds in Carpinteria, CA, Anderson Seeds in Escondido, CA, Stover Seeds in Los Angeles, CA, or an equal approved alternate. Seeds must be in conformance with Figure 1 - Proposed Material List and these specifications. Ideally, seeds must be obtained from within the same watershed or County. If not feasible, then seeds must be from the southern California region no further north than Los Angeles, no further south than the Mexico border, and no further inland (east) than 60 miles from the Pacific Ocean. Contractor must submit documentation to the Biologist from the seed supplier verifying the origins of each seed species. The Biologist must approve of the seed source before the seed is purchased and applied.

The Contractor must provide native container plants indicated on the plans. Plants are in conformance with Figure 1 - Proposed Material List, these specifications and the plans. Plants will be purchased from a licensed native plant nursery such as Tree of Life Nursery in San Juan Capistrano or an equal approved alternate. Ideally, container plant propagules will originate from within the same watershed or County. If not feasible, then container plant propagules will have originated from the southern California region no further north than Los Angeles, no further south than the Mexico border, and no further inland than 30 miles from the Pacific Ocean. The Biologist will approve of the container stock source before the plants are purchased and planted.

14-6.05B(2) Soil Amendments

14-6.05B(2)(a) Backfill Mix

The backfill mix for all container plants must be 3 parts loose and friable native soil with all trash, debris, rocks, and clods over 1" diameter removed to 1 part Agri Service, Inc. ½" minus Humic Compost, or an approved alternate.

14-6.05B(2)(b) Mycorrhizae

RTi AM 120 Mycorrhizae (or an approved alternate) will be applied at the rate of 50 pounds per acre to all areas being imprinted.

14-6.05B(2)(c) Mulch

Mulch will be Agri Service, Inc. Forest Mulch, ½"-3" minus or an approved alternate. Mulch will be free of trash, debris and weed seed. It will be derived from vegetation sources and not construction or building debris.

14-6.05B(3) Seeds

Seeds will be the species indicated on the plans and be of the percent purity and germination indicated on the plans. Seeds will be from the limited region as specified herein. Contractor must increase seed quantity to compensate for seed not meeting the required percentages of purity/germination shown on the plans. Seed will be free of noxious weed seed as defined by the California Dept. of Food & Agriculture, and free of regulated noxious weeds as defined by the U.S. Dept. of Agriculture (USDA). Seeds must also be free of Cal-IPC weed seeds with High or Moderate listing, and must not contain mustard (Brassica spp.) or star-thistle (Centaurea spp.) seeds, see also "Submittals."

14-6.05B(4) Container Plants

Contractor must furnish container plants in quantities as shown on the plans. Plants must be of the species and size indicated in the drawings and in these specifications. Plants must be inspected by the Biologist upon delivery to the site.

1. Plants must be healthy, vigorous, free from disease, insect pests, weeds, and be typical for the species. They will have healthy, normal root systems, rooted out to their containers. Roots will be developed enough to hold root ball together under normal handling. Container plants will not be root-bound.
2. The Biologist will inspect plants upon delivery to the site. Plants not meeting these specifications may be rejected by the Biologist. Rejected plants will be replaced by the Contractor.
3. Vigorous, healthy well-proportioned plants are the intent of this specification. Plants that are "overgrown," or that are showing signs of decline, lack of vigor, or that are wilting will be subject to rejection. The size of the plants must correspond with that normally expected for species and variety of commercially available nursery stock, or as specified or indicated on the drawings.
4. Sizes of plant containers will be as stated in the plant palettes on the drawings. Container stock will be grown in round containers and sized as specified in the plant legend located on the plans.
5. Plants delivered to the site in a wilted condition may be rejected by the Biologist.
6. Plants that have been root pruned prior to delivery may be rejected by the Biologist, especially if the plants are wilted upon delivery to the site.
7. Container plants that have weeds present in their containers may be rejected by the Biologist. If invasive weeds are observed growing on the nursery grounds the container plants may be rejected.

14-6.05B(5) Container Plant Protection Cages

Plant and root protection cages will be constructed of chicken wire with ¾" mesh. Plant protection devices must be cylindrical and measure 36" tall by 12" diameter. Each cage must be staked to grade with two (2) 12" #3 rebar stakes. Root protection baskets must be constructed of chicken wire with ¾" mesh. Root baskets must have a bottom and measure 12" diameter x 10" tall.

14-6.05B(6) Seed Imprinting Mix

The seed imprinting mix will be as follows: 1) seed mix(es) as indicated in Section X, 2) mycorrhizae inoculum, 3) mulch seed topping composed of 1/2" minus, well composted, plant-based material. Mulch must not include construction or other recycled materials or debris. Seed topping will be free of viable weed seeds.

14-6.05B(7) Boundary Fencing

Protective fencing must be constructed of 5' long metal t-posts and 4' wide, U.V. stabilized orange construction "snow" fencing.

14-6.05B(8) Water

Irrigation water will be provided by the Contractor. Contractor must provide a temporary construction water meter and associated water.

14-6.05C Execution

14-6.05C(1) Examination

14-6.05C(1)(a) Verification of Conditions

1. All scaled dimensions on the plans are approximate. Before proceeding with any work, Contractor must carefully check and verify all dimensions, acreages, and quantities, and will immediately inform Engineer and Biologist of any discrepancies between the plans and specifications and actual site conditions. No work will be conducted where discrepancies occur until approval has been given by the Engineer.
2. All planting and seeding areas will be inspected and approved by the Biologist and Engineer prior to commencement of planting work to ensure it is in acceptable condition and that the environmental conditions are appropriate (i.e., soil is not too wet, etc.), and that the site is properly prepared (i.e., free of weeds, invasive, erosion problems, vegetative slash, and debris), and that the project staking/fencing is in place and any soil amending completed and the irrigation system installed and approved, per the irrigation plans and specifications.

14-6.05C(2) Preparation

14-6.05C(2)(a) Protection of Existing Improvements

Prior to excavation for planting, Contractor must locate all utility lines so proper precautions may be taken not to damage such improvements. Locating of existing utilities will be done at no additional cost. In the event of conflict between such utilities and plant locations, Contractor must promptly notify the Engineer and Biologist who will adjust/approve relocation of container plantings.

14-6.05C(2)(b) Boundary Surveying and Staking

Prior to beginning work the Contractor must have the limit of work/planting surveyed and staked by a licensed surveyor. Survey stakes will be placed at all angle points and no further than 50 feet apart.

14-6.05C(2)(c) Boundary Fencing

Protective Boundary fencing will be installed around sensitive habitat areas before commencing site preparation and planting work. Fencing will include 5' tall metal t-post set plumb at 12 feet on center. T-posts will be pounded 12" into grade. "snow" or "construction" fencing or pennant style flagging will be securely attached to the t-posts.

14-6.05C(2)(d) Site Access, Staging and Storage Areas

1. All access, staging and storage areas will be conducted within the confines of the project site, where shown on the plans and as indicated by the Biologist and Engineer. Contractor or his/her employees or subcontractors will not enter areas outside the Limit of Work.
2. Staging and storage areas will be located where shown on the plans and will be kept clean and neat at all times. Equipment may only be refueled and maintained at staging areas pre-approved by the Engineer/Biologist.

14-6.05C(2)(e) Weed Control

1. All perennial weeds and invasive species in the project planting and seeding areas will be sprayed with the appropriate, pre-approved herbicide. Once the herbicide has taken full effect, all weeds within the planting and seeding areas will be removed. All vegetative slash and debris will be raked, bagged, and removed from the site.
2. Any trash and debris found onsite will be removed by the Contractor and taken to the local landfill/recycling facility.

14-6.05C(2)(f) Site Preparation

1. All planting and seeding areas will be cleared of weeds, trash, debris, and erosion features. Compacted soils will be ripped or tilled in opposing directions to 8" depth, or at the direction of the Biologist.
2. All planting areas with 6:1 (run:rise) or gentler slopes, including flat areas will be ripped to 8" depth in two opposing directions, or at the direction of the Biologist. Additional ripping/tilling may be needed to ensure no clods larger than 4" on the long-axis remain.

14-6.05C(2)(g) Irrigation System

A temporary irrigation system is not proposed. Temporary irrigation will be provided by water truck as needed.

14-6.05C(3) Installation**14-6.05C(3)(a) Seed Imprinting**

1. The Biologist will be notified at least three (3) working days in advance of seed imprinting. No area will be seeded where weeds or erosion is present.
2. The seed imprinter must have ripping teeth in front of the imprinter wheel spaced no more than 8" apart that rip to 6" depth. If soil is heavily compacted, as determined by the Biologist, the site will be pre-ripped with a dozer with ripping teeth spaced no more than 10" apart. Heavily compacted soils will be ripped to 10" depth. All ripping will be performed parallel with site contours.
3. Imprint impressions will be V-shaped and four to six inches (4"-6") in depth. Faces of imprints must join to make an angle between sixty (60) and ninety (90) degrees. Length of each imprint will be 8"-12". Imprinting teeth will be arranged in alternating patterns with the ends of the teeth separated by 2" to discourage water channeling.
4. The long dimension of the imprint will be parallel with slope contours.
5. Imprinting must provide a raised soil ridge that prevents continuous movement of water between impressions.
6. 90% of all imprinted surfaces must bear quality impressions, apart from areas deemed unimprintable due to shallow soils, rocks, or other natural features.
7. A minimum of 80% of all impressions must reach full tooth depth (4"-6"), and must have smooth and firm soil on the impression surface area.
8. Imprinter must operate at a speed that allows full tooth penetration and dispersal of seed at the required rates (typically between 2 and 5 miles per hour).
9. The seed bin will be mounted above the roller and calibrated to disperse seed at the required rates as indicated on the drawings. Seed bin will be cleared of all residual seed prior to loading seed mix.
10. Mycorrhizal inoculum will be imprinted simultaneously with seed at a rate of fifty liters per acre.
11. Imprinted areas that are disturbed by container planting may be required to be reseeded with the same seed mix combined with dry, weed-free masonry sand or inert bran, and applied via a calibrated hand or backpack broadcast spreader.

14-6.05C(3)(b) Plant Delivery and Review (if needed):

Contractor must notify the Engineer and Biologist three (3) working days in advance of the plant delivery date and time. The Biologist will quantify plants and review them to ensure they meet the specified requirements.

14-6.05C(3)(c) Container Planting (if needed):

1. Planting will only take place following approval and acceptance of weed control, restoration of pre-project topography and site preparation.
2. No area will be planted where weed cover, trash, vegetative slash, or erosion is present. Planting must not occur when the soil is overly wet or muddy, as determined by the Biologist.
3. Plant locations will be pin flagged per the plans with a different color flag representing each plant species. Pin flagging will be reviewed, adjusted, and approved by the Biologist prior to digging planting holes.
4. Planting holes will be excavated only after the Biologist has approved the pin flagged plant locations. Sides of planting holes will be scarified thoroughly with a cultivator.
5. Planting holes will be filled with water and allowed to drain 24 hours prior to planting.
6. All plants will be set plumb, planted in center of hole with the root collar $\frac{1}{2}$ "- $\frac{3}{4}$ " above the finish grade, backfilled, soil tamped, and thoroughly watered in. Watering will be performed within ten (10) minutes of planting. After the water has drained, the soil will be re-tamped and floated even with the adjacent grade.
7. All plant protection devices will be installed at the time of planting. Plant and root protection cages will be constructed of chicken wire with $\frac{3}{4}$ " mesh. Plant protection devices will be cylindrical and measure 36" tall by 12" diameter. Each cage will be staked to grade with two (2) 12" #3 rebar stakes. Root protection baskets will be constructed of chicken wire with $\frac{3}{4}$ " mesh. Root baskets must have a bottom and measure 12" diameter x 10" tall.
8. Contractor will be prepared to loosen or cut roots along the outer edge of the rootball prior to planting if directed by Biologist.
9. Plants will not be allowed to dry out before or during planting. Roots will not be exposed to sunlight except briefly while being placed in ground. Wilted plants, whether in place or not, will not be accepted and will be replaced at the Contractor's expense.
10. After watering and settling of the soil the plant collar (part of trunk immediately above the root ball) will be at or slightly above i.e., $\frac{3}{4}$ " (max.) the finish grade level. No filling will be permitted around trunks or stems.
11. The Biologist will make periodic observations during planting. Any plants not properly handled, located, watered in, or planted will be subject to removal and replacement at Contractor's expense.
12. Contractor must apply water in sufficient quantities and as often as conditions require to keep the container plants in a healthy condition without wilting during installation and throughout the Plant Establishment, Maintenance and Warranty Period.

14-6.05C(4) Clean-Up

All work areas will be kept neat and clean during the entire duration of construction. Contractor must remove nursery cans, trash, debris, weeds, weed debris etc. resulting from revegetation, planting, and seeding operations on a daily basis. Contractor must remove weed slash and other materials at the end of each work day. Contractor must remove dirt, mud and debris tracked onto public and private streets, sidewalks, and right-of-way at the end of each work day.

14-6.05C(5) Maintenance & Warranty Period**14-6.05C(5)(a) General:**

The Post Installation 120-day Plant Maintenance and Warranty Period, also referred to as the "Maintenance Period," herein, will extend from the date of written acceptance of all installation work for a period of four months (120 continuous days). Contractor must perform all maintenance services described herein for the duration of the Maintenance Period.

The Contractor must maintain all plants in a vigorous and healthy condition by watering, weeding, replacing dead, ailing or missing plants, removing trash and controlling pests and diseases. Maintenance will be conducted every two weeks or more frequently if needed to meet the requirements outlined herein. Improper maintenance may result in postponement of final acceptance of work and payment.

14-6.05C(5)(b) Weeding:

1. All weeds will be controlled during the Maintenance Period. All weeds will be carefully removed, avoiding container plants and native seedlings. Contractor must remove weeds using non-mechanized hand tools only. The use of power equipment such as string trimmers must be pre-approved by the Biologist in writing. All weeds will be removed before they produce seed.
2. Herbicide use will be pre-approved by the Biologist and will be performed by a State licensed or certified Qualified Applicator. Herbicide must not be allowed to come into contact with container plants, native seedlings, or native vegetation.
3. All weed debris will be removed from the site at the end of each day and disposed of at a green waste recycling facility or legal landfill. Dump slips will be provided to the Biologist upon request.

14-6.05C(5)(c) Pest and Disease Control

1. Insect infestations and plant diseases will be monitored by the Contractor and Biologist. During the Maintenance Period, the Contractor must remove diseased plants and replace them in-kind and size with healthy plant material. This will be done at no expense to the City.
2. Pesticide and fungicide use is prohibited, unless pre-approved by the Biologist. Approval must be granted in writing.
3. Common pests and diseases, which occur naturally in the environment and are not harmful to health and vigor of plant, may be tolerated unless they become detrimental to plant health. Severity of pests and disease will be determined by the Biologist.

14-6.05C(5)(d) Herbivory

The Contractor must monitor for damage to plants caused by herbivores such as deer and rabbits. The Contractor must inform the Biologist immediately upon discovery, who will then recommend remedial actions.

14-6.05C(5)(e) Leaf Drop and Organic Debris:

Natural leaf and branch drop will be retained onsite as part of the ecosystem.

14-6.05C(5)(f) Trash and Debris Removal:

The Contractor must remove and dispose of all trash and non-natural debris. Removal of trash and litter must continue on a regular basis during the Maintenance Period. Weed debris will be disposed of at a recycling/landfill facility. Loads of weed debris will be covered tightly before leaving the site to avoid further distribution of invasive seeds and propagules.

14-6.05C(5)(g) Replanting and Reseeding:

1. The Contractor must procure replacement planting materials to replace dead ailing or missing container plants during the Maintenance Period.
2. All plants not achieving the performance standards outlined herein during the Maintenance Period will be removed and replaced by the Contractor at his/her expense. Plants will be replaced in kind and size, as specified on the final plans.
3. If a particular plant species is failing in a given area, plant species substitutions may be needed to achieve a greater success rate. Any proposed plant substitutions will be approved by the Biologist

and Engineer in writing. Approved plant substitutions must consist of native plant material, and only local native genetic stock will be used.

14-6.05C(5)(h) Watering

The Contractor must ensure that all container plants and seeds are sufficiently watered during the entire installation process and the Maintenance Period. Watering will be performed to ensure healthy plant growth and establishment. Watering will require scheduling and performing watering via quick couplers and garden hoses. The irrigation system will need to be operated/pressurized by the pump(s) indicated on the plans and Irrigation specifications. Contractor will provide gas and pump maintenance as needed for proper operation.

14-6.05C(6) Performance Standards During Maintenance & Warranty Period

The following performance standards will apply to all planted and seeded areas.

14-6.05C(6)(a) Container Plants

All container plant materials will be inspected by the Biologist and Contractor monthly for the first year and quarterly thereafter until performance standards are met and the City has concurred in writing that performance standards have been met. Container plants determined to be dead, missing, ailing or diseased by the Biologist must be replaced in-kind and size by the Contractor at his/her expense within twenty-one (21) days.

14-6.05C(6)(b) Seed

All seeded areas must be inspected by the Biologist and Contractor monthly for the first four months. Germination of native seed species must provide a minimum of 30% native vegetative cover within 120 days following seeding. Areas with less than 30% cover by seeded species at the end of 120 days must be re-seeded by the Contractor with the original seed mix at no additional expense to the City.

14-6.05C(6)(c) Maintenance

After the revegetation site has been planted, the maintenance phase of the revegetation project begins. The maintenance program has four goals: (1) qualitative evaluation of the plantings; (2) identification of pest, disease, and vandalism problems; (3) determination of container plant survival; and (4) control of competitive non-target vegetation. Maintenance activities including watering, weeding and trash removal, shall be conducted on an as-needed basis as determined by the Maintenance Contractor. Quick and thorough response to maintenance needs is essential to achieve revegetation success.

14-6.05C(6)(c)(i) Vandalism

Maintenance crews shall promptly correct and repair any vandalized areas in the restored habitats. This may include replacement planting of any unearthed/stolen plant materials.

14-6.05C(6)(c)(ii) Exotic Species/Weed Control

A comprehensive weed eradication program shall be implemented to minimize the adverse effects of weed invasion. This program shall include best management practices to ensure that equipment used during site maintenance does not track non-native plant seeds onto the revegetation site.

Weeds shall be species shall be controlled by hand pulling or hoeing plants before they set seed if feasible. Plants must be cut below the surface to prevent resprouting.

Limited use of selected herbicides for the removal and control of certain noxious weed species is appropriate when no other effective alternative is available. Herbicide treatment shall be specified for weed species that may resprout from roots or rhizomes. Herbicides that are registered for use in California for natural areas shall be specified for particular weed species at specific rates noted on the labels. For this weed management plan, recommended herbicides include mainly glyphosate (e.g., Round-up or Rodeo). Glyphosate is a broad-spectrum, nonselective systemic herbicide that kills or suppresses many grasses, forbs, vines, shrubs, and trees. Care shall be taken to prevent it from being applied to native plants because it will likely kill them. In terrestrial ecosystems, glyphosate can be applied to foliage, green stems, and cut-stems (cut-stumps), but it does not penetrate woody bark. Only Environmental Protection Agency approved, glyphosate base, systemic herbicides will be allowed when

applying herbicides within 100 feet of a natural water course or body of water. Recommended materials for herbicide application include herbicide, surfactant, and colorant. A paintbrush, sponge daubers, or similar equipment will be used for herbicide application. Herbicide shall be applied to the cut stem surface within minutes of cutting.

Only herbicide applicators who are certified by the State of California as Qualified Applicators or who are directly supervised by a Qualified Applicator shall apply herbicide on the revegetation site. The applicator shall apply all herbicides in strict accordance with herbicide application laws as stated in the California Food and Agricultural Code.

14-605C(6)(c)(iii) Schedule

Maintenance site visits shall be conducted on a bi-weekly to monthly basis for the first year and quarterly thereafter for five years or until the City concurs in writing that the performance criteria have been met. The maintenance schedule may be adjusted according to the seasons only with advance permission from the Project Biologist. Note that if weeding occurs during the bird breeding season, a qualified biologist must conduct a nesting bird survey no more than three days prior to weeding.

If maintenance of a coastal sage scrub restoration area is necessary between February 15 and August 31, a biologist with knowledge of the biology and ecology of gnatcatchers and approved by the CFWO will survey for gnatcatchers within the restoration area, access paths to it, and other areas susceptible to disturbances by site maintenance. Surveys will consist of three visits separated by 2 weeks, starting March 1 of each maintenance/monitoring year. Work will be allowed to continue on the site during the survey period. However, if gnatcatchers are found during any of the visits, the City will be notified and will coordinate with Caltrans and the Carlsbad Fish and Wildlife Office to identify measures to avoid and/or minimize effects to the gnatcatcher (e.g., nests and an appropriate buffer will be flagged by the biologist and avoided by the maintenance work).

If maintenance of a riparian restoration area potentially occupied by vireos or flycatchers is necessary between March 15 and September 15, a qualified biologist will survey for vireos and flycatchers within the creation/restoration/enhancement area, access paths to it, and other areas susceptible to disturbances by creation/restoration/enhancement site maintenance. Surveys will consist of three visits separated by 2 weeks starting April 10 of each maintenance/monitoring year. Restoration work will be allowed to continue on the site during the survey period. However, if gnatcatchers are found during any of the visits, the City will be notified and will coordinate with Caltrans and the Carlsbad Fish and Wildlife Office to identify measures to avoid and/or minimize effects to the vireo or flycatcher (e.g., nests and an appropriate buffer will be flagged by the biologist and avoided by the maintenance work).

14-6.05C(6)(d) Monitoring

The overall success of the revegetation site at replacing the aquatic resource functions lost or degraded as a result of the Project shall be evaluated by recording both the physical and biological aspects of the revegetation site as well as the functional condition of the site.

14-6.05C(6)(d)(i) Monitoring Methods

A monitoring program shall be implemented to ensure success of the mitigation/revegetation efforts. This program will assess the successful establishment of self-sustainable, native habitats and the achievement of the final success criteria. Both quantitative and qualitative data shall be collected in the manner and timeframe discussed below.

14-605C(6)(d)(ii) Installation Monitoring

A qualified biologist, to be provided by the contractor, shall be available during weed abatement and planting of the revegetation site to facilitate compliance with specified installation methodologies and long-term performance standards. Inspections of the revegetation site shall be performed on an as-needed basis during initial site weeding and planting. Performance monitoring will include the identification of non-native species for removal, photo documentation of pre- and post-planting conditions, field inspections during weeding and planting activities, and verification of the location and layout of container plants. Careful coordination between the qualified Biologist and the Restoration Contractor is important during the installation period to avoid mistakes that could jeopardize the eventual success of the revegetation program.

14-605C(6)(d)(iii) Maintenance Monitoring

After the installation process is complete, the Biologist shall monitor maintenance activities within the revegetation areas to facilitate compliance with success criteria and to facilitate the successful establishment of self-sustainable habitat. The Biologist shall meet with the Maintenance Contractor as needed throughout the maintenance period to discuss the condition of the revegetation areas and to recommend appropriate remedial measures as required.

During the scheduled monitoring site visits, the biologist shall monitor any damage to plantings caused by herbivore damage, vandalism, or other types of revegetation site damage. The Biologist shall recommend appropriate weed control and pest control measures as needed to ensure the success of the revegetation sites. In the event of significant die-off of container plants, the Project Biologist shall recommend appropriate replanting measures.

The overall success of the revegetation site shall be measured using both qualitative and quantitative assessments.

14-605C(6)(d)(iv) Qualitative Monitoring

Qualitative surveys to assess plant growth, overall coverage, plant fitness and health, pest problems, wildlife use, and non-native weed species establishment shall be performed. Photo documentation stations shall be used to provide visual documentation of the restoration/enhancement/establishment areas' progress on at least a yearly basis. The photo stations will be identified by the Biologist prior to the start of the revegetation effort and in accordance with any permit conditions for the Project.

14-605C(6)(d)(v) Quantitative Monitoring

Quantitative assessments of the revegetation site shall be performed to determine when monitoring activities should cease. Data on the biological composition of the restoration/ enhancement/establishment areas shall be collected using point-intercept transects placed in randomly selected locations throughout the entire revegetation sites. Specifically, data on percent cover and the total number of original container plants still surviving will be recorded. Plant species cover will be recorded for both native and non-native plants.

14-6.05C(6)(e) Success Criteria

The success criteria for the revegetation sites are shown in the table below:

Success Criteria

Criteria	Year 1	Year 2	Year 3	Year 4	Year 5
% Survival of Container Plants ¹	80%	80%	100%	100%	100%
% Cover of Native Plants	30%	45%	60%	70%	80%
% Cover of weed species categorized as High or Moderate in the Cal-IPC Invasive Plant Inventory	0%	0%	0%	0%	0%
% Relative Cover of all other weed species	<15%	<15%	<15%	<15%	<15%

¹ 80% of the original number of container plants planted must survive the first and second years, with that number continuing to survive for the remainder of the 5 year monitoring period. By Year 3, all dead container plants will be replaced unless their function has been replaced by natural recruitment.

It will be the responsibility of the Biologist and the Maintenance Contractor to coordinate a strategy to ensure the success criteria are met within the five year monitoring period. In addition to the quantitative criteria listed in the table above, revegetation areas must show evidence of natural recruitment of multiple native plant species. All revegetation areas must survive without supplemental watering for the final two (2) years of the monitoring period.

At the conclusion of this revegetation effort, the revegetation site will be established and healthy. In accordance with anticipated permit requirements, the revegetation site must be monitored for a minimum of five (5) years and shall meet the success criteria identified in the table above. The site may be accepted by the City if all success criteria have been met and the site has not required supplemental water for at least 2 years.

14-6.05C(6)(e)(i) Monitoring Schedule

The revegetation site shall be monitored quarterly during the first two (2) years and annually thereafter until the final success criteria are met. Required maintenance shall be performed within two (2) weeks of the identification of any damage or needs. Monitoring shall begin at the end of the initial planting period and shall continue for five years until either: (1) the restoration/enhancement/establishment areas have met the final success criteria after at least two years without supplemental watering; (2) the City in consultation with the wildlife and regulatory agencies determine that monitoring is no longer required; or (3) alternative restoration/enhancement/establishment sites or strategies are adopted by the City and approved by the wildlife and regulatory agencies.

Monitoring Schedule

Task	Months Since Planting												
	0	1	3	6	9	12	15	18	21	24	36	48	60
Baseline data*	X	X											
Qualitative Monitoring			X	X	X	X	X	X	X	X	X	X	X
Quantitative Monitoring						X				X	X	X	X
Annual report						X				X	X	X	X

* Baseline cover data shall be gathered for the revegetation areas before any planting is conducted. Baseline data for numbers of installed container plants shall be gathered within the revegetation areas one month after installation.

14-6.05C(6)(g) Reporting

Annual monitoring reports summarizing the monitoring results shall be submitted to the City. The annual monitoring report shall discuss maintenance activities performed that year (including supplemental planting and exotic species removal), monitoring results, an assessment of the progress made towards achievement of the success criteria, and maintenance recommendations. The specific content of the monitoring reports shall include: project information, compensatory revegetation site information, a summary of remedial actions and site maintenance, a map and revegetation site photos, success criteria, results of monitoring site visits, a summary of field data collected, and a summary of maintenance or other concerns that may affect the ultimate success of the revegetation site. In the event of substantial non-compliance with the success criteria, remedial measures shall be recommended in the annual monitoring reports.

Figure 1- Proposed Materials List:

Container Stock to replace trees of greater than 6" DBH (5:1 Ratio)**1 Gallon Arroyo willow (*Salix lasiolepis*) as needed****Seed Mix for Riparian Areas (subject to regulatory agency approval)**

Scientific Name	Common Name	Density (PLS lbs./acre)
<i>Artemisia douglasiana</i>	Mugwort	5.0
<i>Baccharis salicifolia</i> subsp. <i>salicifolia</i>	Mule fat	5.0
<i>Epilobium ciliatum</i>	Willow herb	1.5
<i>Juncus mexicanus</i>	Mexican rush	2.0
<i>Oenothera elata</i> subsp. <i>hirsutissima</i>	Evening primrose	2.0
Total PLS lbs./ac		15.5

Seed Mix for Coastal Sage Scrub Areas

Scientific Name	Common Name	Density (PLS lbs./acre)
<i>Artemisia californica</i>	California sagebrush	6.0
<i>Eriogonum fasciculatum</i>	California buckwheat	5.0
<i>Stipa pulchra</i>	Foothill needle grass	2.0
<i>Melic imperfecta</i>	Melic grass	2.0
Total PLS lbs./ac		15.0

14-6.05D PAYMENT

Payment for developing Restoration Plan is paid as lumpsum under contract bid item Restoration Plan.

Payment for Habitat Restoration Activities is paid as lumpsum under contract bid item Revegetation.

Payment for Maintenance and meeting Performance Standards during Maintenance and Warranty Period is paid as lumpsum under contract bid item Plant Establishment Period.

Replace "Reserved" in section 14-7.05 with:

14-7.05 ENVIRONMENTAL SENSITIVE AREA ACTION PLAN

You are responsible for complying with all requirements of the Environmental Sensitive Area Action Plan Dated June 2016.

The measures presented below are directly from Environmental Sensitive Area Action Plan for the project. The following measures are avoidance and/or minimization measures to ensure compliance with the Environmental Sensitive Area Action Plan:

- **CR-4.** ESAs must be discussed during the preconstruction meeting. The importance of ESAs must be discussed with construction personnel and it must be stressed that no construction activity (including storing or staging of equipment or materials) should occur within the ESAs and that workers must remain outside of the ESA at all times. Additionally, you must be informed of historic preservation laws that protect archaeological sites against any disturbance or removal of artifacts.
- **CR-5.** Designated Contractor or the City Resident Engineer must notify Caltrans Archaeologist and Environmental Branch Chief at least three weeks in advance of construction to ensure that a Caltrans archaeologist will be available to allow for field review of ESA locations.
- **CR-6.** District 12 Department of Transportation requires you to notify the Designated Contractor or the City Resident Engineer if the ESA is violated. Caltrans Archaeologist will notify the State Historic Preservation Officer within 48 hours of any ESA breach and consult immediately to determine how the breach will be addressed.
- **CR-7.** The City Resident Engineer, and or Caltrans Environmental Consultant Liaison will inform the Caltrans Archaeologist when construction is finished.

Replace the 2nd paragraph of section 14-8.02 with:

Do not operate construction equipment or run equipment engines from 8:00 p.m. to 7:00 a.m. or on Sundays or on Federal holidays at the job site except to:

1. Service traffic-control facilities
2. Service construction equipment

Add to the end of section 14-11.02:

Hazardous waste concentrations of ADL may be present within the project limits. You are responsible for testing unpaved soils adjacent to the existing roadway according to Caltrans ADL testing guidelines. If hazardous waste concentrations of ADL are present, such soils must be handled in accordance with section 14-11.03 and section 14-11.08 of the standard specifications.

Pavement yellow thermoplastic stripe is present within the project limits. You are responsible for testing striping for lead-based paint (LBP) prior to removal. If LBP is present, such pavement must be handled in accordance with section 14-11.07 and 14-11.12 of the standard specifications.

14-11.02A Payment

Full compensation for ADL testing and LBP testing is included in the lump sum price paid Hazardous Waste Testing and no additional compensation will be allowed therefor.

Add after the 2nd paragraph of section 14-11.12A:

This project includes removal of yellow painted traffic stripe, yellow painted pavement marking, yellow thermoplastic traffic stripe, or yellow thermoplastic pavement markings that may 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 30 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 30 days after the start of accumulation of the residue.

AA

15 EXISTING FACILITIES

Add to the end of section 15-1.03C:

You must stockpile all salvaged signs during construction at the job site.

Replace Reserved in section 15-1.03D with:

15-1.03D Engineer Specified Positive Location (Pothole)

15-1.03D(1) Summary

Section 15-2.10E covers the requirements for keyhole coring, vacuum excavation, backfilling, and reinstatement of the keyhole core to allow for underground utility exploratory potholing when ordered by the Engineer.

Refer to Section 77 for the potholing work related to sewer, water, storm drain and traffic signal improvements.

15-1.03D(2) Construction

Notify the Engineer at least 5 working days before the start of work.

Excavation requires coring a circular hole through asphalt pavement using drill/coring equipment and removal of the pavement. The vertical alignment of the coring operation must be perpendicular to the horizon and cutting must extend the full depth of the existing pavement section.

Pavement cores must not be greater than 24 inches in diameter, must not be placed closer than 3 feet between cores (edge to edge), must not contain a joint or pavement crack greater than 1/8 wide, and must only be obtained from pavements where the pavement section is at least 4 inches thick.

Soil must be removed by air/vacuum extraction methods to expose utilities. The zone of soil removal must remain within a vertical plane extending below of the edges of the core hole.

You must dispose of all excess materials.

Backfill must comply with Section 19 of the standard specifications and these special provisions. Backfill must be aggregate per section 26 of the standard specifications and these special provisions, and placed in maximum of 10-inch loose lifts.

Delete the 7th paragraph of section 20-1.03C(3).

Delete the 8th paragraph of section 20-1.03C(3).

Add to the end of section 20-2.06A(1):

You must connect all new remote control valves and re-program existing controller.

Add to the end of section 20-2.08B(1):

Irrigation equipment shall be provided by (a) RainBird Manufacturer, (b) Netafim Manufacturer, (c) Toro Manufacturer or approved equal

Replace the 1st paragraph of section 20-2.08D with:

The payment quantity for any type of supply line pipe or drip irrigation tubing is the length measured along the planting area.

Add to the end of section 20-3.01A(3)(a):

You must pay for and submit a soils agronomy report with recommendations for new soil preparation of site along with soil backfill mix for tree and shrub planting pits. Soils agronomy report must be provided by: (a) Soil and Plant Laboratory (714)-282-8777 (b) Wallace Laboratory (310)-615-0116 or approved equal.

Replace the 3rd paragraph and following table of section 20-3.01B(2)(a) with:

The plants must be the size and type shown on the contract plans.

Delete section 20-3.01B(2)(b)(ii).

Delete section 20-3.01B(2)(b)(iii).

Delete section 20-3.01B(2)(b)(iv).

Add to end of Section Delete section 20-3.01B(3):

Per the soils agronomy report with recommendations. Soils agronomy report must be provided by: (a) Soil and Plant Laboratory (714)-282-8777 (b) Wallace Laboratory (310)-615-0116 or approved equal.

Add to the end of section 20-3.01B(7):

Deep root barriers shall be from (a.) Deep Root Manufacturer Model # UB-24-2 or approved equal.

The tree shall be installed in an upright position.

Replace 1st and 2nd paragraph of section 20-3.01B(10) with:

Each stake must be Type "D" 2 inch in diameter x 10' feet in length. Install (2) two stakes per tree.

To keep the plant in an upright position.

Delete section 20-3.02C(3)(c).

Delete section 20-3.02(3)(d)(i).

Delete section 20-3.02(3)(d)(ii).

Delete section 20-3.02(3)(d)(iii).

Delete section 20-3.02(3)(d)(iv).

Delete section 20-3.02(3)(d)(v).

Delete section 20-3.02(3)(d)(vi).

Delete section 20-3.02(3)(d)(vii).

Delete section 20-3.02(3)(e).

Replace 5th paragraph and following table of section 20-4.03F with:

Replacement plantings of tree and shrub plants must have the same spacing as originally specified.

Delete section 20-5.02B(2).

Delete section 20-5.02B(3).

Delete section 20-5.02B(4).

Delete section 20-5.03D(2)(a).

Add to the end of section 20-5.03E(2)(a):

All landscape planting areas to receive 2" (inch) coverage of Forest Floor Mulch from Auinaga Green (949)-786-9558 or approved equal.

Add to the end of section 20-10.02A(1):

You must be responsible for watering all landscape planting areas connected to existing the irrigation controller for the duration of the detour road construction and landscape construction phases of the project. You must test and monitor existing irrigation remote control valves and spray head coverage in all existing planting areas connected to existing controller.

83-4.05 SAND-FILLED CRASH CUSHIONS**83-4.05A General****83-4.05A(1) Summary**

Section 83-4.05 includes specifications for constructing sand-filled crash cushions.

83-4.05A(2) Definitions

Not Used

83-4.05A(3) Submittals

Submit a certificate of compliance for sand-filled crash cushions.

83-4.05A(4) Quality Assurance

Not Used

83-4.05B Materials

The modules making up the sand-filled crash cushions must be one of the modules shown in the following table:

Module	Manufacturer	Distributors
Energite III Crash Cushion	ENERGY ABSORPTION SYSTEMS INC 70 W MADISON ST STE 2350 CHICAGO IL 60602	TRAFFIC CONTROL SERVICE INC 8585 THYS CT SACRAMENTO CA 95828 Telephone: (916) 387-9733 Fax: (916) 387-9734 TRAFFIC CONTROL SERVICE INC 1818 E ORANGETHORPE FULLERTON CA 92831-5324 Telephone: (714) 526-9500 Fax: (714) 526-9561
Fitch Universal Modules		
TrafFix Sand Barrels	TRAFFIX DEVICES INC 220 CALLE PINTOESCO SAN CLEMENTE CA 92672 Telephone: (949) 361-5663 Fax: (949) 361-9205	UNITED RENTALS INC 1533 BERGER DR SAN JOSE CA 95112 Telephone: (408) 287-4303 Fax: (408) 287-1929 STATEWIDE SAFETY & SIGN PO BOX 1440 PISMO BEACH CA 93448 Telephone: (805) 929-5070 Fax: (805) 929-5786
CrashGard Model CC-48 Sand Barrels	PLASTIC SAFETY SYSTEMS INC 2444 BALDWIN RD CLEVELAND OH 44104	CAPITOL BARRICADE INC 6001 ELVAS AVE SACRAMENTO CA 95819 Telephone: (916) 451-5176 Fax: (916) 451-5388 CAPITOL BARRICADE INC 1661 EAST MINER AVE STOCKTON CA 95205

ATTACHMENT A
REVISED STANDARD SPECIFICATIONS

1. Submitting a bid
2. Subcontracting for a part of the work
3. Supplying materials

2-1.03 CONTRACTOR REGISTRATION

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

2-1.04–2-1.05 RESERVED

2-1.06 BID DOCUMENTS

2-1.06A General

The *Bid* book includes bid forms and certifications, including forms not submitted through the electronic bidding service.

The *Notice to Bidders and Special Provisions* includes the *Notice to Bidders*, revised standard specifications, and special provisions.

The *Bid* book, including *Bid* book forms not available through the electronic bidding service, *Notice to Bidders and Special Provisions*, project plans, and any addenda to these documents may be accessed at the Department's Office of Construction Contract Awards website.

The *Standard Specifications* and *Standard Plans* may be viewed at the Department's Office of Construction Contract Awards website and may be purchased at the Publication Distribution Unit.

2-1.06B Supplemental Project Information

The Department makes supplemental information available as specified in the special provisions.

Logs of test borings are supplemental project information.

If an *Information Handout* or cross sections are available, you may view them at the Contract Plans and Special Provisions link at the Department's Office of Construction Contract Awards website.

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:

1. For a project in District 1 through 6 or 10, you may request them from the Office of Structure Maintenance and Investigations, fax (916) 227-8357
2. For a project in District 7, 8, 9, 11, or 12, you may request them from the Office of Structure Maintenance and Investigations, fax (916) 227-8357, and they are available at the Office of Structure Maintenance and Investigations, Los Angeles, CA, telephone (213) 897-0877

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.

2-1.06C–2-1.06D Reserved**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

2-1.08 RESERVED**2-1.09 BID ITEM LIST**

Submit a bid based on the bid item quantities shown on the Bid Item List.

2-1.10 SUBCONTRACTOR LIST

On the Subcontractor List form, list each subcontractor that will perform work in an amount in excess of 1/2 of 1 percent of the total bid or \$10,000, whichever is greater (Pub Cont Code § 4100 et seq.).

For each subcontractor listed, the Subcontractor List form must show:

1. Business name and the location of its place of business.
2. California contractor license number for a non-federal-aid contract.
3. Public works contractor registration number.
4. Portion of work it will perform. Show the portion of the work by:
 - 4.1. Bid item numbers for the subcontracted work
 - 4.2. Percentage of the subcontracted work for each bid item listed
 - 4.3. Description of the subcontracted work if the percentage of the bid item listed is less than 100 percent

2-1.11 RESERVED**2-1.12 DISADVANTAGED BUSINESS ENTERPRISES****2-1.12A General**

Section 2-1.12 applies to a federal-aid contract.

Under 49 CFR 26.13(b):

The contractor, sub recipient 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.

Include this assurance in each subcontract you sign with a subcontractor.

2-1.12B Disadvantaged Business Enterprise Goal**2-1.12B(1) General**

Section 2-1.12B applies if a DBE goal is shown on the *Notice to Bidders*.

The Department shows a goal for DBEs to comply with the DBE program objectives provided in 49 CFR 26.1.

Make work available to DBEs and select work parts consistent with the available DBEs, including subcontractors, suppliers, service providers, and truckers.

Meet the DBE goal shown on the *Notice to Bidders* or demonstrate that you made adequate good faith efforts to meet this goal.

You are responsible to verify at bid opening the DBE firm is certified as a DBE by the California Unified Certification Program and possesses the work codes applicable to the type of work the firm will perform on the Contract.

Determine that selected DBEs perform a commercially useful function for the type of work the DBE will perform on the Contract as provided in 49 CFR 26.55(c)(1)–(4). Under 49 CFR 26.55(c)(1)–(4), the DBE must be responsible for the execution of a distinct element of work and must carry out its responsibility by actually performing, managing, and supervising the work.

All DBE participation will count toward the Department's federally mandated statewide overall DBE goal.

Credit for materials or supplies you purchase from DBEs will be evaluated on a contract-by-contract basis and counts toward the goal in the following manner:

1. 100 percent if the materials or supplies are obtained from a DBE manufacturer.
2. 60 percent if the materials or supplies are obtained from a DBE regular dealer.
3. Only fees, commissions, and charges for assistance in the procurement and delivery of materials or supplies if they are obtained from a DBE that is neither a manufacturer nor a regular dealer. 49 CFR 26.55 defines *manufacturer* and *regular dealer*.

You receive credit toward the goal if you employ a DBE trucking company that is performing a commercially useful function. The Department uses the following factors in determining whether a DBE trucking company is performing a commercially useful function:

- 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 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.

[49 CFR 26.55(d)]

2-1.12B(2) DBE Commitment Submittal

Submit DBE information under section 2-1.33.

Submit a copy of the quote from each DBE shown on the DBE Commitment form that describes the type and dollar amount of work shown on the form. Submit a DBE Confirmation form for each DBE shown on the DBE Commitment form to establish that it will be participating in the Contract in the type and dollar amount of work shown on the form. If a DBE is participating as a joint venture partner, submit a copy of the joint venture agreement.

2-1.12B(3) DBE Good Faith Efforts Submittal

You can meet the DBE requirements by either documenting commitments to DBEs to meet the Contract goal or by documenting adequate good faith efforts to meet the Contract goal. An adequate good faith effort 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 you have not met the DBE goal, complete and submit the DBE Good Faith Efforts Documentation form under section 2-1.33 showing that you made adequate good faith efforts to meet the goal. Only good faith efforts directed toward obtaining participation by DBEs are considered.

Submit good faith efforts documentation within the specified time to protect your eligibility for award of the contract in the event the Department finds that the DBE goal has not been met.

Refer to 49 CFR 26 app A for guidance regarding evaluation of good faith efforts to meet the DBE goal.

The Department considers DBE commitments of other bidders in determining whether the low bidder made good faith efforts to meet the DBE goal.

2-1.13–2-1.14 RESERVED**2-1.15 DISABLED VETERAN BUSINESS ENTERPRISES****2-1.15A General**

Section 2-1.15 applies to a non-federal-aid contract.

Take necessary and reasonable steps to ensure that DVBEs have the opportunity to participate in the Contract.

Comply with Mil & Vet Code § 999 et seq.

2-1.15B Projects \$5 Million or Less

Section 2-1.15B applies to a project with an estimated cost of \$5 million or less.

Make work available to DVBEs and select work parts consistent with the available DVBE subcontractors and suppliers.

Meet the goal shown on the *Notice to Bidders*.

Complete and submit the Certified DVBE Summary form under section 2-1.33. List all DVBE participation on this form.

If a DVBE joint venture is used, submit the joint venture agreement with the Certified DVBE Summary form.

List each 1st-tier DVBE subcontractor on the Subcontractor List form regardless of its percentage of the total bid.

2-1.15C Projects More Than \$5 Million**2-1.15C(1) General**

Section 2-1.15C applies to a project with an estimated cost of more than \$5 million.

The Department encourages bidders to obtain DVBE participation to ensure the Department achieves its State-mandated overall DVBE goal.

If you obtain DVBE participation:

1. Complete and submit the Certified DVBE Summary form under section 2-1.33. List all DVBE participation on this form.
2. List each 1st-tier DVBE subcontractor on the Subcontractor List form regardless of its percentage of the total bid.

If a DVBE joint venture is used, submit the joint venture agreement with the Certified DVBE Summary form.

2-1.15C(2) DVBE Incentive

The Department grants a DVBE incentive to each bidder who achieves a DVBE participation of 1 percent or greater (Mil & Vet Code 999.5 and Code of Regs § 1896.98 et seq.).

To receive this incentive, submit the Certified DVBE Summary form under section 2-1.33.

Bidders other than the apparent low bidder, the 2nd low bidder, and the 3rd low bidder may be required to submit the Certified DVBE Summary form if the bid ranking changes. If the Department requests a Certified DVBE Summary form from you, submit the completed form within 4 business days of the request.

2-1.15C(3) Incentive Evaluation

The Department applies the small business and non–small business preference during bid verification and proceeds with the evaluation specified below for the DVBE incentive.

The DVBE incentive is a reduction, for bid comparison only, in the submitted total bid by the lesser of the following amounts:

1. Percentage of the DVBE achievement rounded to 2 decimal places of the verified total bid of the low bidder
2. 5 percent of the verified total bid of the low bidder
3. \$250,000

The Department applies the DVBE incentive and determines whether the bid ranking changes.

A non–small business bidder cannot displace a small business bidder. However, a small business bidder with a higher DVBE achievement can displace another small business bidder.

The Department proceeds with awarding the contract to the new low bidder and posts the new verified bid results at the Department's website.

2-1.16–2-1.17 RESERVED**2-1.18 SMALL BUSINESS AND NON–SMALL BUSINESS SUBCONTRACTOR PREFERENCES****2-1.18A General**

Section 2-1.18 applies to a non-federal-aid contract.

The Department applies small business preferences and non–small business preferences under Govt Code § 14835 et seq. and 2 CA Code of Regs § 1896 et seq.

Any contractor, subcontractor, supplier, or service provider who qualifies as a small business is encouraged to apply for certification as a small business by submitting its application to the Department of General Services, Office of Small Business and DVBE Services.

Contract award is based on the total bid, not the reduced bid.

2-1.18B Small Business Preference

The Department allows a bidder certified as a small business by the Department of General Services, Office of Small Business and DVBE Services, a preference if:

1. Bidder submitted a completed Request for Small Business Preference or Non–Small Business Preference form with its bid
2. Low bidder did not request the preference or is not certified as a small business

The Bidder's signature on the Request for Small Business Preference or Non–Small Business Preference form certifies that the Bidder is certified as a small business at the date and time of bid or has submitted a complete application to the Department of General Services. The complete application and any required substantiating documentation must be received by the Department of General Services by 5:00 p.m. on the bid opening date.

The Department of General Services determines whether a bidder was certified on the bid opening date. The Department of Transportation confirms the Bidder's status as a small business before applying the small business preference.

The small business preference is a reduction for bid comparison in the total bid submitted by the small business contractor by the lesser of the following amounts:

1. 5 percent of the verified total bid of the low bidder
2. \$50,000

If the Department determines that a certified small business bidder is the low bidder after the application of the small business preference, the Department does not consider a request for non–small business preference.

2-1.18C Non–Small Business Subcontractor Preference

The Department allows a bidder not certified as a small business by the Department of General Services, Office of Small Business and DVBE Services, a preference if:

1. Bidder submitted a completed Request for Small Business Preference or Non–Small Business Preference form with its bid
2. Certified Small Business Listing for the Non–Small Business Preference form shows that you are subcontracting at least 25 percent to certified small businesses

Each listed subcontractor and supplier must be certified as a small business at the date and time of bid or must have submitted a complete application to the Department of General Services. The complete application and any required substantiating documentation must be received by the Department of General Services by 5:00 p.m. on the bid opening date.

The non–small business subcontractor preference is a reduction for bid comparison in the total bid submitted by the non–small business contractor requesting the preference by the lesser of the following amounts:

1. 5 percent of the verified total bid of the low bidder
2. \$50,000

2-1.19–2-1.26 RESERVED

2-1.27 CALIFORNIA COMPANIES

Section 2-1.27 applies to a non-federal-aid contract.

Under Pub Cont Code § 6107, the Department gives preference to a *California company*, as defined, for bid comparison purposes over a nonresident contractor from any state that gives or requires a preference to be given to contractors from that state on its public entity construction contracts.

Complete a California Company Preference form.

The California company's reciprocal preference amount is equal to the preference amount applied by the state of the nonresident contractor with the lowest responsive bid unless the California company is eligible for a small business preference or a non–small business subcontractor preference, in which case the preference amount is the greater of the two, but not both.

If the low bidder is not a California company and a California company's bid with reciprocal preference is equal to or less than the lowest bid, the Department awards the contract to the California company on the basis of its total bid.

2-1.28–2-1.30 RESERVED

2-1.31 OPT OUT OF PAYMENT ADJUSTMENTS FOR PRICE INDEX FLUCTUATIONS

You may opt out of the payment adjustments for price index fluctuations specified in section 9-1.07. To opt out, submit a completed Opt Out of Payment Adjustments for Price Index Fluctuations form under section 2-1.33.

2-1.32 RESERVED

2-1.33 BID DOCUMENT COMPLETION AND SUBMITTAL

2-1.33A General

Complete the forms in the *Bid* book.

Use the forms provided by the Department except as otherwise specified for a bidder's bond.

Do not fax forms except for the copies of forms with the public works contractor registration number submitted after the time of bid. Fax these copies to (916) 227-6282.

Failure to submit the forms and information as specified may result in a nonresponsive bid.

If an agent other than the authorized corporate officer or a partnership member signs the bid, file a Power of Attorney with the Department either before opening bids or with the bid. Otherwise, the bid may be nonresponsive.

Complete and submit the *Bid* book under the *Electronic Bidding Guide* at the Department's Office of Construction Contract Awards.

Your authorized digital signature is your confirmation of and agreement to all certifications and statements contained in the *Bid* book.

On forms and certifications that you submit through the electronic bidding service, you agree that each form and certification where a signature is required is deemed as having your signature.

2-1.33B Bid Form Submittal Schedules

2-1.33B(1) General

The *Bid* book includes forms specific to the contract. The deadlines for the submittal of the forms vary depending on the requirements of each contract. Determine the requirements of the contract and submit the forms based on the applicable schedule specified in section 2-1.33B.

Bid forms and information on the form that are due after the time of bid may be submitted at the time of bid.

2-1.33B(2) Federal-Aid Contracts

2-1.33B(2)(a) General

Section 2-1.33B(2) applies to a federal-aid contract.

2-1.33B(2)(b) Contracts with a DBE Goal

2-1.33B(2)(b)(i) General

Section 2-1.33B(2)(b) applies if a DBE goal is shown on the *Notice to Bidders*.

2-1.33B(2)(b)(ii) Non-Informal-Bid Contract

For a non-informal-bid contract, submit the bid forms according to the schedule shown in the following table:

**Bid Form Submittal Schedule for a
Non-Informal Bid Federal-Aid Contract with a DBE Goal**

Form	Submittal deadline
Bid to the Department of Transportation	Time of bid except for the public works contractor registration number
Copy of the Bid to the Department of Transportation as submitted at the time of bid with the public works contractor registration number	10 days after bid opening
Subcontractor List	Time of bid except for the public works contractor registration number
Copy of the Subcontractor List as submitted at the time of bid with the public works contractor registration number	10 days after bid opening
Small Business Status	Time of bid
Opt Out of Payment Adjustments for Price Index Fluctuations ^a	Time of bid
DBE Commitment	No later than 4 p.m. on the 5th day after bid opening
DBE Confirmation	No later than 4 p.m. on the 5th day after bid opening
DBE Good Faith Efforts Documentation	No later than 4 p.m. on the 5th day after bid opening

^aSubmit only if you choose the option.

2-1.33B(2)(b)(iii) Informal-Bid Contract

For an informal-bid contract, submit the bid forms according to the schedule shown in the following table:

**Bid Form Submittal Schedule for an
Informal-Bid Federal-Aid Contract with a DBE Goal**

Form	Submittal deadline
Bid to the Department of Transportation	Time of bid
Subcontractor List	Time of bid
Small Business Status	Time of bid
Opt Out of Payment Adjustments for Price Index Fluctuations ^a	Time of bid
DBE Commitment	No later than 4 p.m. on the 5th day after bid opening
DBE Confirmation	No later than 4 p.m. on the 5th day after bid opening
DBE Good Faith Efforts Documentation	No later than 4 p.m. on the 5th day after bid opening

^aSubmit only if you choose the option.

2-1.33B(2)(c) Contracts without a DBE Goal

2-1.33B(2)(c)(i) General

Section 2-1.33B(2)(c) applies if a DBE goal is not shown on the *Notice to Bidders*.

2-1.33B(2)(c)(ii) Non-Informal-Bid Contract

For a non-informal-bid contract, submit the bid forms according to the schedule shown in the following table:

**Bid Form Submittal Schedule for a
Non-Informal-Bid Federal-Aid Contract without a DBE Goal**

Form	Submittal deadline
Bid to the Department of Transportation	Time of bid except for the public works contractor registration number
Copy of the Bid to the Department of Transportation as submitted at the time of bid with the public works contractor registration number	10 days after bid opening
Subcontractor List	Time of bid except for the public works contractor registration number
Copy of the Subcontractor List as submitted at the time of bid with the public works contractor registration numbers	10 days after bid opening
Small Business Status	Time of bid
Opt Out of Payment Adjustments for Price Index Fluctuations ^a	Time of bid

^aSubmit only if you choose the option.

2-1.33B(2)(c)(iii) Informal-Bid Contract

For an informal-bid contract, submit the bid forms according to the schedule shown in the following table:

**Bid Form Submittal Schedule for an
Informal-Bid Federal-Aid Contract without a DBE Goal**

Form	Submittal deadline
Bid to the Department of Transportation	Time of bid
Subcontractor List	Time of bid
Small Business Status	Time of bid
Opt Out of Payment Adjustments for Price Index Fluctuations ^a	Time of bid

^aSubmit only if you choose the option.

2-1.33B(2)(d)–2-1.33B(2)(h) Reserved

2-1.33B(3) Non-Federal-Aid Contracts

2-1.33B(3)(a) General

Section 2-1.33B(3) applies to non-federal-aid contracts.

2-1.33B(3)(b) Contracts with a DVBE Goal

2-1.33B(3)(b)(i) General

Section 2-1.33B(3)(b) applies if a DVBE goal is shown on the *Notice to Bidders*.

2-1.33B(3)(b)(ii) Non-Informal-Bid Contract

For a non-informal-bid contract, submit the bid forms according to the schedule shown in the following table:

**Bid Form Submittal Schedule for a
Non-Informal-Bid Non-Federal-Aid Contract with a DVBE Goal**

Form	Submittal deadline
Bid to the Department of Transportation	Time of bid except for the public works contractor registration number for a joint-venture contract
For a joint-venture contract, copy of the Bid to the Department of Transportation as submitted at the time of bid with the public works contractor registration number	10 days after bid opening
Subcontractor List	Time of bid
Opt Out of Payment Adjustments for Price Index Fluctuations ^a	Time of bid
Certified DVBE Summary	No later than 4 p.m. on the 4th business day after bid opening
California Company Preference	Time of bid
Request for Small Business Preference or Non-Small Business Preference ^a	Time of bid
Certified Small Business Listing for the Non-Small Business Preference ^a	No later than 4 p.m. on the 2nd business day after bid opening

^aSubmit only if you choose the option or preference.

2-1.33B(3)(b)(iii) Informal-Bid Contract

For an informal-bid contract, submit the bid forms according to the schedule shown in the following table:

**Bid Form Submittal Schedule for an
Informal-Bid Non-Federal-Aid Contract with a DVBE Goal**

Form	Submittal deadline
Bid to the Department of Transportation	Time of bid
Subcontractor List	Time of bid
Opt Out of Payment Adjustments for Price Index Fluctuations ^a	Time of bid
Certified DVBE Summary	Time of bid
California Company Preference	Time of bid
Request for Small Business Preference or Non-Small Business Preference ^a	Time of bid
Certified Small Business Listing for the Non-Small Business Preference ^a	Time of bid

^aSubmit only if you choose the option or preference.

2-1.33B(3)(c) Contracts without a DVBE Goal

2-1.33B(3)(c)(i) General

Section 2-1.33B(3)(c) applies if a DVBE goal is not shown on the *Notice to Bidders*.

2-1.33B(3)(c)(ii) Non-Informal-Bid Contract

For a non-informal-bid contract, submit the bid forms according to the schedule shown in the following table:

**Bid Form Submittal Schedule for a
Non-Informal-Bid Non-Federal-Aid Contract without a DVBE Goal**

Form	Submittal deadline
Bid to the Department of Transportation	Time of bid except for the public works contractor registration number for a joint-venture contract
For a joint-venture contract, copy of the Bid to the Department of Transportation as submitted at the time of bid with the public works contractor registration number	10 days after bid opening
Subcontractor List	Time of bid
Opt Out of Payment Adjustments for Price Index Fluctuations ^a	Time of bid
California Company Preference	Time of bid
Certified DVBE Summary ^b	No later than 4 p.m. on the 4th business day after bid opening
Request for Small Business Preference or Non-Small Business Preference ^a	Time of bid
Certified Small Business Listing for the Non-Small Business Preference ^a	No later than 4 p.m. on the 2nd business day after bid opening

^aSubmit only if you choose the option or preference.

^bSubmit only if you obtain DVBE participation or you are the apparent low bidder, 2nd low bidder, or 3rd low bidder and you choose to receive the specified incentive.

2-1.33B(3)(c)(iii) Informal-Bid Contract

For an informal-bid contract, submit the bid forms according to the schedule shown in the following table:

**Bid Form Submittal Schedule for an
Informal-Bid Non-Federal-Aid Contract without a DVBE Goal**

Form	Submittal deadline
Bid to the Department of Transportation	Time of bid
Subcontractor List	Time of bid
Opt Out of Payment Adjustments for Price Index Fluctuations ^a	Time of bid
Certified DVBE Summary ^b	Time of bid
Request for Small Business Preference or Non-Small Business Preference ^a	Time of bid
Certified Small Business Listing for the Non-Small Business Preference ^a	Time of bid

^aSubmit only if you choose the option or preference.

^bSubmit only if you obtain DVBE participation or you are the apparent low bidder, 2nd low bidder, or 3rd low bidder and you choose to receive the specified incentive.

2-1.33B(3)(d)–2-1.33B(3)(h) Reserved

2-1.33B(4)–2-1.33B(9) Reserved

2-1.34 BIDDER'S SECURITY

Submit one of the following forms of bidder's security equal to at least 10 percent of the bid:

1. Cash
2. Cashier's check
3. Certified check
4. Signed bidder's bond by an admitted surety insurer
5. Electronic bidder's bond by an admitted surety insurer submitted using an electronic registry service approved by the Department

Submit cash, cashier's check, certified check, or bidder's bond to the Department's Office of Construction Contract Awards before the bid opening time.

Submit an electronic bidder's bond with the electronic bid.

If using a bidder's bond, you may use the form in the *Bid* book. If you do not use the form in the *Bid* book, use a form containing the same information.

2-1.35–2-1.39 RESERVED

2-1.40 BID WITHDRAWAL

Bids are not filed with the Department until the date and time of bid opening.

A bidder may withdraw or revise a bid after it has been submitted to the electronic bidding service if this is done before the bid opening date and time.

2-1.41–2-1.42 RESERVED

2-1.43 BID OPENING

The Department publicly opens and reads bids at the time and place shown on the *Notice to Bidders*.

2-1.44–2-1.45 RESERVED

2-1.46 DEPARTMENT'S DECISION ON A BID

The Department's decision on the bid amount is final.

The Department may reject:

- 1. All bids
- 2. A nonresponsive bid

2-1.47 BID RELIEF

The Department may grant bid relief under Pub Cont Code § 5100 et seq. Submit any request for bid relief to the Office Engineer. The Relief of Bid Request form is available at the Department's website.

2-1.48 RESERVED

2-1.49 SUBMITTAL FAILURE HISTORY

The Department considers a bidder's past failure to submit documents required after bid opening in determining a bidder's responsibility.

2-1.50 BID RIGGING

Section 2-1.50 applies to a federal-aid contract.

The US 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.

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7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

07-15-16

Replace the paragraphs in section 7-1.02I(2) with:

05-06-16

Under 2 CA Code of Regs § 11105:

- 1. During the performance of this contract, the recipient, contractor, and its subcontractors shall not deny the contract's benefits to any person on the basis of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status, nor shall they discriminate unlawfully against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability,

medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status. Contractor shall insure that the evaluation and treatment of employees and applicants for employment are free of such discrimination.

2. Contractor shall comply with the provisions of the Fair Employment and Housing Act (Gov. Code, § 12900 et seq.), the regulations promulgated thereunder (Cal. Code Regs., tit. 2, § 11000 et seq.), the provisions of Article 9.5, Chapter 1, Part 1, Division 3, Title 2 of the Government Code (Gov. Code, §§ 11135-11139.5), and the regulations or standards adopted by the awarding state agency to implement such article.
3. Contractor or recipient shall permit access by representatives of the Department of Fair Employment and Housing and the awarding state agency upon reasonable notice at any time during the normal business hours, but in no case less than 24 hours' notice, to such of its books, records, accounts, and all other sources of information and its facilities as said Department or Agency shall require to ascertain compliance with this clause.
4. Recipient, contractor and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.
5. The contractor shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the contract.

Under 2 CA Code of Regs § 11122:

STANDARD CALIFORNIA NONDISCRIMINATION CONSTRUCTION CONTRACT SPECIFICATIONS (GOV. CODE SECTION 12990)

These specifications are applicable to all state contractors and subcontractors having a construction contract or subcontract of \$5,000 or more.

1. As used in the specifications:
 - a. "Act" means the Fair Employment and Housing Act.
 - b. "Administrator" means Administrator, Office of Compliance Programs, California Department of Fair Employment and Housing, or any person to whom the Administrator delegates authority;
2. Whenever the contractor or any subcontractor subcontracts a portion of the work, it shall include in each subcontract of \$5,000 or more the nondiscrimination clause in this contract directly or through incorporation by reference. Any subcontract for work involving a construction trade shall also include the Standard California Construction Contract Specifications, either directly or through incorporation by reference.
3. The contractor shall implement the specific nondiscrimination standards provided in paragraphs 6(a) through (e) of these specifications.
4. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the contractor has a collective bargaining agreement, to refer members of any group protected by the Act shall excuse the contractor's obligations under these specifications, Government Code section 12990, or the regulations promulgated pursuant thereto.
5. In order for the nonworking training hours of apprentices and trainees to be counted, such apprentices and trainees must be employed by the contractor during the training period, and the contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor or the California Department of Industrial Relations.
6. In order for the nonworking training hours of apprentices and trainees to be counted, such apprentices and trainees must be employed by the contractor during the training period, and the contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor or the California Department of Industrial Relations.
6. The contractor shall take specific actions to implement its nondiscrimination program. The evaluation of the contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The contractor must be able to demonstrate fully its efforts under steps a. through e. below:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and at all facilities at which the contractor's employees are assigned to work. The contractor shall specifically ensure that all foremen, superintendents, and other on-site

- supervisory personnel are aware of and carry out the contractor's obligations to maintain such a working environment.
- b. Provide written notification within seven days to the director of the DFEH when the referral process of the union or unions with which the contractor has a collective bargaining agreement has impeded the contractor's efforts to meet its obligations.
 - c. Disseminate the contractor's equal employment opportunity policy by providing notice of the policy to unions and training, recruitment and outreach programs and requesting their cooperation in assisting the contractor to meet its obligations; and by posting the company policy on bulletin boards accessible to all employees at each location where construction work is performed.
 - d. Ensure all personnel making management and employment decisions regarding hiring, assignment, layoff, termination, conditions of work, training, rates of pay or other employment decisions, including all supervisory personnel, superintendents, general foremen, on-site foremen, etc., are aware of the contractor's equal employment opportunity policy and obligations, and discharge their responsibilities accordingly.
 - e. Ensure that seniority practices, job classifications, work assignments, and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the equal employment opportunity policy and the contractor's obligations under these specifications are being carried out.
7. Contractors are encouraged to participate in voluntary associations that assist in fulfilling their equal employment opportunity obligations. The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on equal employment opportunity in the industry, ensures that the concrete benefits of the program are reflected in the contractor's workforce participation, and can provide access to documentation that demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the contractor's.
 8. The contractor is required to provide equal employment opportunity for all persons. Consequently, the contractor may be in violation of the Fair Employment and Housing Act (Government Code section 12990 et seq.) if a particular group is employed in a substantially disparate manner.
 9. The contractor shall not use the nondiscrimination standards to discriminate against any person because race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status.
 10. The contractor shall not enter into any subcontract with any person or firm decertified from state contracts pursuant to Government Code section 12990.
 11. The contractor shall carry out such sanctions and penalties for violation of these specifications and the nondiscrimination clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Government Code section 12990 and its implementing regulations by the awarding agency. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Government Code section 12990.
 12. The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company equal employment opportunity policy is being carried out, to submit reports relating to the provisions hereof as may be required by OCP and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, status, (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in any easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

Add to the end of the 2nd sentence in the 1st paragraph of section 7-1.02K(1):

, and hauling and delivery of ready-mixed concrete.

Add between the 4th and 5th paragraphs of section 7-1.02K(3):

04-22-16

Submitted certified payrolls for hauling and delivering ready-mixed concrete must be accompanied by a written time record. The time record must include:

1. Truck driver's full name and address
2. Name and address of the factory or batching plant
3. Time the concrete was loaded at the factory or batching plant
4. Time the truck returned to the factory or batching plant
5. Truck driver's signature certifying under penalty of perjury that the information contained in this written time record is true and correct

Add between the 9th and 10th paragraphs of section 7-1.03:

07-15-16

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 polyester concrete under section 60-3.04B.

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.

Replace § 337.15 in the 3rd item in the list in the paragraph of section 7-1.06B with:

05-06-16

§ 337.1

Add between the 1st and 2nd paragraphs of section 7-1.11A:

02-12-16

Comply with 46 CFR 381.7(a)–(b).

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8 PROSECUTION AND PROGRESS

07-15-16

Replace the table in the 3rd paragraph of section 8-1.10A with:

07-15-16

Liquidated Damages

Total bid		Liquidated damages per day
From over	To	
\$0	\$60,000	\$1,400
\$60,000	\$200,000	\$2,900
\$200,000	\$500,000	\$3,200
\$500,000	\$1,000,000	\$3,500
\$1,000,000	\$2,000,000	\$4,000
\$2,000,000	\$5,000,000	\$4,800
\$5,000,000	\$10,000,000	\$6,800
\$10,000,000	\$20,000,000	\$10,000
\$20,000,000	\$50,000,000	\$13,500
\$50,000,000	\$100,000,000	\$19,200
\$100,000,000	\$250,000,000	\$25,300

AA

9 PAYMENT

01-15-16

Replace *may withhold* in the 1st paragraph of section 9-1.16E(4) with:

01-15-16

withholds

AA

DIVISION II GENERAL CONSTRUCTION

10 GENERAL

04-15-16

Replace section 10-1.02B with:

04-15-16

10-1.02B Traffic Elements

Before starting the operational test of a traffic management system that directly impacts traffic, the system must be ready for operation, and all signs, pavement delineation, and pavement markings must be in place at the system's location.

If maintaining existing traffic management system elements during construction is shown on the Bid Item List, a list of the systems shown within the project limits and their operational status is included in the *Information Handout*. Before starting job site activities, conduct a preconstruction operational status check of the existing system's elements and each element's communication status with the transportation management center to which it communicates. If an existing system element is discovered and has not been identified, the Department adds the element to the list of systems. The pre- and postconstruction operational status check of the discovered elements is change order work.

A minimum of 3 feet of retroreflective material must be permanently affixed on all 4 sides of the trailer. The retroreflective material need not be continuous but must be visible on the same plane.

The sign panel must be capable of displaying a 3-line message with at least 7 characters per line. The characters must be at least 18 inches in height where the useable shoulder area is at least 15 feet wide. To prevent encroachment onto the traveled way where the useable shoulder area is less than 15 feet wide, you may use a smaller message panel with at least 12-inch-high characters.

The message displayed on the sign must be visible from a distance of 1,500 feet and legible from a distance of 750 feet at noon on a cloudless day and during the night by persons with 20/20 vision or vision corrected to 20/20.

The characters on a sign panel may be 10 inches in height if:

1. PCMS is mounted on a service patrol truck or other incident response vehicle or used for traffic control operations on a highway facility where the posted speed limit is less than 40 mph
2. Message is legible from a distance of at least 650 feet at noon on a cloudless day and during the night by persons with 20/20 vision or vision corrected to 20/20

A matrix sign must provide a complete alphanumeric selection.

A PCMS must automatically adjust its brightness under varying light conditions to maintain the legibility of the message. The sign must be equipped with an automatic-dimming mode that automatically compensates for the influence of temporary light sources or abnormal lighting conditions. The sign must have 3 or more manual dimming modes of different intensities.

During the hours of darkness, a matrix sign not using lamps must be either internally or externally illuminated.

The controller must be an all solid-state unit containing the necessary circuitry for the storage of at least 5 preprogrammed messages. The controller must be installed at a location that allows the operator to perform all functions from a single position. The controller must have a keyboard entry system that allows the operator to generate an infinite number of additional messages in addition to the preprogrammed stored messages. The keyboard must be equipped with a security lockout feature to prevent unauthorized use of the controller.

The controller must have:

1. Nonvolatile memory that stores keyboard-created messages during periods when the power is not activated
2. Variable display rate that allows the operator to match the information display to the speed of approaching traffic
3. Screen upon which messages may be reviewed before being displayed on the sign

The flashing-off time must be adjustable from within the control cabinet.

12-3.32C Construction

Place a PCMS as far from the traveled way as practicable where it is legible to approaching traffic without encroaching on the traveled way. Where the vertical roadway curvature restricts the sight distance of approaching traffic, place the sign on or before the crest of the curvature where it is most visible to the approaching traffic. Where the horizontal roadway curvature restricts the sight distance of approaching traffic, place the sign at or before the curve where it is most visible to approaching traffic. Where practicable, place the sign behind guardrail or Type K temporary railing.

Make a taper consisting of 9 traffic cones placed 25 feet apart to delineate the location of a PCMS except where the sign is placed behind guardrail or Type K temporary railing.

When in full operation, the bottom of a sign must be at least 7 feet above the roadway in areas where pedestrians are anticipated and 5 feet above the roadway elsewhere, and the top of the sign must be not more than 14.5 feet above the roadway.

Operate the PCMS under the manufacturer's instructions.

Keep the PCMS clean to provide maximum visibility.

If multiple signs are needed, place each sign on the same side of the road at least 1,000 feet apart on freeways and expressways and at least 500 feet apart on other types of highways.

If more than one PCMS is simultaneously visible to traffic, only 1 sign may display a sequential message at any time. Do not use dynamic message displays, such as animation, rapid flashing, dissolving, exploding, scrolling, horizontal movement, or vertical movement of messages. The message must be centered within each line of the display.

You may use an additional PCMS if more than 2 phases are needed to display a message.

Display only messages shown or ordered.

Repeat the entire message continuously in not more than 2 phases of at least 3 seconds per phase. The sum of the display times for both of the phases must be a maximum of 8 seconds. If more than 2 phases are needed to display a message, use an additional PCMS.

You must be available by cell phone during activities that require a sign. Be prepared to immediately change the displayed message if ordered. You may operate the sign with a 24-hour timer control or remote control if authorized.

After the initial placement, move a sign from location to location as ordered.

When a PCMS is not in use, move it to an area at least 15 feet from the edge of the traveled way or remove it from the job site away from traffic.

12-3.32D Payment

Not Used

Add between the 1st sentence and 2nd sentences in the 1st paragraph of section 12-4.02A(3)(a):

07-15-16

For a project in District 7, submit the request at least 15 days before the proposed closure date.

Replace section 12-4.02C(2) with:

01-15-16

12-4.02C(2) Lane Closure System

12-4.02C(2)(a) General

The Department provides LCS training. Request the LCS training at least 30 days before submitting the 1st closure request. The Department provides the training within 15 days after your request.

LCS training is web-based or held at a time and location agreed upon by you and the Engineer. For web-based training, the Engineer provides you the website address to access the training.

With 5 business days after completion of the training, the Department provides LCS accounts and user IDs to your assigned, trained representatives.

Each representative must maintain a unique password and current user information in the LCS.

04-15-16

The project is not accessible in LCS after Contract acceptance.

01-15-16

12-4.02C(2)(b) Status Updates for Authorized Closures

Update the status of authorized closures using the LCS Mobile web page.

For a stationary closure, use code:

1. 10-97 immediately before you place the 1st advance warning sign
2. 10-98 immediately after you remove all of the advance warning signs

Replace the 2nd paragraph of section 13-8.01D(2) with:

09-02-16

For a project within the Lake Tahoe Hydrologic Unit, the design, installation, operation, and monitoring of the temporary ATS and monitoring of the treated effluent must comply with Attachment E of the NPDES General Permit for General Waste Discharge Requirements and National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction Activity in the Lake Tahoe Hydrologic Unit, Counties of Alpine, El Dorado, and Placer, (Order No. R6T-2016-0010 and NPDES No. CAG616002). You may view the General Permit for the Lake Tahoe Hydrologic Unit at the Construction Storm Water Program page of the SWRCB website.

AA

16 TEMPORARY FACILITIES

04-15-16

Add between the 1st and 2nd sentences of section 16-2.03A(1):

04-15-16

Constructing a high-visibility fence includes the installation of any signs specified in the special provisions.

AA

DIVISION III EARTHWORK AND LANDSCAPE

20 LANDSCAPE

07-15-16

Replace 86 in the 1st paragraph of section 20-2.01C(2) with:

04-15-16

87

Replace the 8th paragraph of section 20-2.01C(2) with:

07-15-16

Trenches for irrigation supply lines and conduits 3 inches and larger in diameter must be a minimum of 18 inches below the finished grade, measured to the top of the installed pipe.

Replace 86 in the 1st paragraph of section 20-2.01C(3) with:

04-15-16

87

Replace section 20-2.04A(4) with:

04-15-16

Perform conductors test. The test must comply with the specifications in section 87.

Where the conductors are installed by trenching and backfilling, perform the test after a minimum of 6 inches of backfill material has been placed and compacted over the conductors.

Replace the 1st paragraph of section 20-2.04C(4) with:

04-15-16

Splice low voltage control and neutral conductors under section 87, except do not use Method B.

Replace the 3rd paragraph of section 20-2.05B with:

The impeller must be glass reinforced nylon on a tungsten carbide shaft.

07-15-16

Replace 86 in the 2nd paragraph of section 20-2.06C with:

87

04-15-16

Replace section 20-2.07B(5) with:**20-2.07B(5) PVC Pipe Conduit Sleeve**

04-15-16

PVC pipe conduit sleeves must be schedule 40 complying with ASTM D1785.

Fittings must be schedule 80.

Replace section 20-2.07C(3) with:

04-15-16

20-2.07C(3) PVC Pipe Conduit Sleeve

Where PVC pipe conduit sleeves 2 inches or less in outside diameter is installed under surfacing, you may install by directional boring under section 20-2.07C(2)(b).

For sleeves 2 inches or less in diameter, the top of the conduit must be a minimum of 18 inches below surfacing.

Extend sleeves 6 inches beyond surfacing. Cap ends of conduit until used.

Replace sections 20-2.09B and 20-2.09C with:

07-15-16

20-2.09B Materials**20-2.09B(1) General**

Swing joints must match the inlet connection size of the riser.

Where shown, a sprinkler assembly must include a check valve.

Threaded nipples for swing joints and risers must be schedule 80, PVC 1120 or PVC 1220 pipe, and comply with ASTM D1785. Risers for sprinkler assemblies must be UV resistant.

Fittings for sprinkler assemblies must be injection-molded PVC, schedule 40, and comply with ASTM D2466.

Flexible hose for sprinkler assemblies must be leak-free, non-rigid and comply with ASTM D2287, cell Type 6564500. The hose must comply with ASTM D2122 and have the thickness shown in the following table:

Nominal hose diameter (inch)	Minimum wall thickness (inch)
1/2	0.127
3/4	0.154
1	0.179

Solvent cement and fittings for flexible hose must comply with section 20-2.08B(5).

20-2.09B(2) Pop-Up Sprinkler Assemblies

Each pop-up sprinkler assembly must include a body, nozzle, swing joint, pressure reducing device, fittings, and sprinkler protector where shown.

20-2.09B(3) Riser Sprinkler Assemblies

Each riser sprinkler assembly must include a body, flexible hose, threaded nipple, nozzle, swing joint (except for a Type V riser), pressure reducing device, fittings, and riser support where shown.

20-2.09B(4) Tree Well Sprinkler Assemblies

Each tree well sprinkler assembly must include a threaded nipple, nozzle, swing joint, fittings, perforated drainpipe, and drain grate.

The perforated drainpipe must be commercial-grade, rigid PVC pipe with holes spaced not more than 6 inches on center on 1 side of the pipe.

The drain grate must be a commercially-available, 1-piece, injection-molded grate manufactured from structural foam polyolefins with UV light inhibitors. Drain grate must be black.

Gravel for filling the drainpipe must be graded such that 100 percent passes the 3/4-inch sieve and 100 percent is retained on the 1/2-inch sieve. The gravel must be clean, washed, dry, and free from clay or organic material.

20-2.09C Construction

Where shown, install a flow shut-off device under the manufacturer's instructions, unless you use equipment with a preinstalled flow shut-off device.

Where shown, install a pressure reducing device under the manufacturer's instructions, unless you use equipment with a preinstalled pressure reducing device.

Install pop-up and riser sprinkler assembly:

1. From 6-1/2 to 8 feet from curbs, dikes, and sidewalks
2. At least 10 feet from paved shoulders
3. At least 3 feet from fences and walls

If sprinkler assembly cannot be installed within these limits, the location will be determined by the Engineer.

Set sprinkler assembly riser on slopes perpendicular to the plane of the slope.

Replace the paragraph of section 20-2.10B(3) with:

07-15-16

Each check valve must be one of the following:

1. Schedule 80 PVC with a factory setting to withstand a minimum 7-foot head on risers
2. Class 200 PVC if used on a nonpressurized plastic irrigation supply line
3. Internal to the sprinkler body with a factory setting to withstand a minimum 7-foot head

Replace the paragraph of section 20-2.10C(3) with:

07-15-16

Install check valves as necessary to prevent low-head drainage.

Replace the paragraphs of section 20-3.01B(10) with:

07-15-16

Each plant stake for vines must be nominal 1 by 1 inch and 18 inches long.

Each plant stake for trees must be nominal 2 by 2 inches or nominal 2 inches in diameter and long enough to keep the tree in an upright position.

Replace the paragraph of section 20-3.01B(11) with:

07-15-16

Each plant tie for vines must be extruded vinyl-based tape, 1 inch wide and at least 8 mils thick.

Each plant tie for trees must be a (1) minimum 3/4-inch-wide, UV-resistant, flexible vinyl tie complying with ASTM D412 for tensile and elongation strength, or (2) lock-stitch, woven polypropylene with a minimum 900 lb tensile strength.

Add between the 7th and 8th paragraphs of section 20-3.02C(3)(b):

07-15-16

Spread the vine shoots and tie them with a plant tie to each stake above the crossing point.

Replace the 8th paragraph of section 20-3.02C(3)(b) with:

07-15-16

Tie trees to the stakes with 2 tree ties, 1 tie to each stake. Each tie must form a figure eight by crossing the tie between the tree and the stake. Install ties at the lowest position that will support the tree in an upright position. Install the ties such that they provide trunk flexibility but do not allow the trunk to rub against the stakes. Wrap each end of the tie 1-1/2 turns around the stake and securely tie or nail it to the stake.

Replace the 1st paragraph of section 20-5.02C(1) with:

07-15-16

Where edging is used to delineate the limits of inert ground cover or wood mulch areas, install the edging before installing the inert ground cover or wood mulch.

Delete *AND MULCHES* in the heading of section 20-5.03.

07-15-16

Delete *and mulches* in the paragraph of section 20-5.03A(1)(a).

07-15-16

Replace the paragraph of section 20-5.03A(3)(a) with:

07-15-16

Before installing inert ground cover, remove plants and weeds to the ground level.

Delete *or mulch* at each occurrence in sections 20-5.03A(3)(c) and 20-5.03A(3)(d).

07-15-16

Replace section 20-5.03E with:

07-15-16

20-5.03E Reserved**Replace section 20-5.04 with:**

07-15-16

20-5.04 WOOD MULCH**20-5.04A General****20-5.04A(1) Summary**

Section 20-5.04 includes specifications for placing wood mulch.

20-5.04A(2) Definitions

Reserved

20-5.04A(3) Submittals

Submit a certificate of compliance for wood mulch.

Submit a 2 cu ft mulch sample with the mulch source shown on the bag. Obtain authorization before delivering the mulch to the job site.

20-5.04A(4) Quality Assurance

Reserved

20-5.04B Materials**20-5.04B(1) General**

Mulch must not contain more than 0.1 percent of deleterious materials such as rocks, glass, plastics, metals, clods, weeds, weed seeds, coarse objects, sticks larger than the specified particle size, salts, paint, petroleum products, pesticides or chemical residues harmful to plant or animal life.

20-5.04B(2) Tree Bark Mulch

Tree bark mulch must be derived from cedar, Douglas fir, or redwood species.

The mulch must be ground such that at least 95 percent of the material by volume is less than 2 inches long in any dimension and no more than 30 percent by volume is less than 1 inch long in any dimension.

20-5.04B(3) Wood Chip Mulch

Wood chip mulch must:

1. Be derived from clean wood
2. Not contain leaves or small twigs
3. Contain at least 95 percent by volume of wood chips with a width and thickness from 1/16 to 3/8 inch and a length from 1/2 to 3 inches

20-5.04B(4) Shredded Bark Mulch

Shredded bark mulch must:

1. Be derived from trees
2. Be a blend of loose, long, thin wood, or bark pieces
3. Contain at least 95 percent by volume of wood strands with a width and thickness from 1/8 to 1-1/2 inches and a length from 2 to 8 inches

20-5.04B(5) Tree Trimming Mulch

Tree trimming mulch must:

1. Be derived from chipped trees and may contain leaves and small twigs
2. Contain at least 95 percent by volume of material less than 3 inches long for any dimension and not more than 30 percent by volume of material less than 1 inch long for any dimension

23-1.01D Quality Assurance**23-1.01D(1) General****23-1.01D(1)(a) General**

Take samples under California Test 125.

23-1.01D(1)(b) Test Result Disputes

You and the Engineer must work together to avoid potential conflicts and to resolve disputes regarding test result discrepancies. Notify the Engineer within 5 business days of receiving the test result if you dispute the test result.

If you or the Engineer dispute each other's test results, submit your test results and copies of paperwork including worksheets used to determine the disputed test results. An independent third party performs referee testing. Before the independent third party participates in a dispute resolution, it must be qualified under AASHTO Materials Reference Laboratory program and the Department's Independent Assurance Program. The independent third party must have no prior direct involvement with this Contract. By mutual agreement, the independent third party is chosen from:

1. Department laboratory in a district or region not in the district or region the project is located
2. Transportation Laboratory
3. Laboratory not currently employed by you or your material producer

If split acceptance samples are not available, the independent third party uses any available material representing the disputed material for evaluation.

If the independent third party determines the Department's test results are valid, the Engineer deducts the independent third party testing costs from payments. If the independent third party determines your test results are valid, the Department pays the independent third party testing costs.

23-1.01D(2) Quality Control**23-1.01D(2)(a) General**

Provide a QC manager when the quantity of subbase or base is as shown in the following table:

QC Manager Requirements

Subbase or base	Requirement
Stabilized soil (sq yd)	≥ 20,000
Aggregate subbases (cu yd)	≥ 20,000
Aggregate bases (cu yd)	≥ 20,000
CTB (cu yd)	≥ 10,000
Lean concrete base (cu yd)	≥ 2,000
Rapid strength concrete base (cu yd)	≥ 1,000
Lean concrete base rapid setting (cu yd)	≥ 1,000
Concrete base (cu yd)	≥ 1,000
Treated permeable bases (cu yd)	≥ 2,000
Reclaimed pavements (sq yd)	≥ 10,000

Provide a testing laboratory to perform quality control tests. Maintain sampling and testing equipment in proper working condition.

You are not entitled to compensation for the suspension of work resulting from noncompliance with quality control requirements, including those identified within the QC plan.

23-1.01D(2)(b) Quality Control Plan

The QC plan must describe the organization and procedures used to:

1. Control the production process
2. Determine if a change to the production process is needed
3. Implement a change

25 AGGREGATE SUBBASES

07-15-16

Replace *Reserved* in section 25-1.01C with:

Submit an aggregate subbase QC plan.

07-15-16

Replace *Reserved* in section 25-1.01D(2) with:

07-15-16

25-1.01D(2)(a) General

Reserved

25-1.01D(2)(b) Quality Control Plan

Reserved

25-1.01D(2)(c) Qualifications

Reserved

25-1.01D(2)(d) Quality Control Testing

AS quality control must include testing the quality characteristics at the frequencies shown in the following table:

QC Testing Frequencies

Quality characteristic	Test method	Sampling location	Minimum frequency
R-value	California Test 301	Stockpiles, transportation units, windrows, or roadways	1 test before beginning work and every 2000 cu yd thereafter ^a
Aggregate gradation	California Test 202	Stockpiles, transportation units, windrows, or roadways	1 per 500 cu yd but at least one per day of placement
Sand equivalent	California Test 217	Stockpiles, transportation units, windrows, or roadways	
Relative compaction	California Test 231	Roadway	1 per 500 sq yd on each layer

^aAdditional R-value frequency testing will not be required when the average of 4 consecutive sand equivalent tests is 4 or more above the specified operating range value.

Add between the 2nd and 3rd paragraphs of section 25-1.01D(3):

07-15-16

The Engineer takes aggregate subbase samples for R-value, aggregate gradation, and sand equivalent from any of the following locations:

1. Windrow
2. Roadway

07-15-16

Delete for each noncompliant test result in the 4th paragraph of section 25-1.01D(3).

Replace the headings and paragraphs in section 27-1.01D with:

07-15-16

27-1.01D Quality Assurance

27-1.01D(1) General

After the CTB has been spread on the subgrade and before initial compaction, the cement content of the completed mixture of CTB must not vary from the specified cement content by more than 0.6 percent of the weight of the dry aggregate when tested under California Test 338.

For Class A CTB, compaction is tested under California Test 312 or 231.

The relative compaction of CTB must be at least 95 percent. Each layer of CTB may be tested for compaction, or all layers may be tested together at the option the Engineer. If all layers are tested together, you are not relieved of the responsibility to achieve the required compaction in each layer placed.

27-1.01D(1)(a) Aggregate

When tested under California Test 301, aggregate for Class B CTB must have (1) an R-value of at least 60 before mixing with cement and (2) an R-value of at least 80 when aggregate is mixed with an amount of cement that does not exceed 2.5 percent by weight of the dry aggregate.

Before sand equivalent testing, aggregate samples must not be treated with lime, cement, or chemicals.

If the aggregate gradation test results, the sand equivalent test results, or both comply with contract compliance requirements but not operating range requirements, you may continue placing CTB for the remainder of the work day. Do not place additional CTB until you demonstrate to the Engineer that the CTB to be placed complies with the operating range requirements.

If the aggregate gradation test results, sand equivalent test results, or both do not comply with contract compliance requirements, remove the CTB or request a payment deduction. If your request is authorized, \$2.50/cu yd is deducted. If CTB is paid for by weight, the Engineer converts tons to cubic yards for the purpose of reducing payment for noncompliant CTB left in place. An aggregate gradation and a sand equivalent test represents up to (1) 500 cu yd or (2) 1 day's production if less than 500 cu yd.

27-1.01D(1)(b) Road-Mixed Cement Treated Base Moisture Content

Just before initial compaction the moisture content of the completed mixture must be at least the optimum moisture content less 1 percent. The moisture content is determined under California Test 226 and optimum moisture content is determined under California Test 312.

27-1.01D(1)(c) Plant-Mixed Cement Treated Base Moisture Content

At the point of delivery to the work, the moisture content of the completed mixture must be at least the optimum moisture content less 1 percent. The moisture content is determined under California Test 226 and optimum moisture content under California Test 312.

27-1.01D(2) Quality Control

27-1.01D(2)(a) General

Reserved

27-1.01D(2)(b) Quality Control Plan

Reserved

27-1.01D(2)(c) Qualifications

Reserved

27-1.01D(2)(d) Quality Control Testing

CTB quality control must include testing the quality characteristics at the frequencies shown in the following table:

QC Testing Frequencies

Quality characteristic	Test method	Sampling location	Minimum frequency
Aggregate gradation	California Test 202 modified	Stockpiles, plant, transportation units, windrow, or roadway	1 per 500 cu yd but at least one per day of placement
Sand equivalent	California Test 217	Stockpiles, plant, transportation units, windrow, or roadway	
R-value ^a	California Test 301	Stockpiles, plant, transportation units, windrows, or roadway	1 test before starting work and every 2000 cu yd thereafter ^b
Optimum moisture content	California Test 312	Plant, transportation units, windrow, or roadway	1 per day of placement
Moisture content	California Test 226	Roadway	1 per 500 cu yd but at least one per day of placement
Cement content	California Test 338	Windrows or roadway	1 per 1000 cu yd but at least one per day of placement
Relative compaction	California Test 312 or 231	Roadway	1 per 2000 sq yd but at least one per day of placement
Compressive strength ^c	California Test 312	Windrow or roadways	1 per day of placement

^aR-value is required for Class B CTB only

^bAdditional R-value frequency testing will not be required while the average of 4 consecutive sand equivalent tests is 4 or more above the specified operating range value.

^cCompressive strength is required for Class A CTB only when specified

27-1.01D(3) Department Acceptance

The Department's acceptance testing includes testing the CTB quality characteristics shown in the following table:

CTB Requirements for Acceptance

Quality characteristic	Test method
Aggregate gradation	California Test 202 modified
Sand equivalent	California Test 217
R-value ^a	California Test 301
Optimum moisture content	California Test 312
Moisture content	California Test 226
Cement content	California Test 338
Relative compaction	California Test 312 or 231
Compressive strength ^b	California Test 312

^aR-value is required for Class B CTB only

^bCompressive strength is required for Class A CTB only when specified

The Engineer takes samples for aggregate gradation and sand equivalent from any of the following locations:

1. Plant
2. Truck
3. Windrow, for road-mixed only
4. Roadbed, for road-mixed only

Replace the headings and paragraphs in section 28-2.01D with:

07-15-16

28-2.01D Quality Assurance**28-2.01D(1) General****28-2.01D(1)(a) General**

The molds for compressive strength testing under ASTM C31 or ASTM C192 must be 6 by 12 inches.

If the aggregate gradation test results, sand equivalent test results or both comply with the contract compliance requirements but not the operating range requirements, you may continue placing LCB for the remainder of the work day. Do not place additional LCB until you demonstrate the LCB to be placed complies with the operating range requirements.

28-2.01D(1)(b) Qualifications

Field qualification tests and calculations must be performed by an ACI certified "Concrete Laboratory Technician, Grade I.

28-2.01D(1)(c) Aggregate Qualification Testing

Qualify the aggregate for each proposed aggregate source and gradation. The qualification tests include (1) a sand equivalent and (2) an average 7-day compressive strength under ASTM C39 of 3 cylinders manufactured under ASTM C192 except cure cylinders in molds without lids after initial curing.

For the compressive strength test, the cement content for each cylinder must be 300 lb/cu yd. The 7-day average compressive strength must be at least 610 psi. The cement must be Type II portland cement.

LCB must have from 3 to 4 percent air content during aggregate qualification testing.

28-2.01D(1)(d) Field Qualification Testing

Before placing LCB, you must perform field qualification testing and obtain authorization for each mix design. Retest and obtain authorization for changes to the authorized mix designs.

Notify the Engineer at least 5 business days before field qualification. Perform the field qualification at the job site or an authorized location.

Field qualification testing includes tests for compressive strength, air content, and penetration or slump.

For compressive strength field qualification testing:

1. Prepare 12 cylinders under ASTM C31 except final cure cylinders in molds without lids from a single batch.
2. Perform 3 tests; each test consists of determining the average compressive strength of 2 cylinders at 7 days under ASTM C39. The average compressive strength for each test must be at least 530 psi

If you submitted a notice to produce LCB qualifying for a transverse contraction joint waiver, manufacture additional specimens and test the LCB for compressive strength at 3 days. Prepare the compressive strength cylinders under ASTM C31 except final cure cylinders in molds without lids at the same time using the same material and procedures as the 7-day compressive strength cylinders except do not submit 6 additional test cylinders. The average 3-day compressive strength for each test must be not more than 500 psi.

28-2.01D(2) Quality Control**28-2.01D(2)(a) General**

Reserved

28-2.01D(2)(b) Quality Control Manager

Reserved

28-2.01D(2)(c) Quality Control Testing

Test the LCB under the test methods and at the locations and frequencies shown in the following table:

LCB Sampling Location and Testing Frequencies

Quality characteristic	Test method	Sampling location	Minimum sampling and testing frequency
Sand equivalent	ASTM D2419	Source	1 per 500 cubic yards but at least 1 per day of production
Aggregate gradation	ASTM C136		
Air content	ASTM C231	Job site	
Penetration ^a	ASTM C360		
Slump ^a	ASTM C143		
Compressive strength	ASTM C39 ^b		

^aTest for either penetration or slump

^bPrepare cylinders under ASTM C31 except final cure cylinders in molds without lids.

28-2.01D(3) Department Acceptance

The Department accepts LCB based on compliance with the requirements shown in the following table:

LCB Requirements for Acceptance

Quality characteristic	Test method	Requirement
Compressive strength (min, psi at 7 days)	ASTM C39 ^a	530 ^b

^a Cylinders prepared under ASTM C31 except final cure cylinders in molds without lids.

^b A compressive strength test represents up to (1) 1,000 cu yd or (2) 1 day's production if less than 1,000 cu yd.

Replace section 28-2.01D(4) in item 3 of the 5th paragraph in section 28-2.03D with:

section 28-2.01D(1)(c)

07-15-16

Replace the 1st paragraph in section 28-2.03F with:

After finishing LCB, cure LCB with pigmented curing compound under section 90-1.03B(3) and 40-1.03I.
Apply curing compound:

07-15-16

1. In 2 separate applications
2. Before the atmospheric temperature falls below 40 degrees F
3. At a rate of 1 gal/150 sq ft for the first application
4. At a rate of 1 gal/200 sq ft for the second application

Replace *Reserved* in section 28-3.01C(3) with:

Submit a rapid strength concrete base QC plan.

07-15-16

Replace the headings and paragraphs in section 28-3.01D with:

28-3.01D Quality Assurance**28-3.01D(1) General****28-3.01D(1)(a) General**

At the preconstruction meeting be prepared to discuss the project specifications and methods of performing each item of work. Items discussed must include the processes for:

07-15-16

1. Production

2. Transportation
3. Placement
4. QC plan, if specified in the special provisions
5. Contingency plan
6. QC sampling and testing
7. Acceptance criteria

Beams for modulus of rupture testing must be fabricated and tested under California Test 524. The beams may be fabricated using an internal vibrator under ASTM C31. For each test, 3 beam must be fabricated and the test results averaged. No single test represents more than that day's production or 130 cu yd, whichever is less.

For early age testing, beams must be cured so the monitored temperatures in the beams and the test strip are always within 5 degrees F. The internal temperatures of the RSC base and early age beams must be monitored and recorded at intervals of at least 5 minutes. Thermocouples or thermistors connected to strip-chart recorders or digital data loggers must be installed to monitor the temperatures. Temperature recording devices must be accurate to within ± 2 degrees F. Until early age testing is completed, internal temperatures must be measured at 1 inch from the top, 1 inch from the bottom, and no closer than 3 inches from any edge.

For other age testing, beams must be cured under California Test 524 except beams must be placed into sand at a time that is the earlier of either from 5 to 10 times the final set time, or 24 hours.

RSC base must have an opening age modulus of rupture of not less than 400 psi and a 7-day modulus of rupture of not less than 600 psi.

28-3.01D(1)(b) Preconstruction Meeting

Reserved

28-3.01D(1)(c) Test Strip

Reserved

28-3.01D(2) Quality Control

28-3.01D(2)(a) General

Reserved

28-3.01D(2)(b) Quality Control Manager

Reserved

28-3.01D(2)(c) Quality Control Testing

Test the rapid strength concrete base under the test methods and at the locations and frequencies shown in the following table:

Rapid Strength Concrete Base Sampling Location and Testing Frequencies

Quality characteristic	Test method	Sample Location	Minimum testing frequency ^a
Cleanness value	California Test 227	Source	1 per 500 cubic yards but at least 1 per shift
Sand equivalent	California Test 217		
Aggregate gradation	California Test 202		
Air content	California Test 504	Job site	1 per 130 cu yd but at least 1 per shift
Yield	California Test 518		1 per shift
Slump or penetration	ASTM C143 or California Test 533		1 per 2 hours of placement
Density	California Test 518		1 per shift
Aggregate moisture meter calibration ^b	California Test 223 or California Test 226		1 per shift
Modulus of rupture	California Test 524		1 per 130 cu yd but at least 1 per shift

^aTest at the most frequent interval.

^bCheck calibration of the plant moisture meter by comparing moisture meter readings with California Test 223 or California Test 226 test results.

Notify the Engineer at least 2 business days before any sampling and testing. Submit testing results within 15 minutes of testing completion. Record inspection, sampling, and testing on the forms accepted with the QC plan and submit them within 48 hours of completion of each day of production and within 24 hours of 7-day modulus of rupture tests.

During the placement of RSC base, fabricate beams and test for the modulus of rupture:

1. At opening age
2. At 7 days after placing the first 30 cu yd
3. At least once every 130 cu yd
4. Within the final truckload

Opening age tests must be performed in the presence of the Engineer.

28-3.01D(3) Department Acceptance

The Department accepts RSC base based on compliance with the requirements shown in the following table:

RSC Base Requirements for Acceptance

Quality characteristic	Test method	Requirement
Modulus of rupture (min, psi at 7 days)	California Test 524	600

The Engineer adjust payment for RSC base for the 7-day modulus of rupture as follows:

1. Payment for a base with a modulus of rupture of 600 psi or greater is not adjusted.
2. Payment for a base with a modulus of rupture of less than 600 and greater than or equal to 550 psi is reduced by 5 percent.
3. Payment for a base with a modulus of rupture of less than 550 and greater than or equal to 500 psi is reduced by 10 percent.
4. Payment for a base with a modulus of rupture of less than 500 psi is not adjusted and no payment is made. Remove and replace this base.

Add to section 28-4.01C(1):

Submit a lean concrete base rapid setting QC plan.

Replace the headings and paragraphs in section 28-4.01D with:

07-15-16

28-4.01D Quality Assurance**28-4.01D(1) General****28-4.01D(1)(a) General**

For compressive strength testing, prepare 6 cylinders under California Test 540. Test cylinders must be 6 by 12 inches. As an alternative to rodding, a vibrator may be used under California Test 524. Test cylinders under California Test 521 and perform 3 tests with each test consisting of 2 cylinders. The test result is the average from the 2 cylinders.

28-4.01D(1)(b) Field Qualification

Before placing lean concrete base rapid setting, you must perform field qualification testing and obtain authorization for each mix design. Retest and obtain authorization for changes to authorized mixed designs.

Proposed mix designs must be field qualified before you place the base represented by those mix designs. The technician performing the field test must hold current ACI certification as a Concrete Field Testing Technician-Grade I.

Notify the Engineer at least 5 days before field qualification. Perform field qualification within the job site or a location authorized.

Field qualification testing includes compressive strength, air content, and penetration or slump in compliance with the table titled "Lean Concrete Base Rapid Setting Requirements."

Field qualification must comply with the following:

1. Test for compressive strength at opening age and 7 days of age
2. At opening age, the compressive strength for each test must be at least 180 psi and the average strength for the 3 tests must be at least 200 psi
3. At 7 days age, the compressive strength for each test must be at least 600 psi and the average strength for the 3 tests must be at least 725 psi

28-4.01D(2) Quality Control**28-4.01D(2)(a) General**

Reserved

28-4.01D(2)(b) Quality Control Manager

Reserved

28-4.01D(2)(c) Quality Control Testing

Test the base under the test methods and at the locations and frequencies shown in the following table:

LCB Rapid Setting Sampling Location and Testing Frequencies

Quality characteristic	Test method	Sampling location	Minimum sampling and testing frequency
Sand equivalent	ASTM D2419	Source	1 per 500 cu yd, minimum 1 per day of production
Aggregate gradation	ASTM C136		
Air content	ASTM C231	Job site	1 per 4 hours of placement work, plus one in the last hour of placement work
Penetration ^a	ASTM C360		
Slump ^a	ASTM C143		
Compressive strength	California Test 521		

^aTest either penetration or slump

During placement of lean concrete base rapid setting, fabricate cylinders and test compressive strength for opening age and 7 days. Opening age tests must be performed in the presence of the Engineer.

28-4.01D(3) Department Acceptance

The Department accepts LCB rapid setting based on compliance with the requirement shown in the following table:

LCB Rapid Setting Requirements for Acceptance

Quality characteristic	Test method	Requirement
Compressive strength (min, psi at 7 days)	California Test 521 ^a	725

^aCylinders made under California Test 540

Replace the 2nd and 3rd paragraphs in section 28-4.03A with:

Concrete paving operations with equipment not supported by the base may start before opening age. Do not open pavement for traffic before opening age of the LCB rapid setting. 07-15-16

Any other paving operations must start after the final set time of the base. The base must have a compressive strength of at least 450 psi under California Test 521 before:

1. Placing HMA
2. Placing other base material
3. Operating equipment on the base

Replace *Reserved* in section 28-5.01C with:

Submit a concrete base QC plan. 07-15-16

Replace the headings and paragraphs in section 28-5.01D(2) with:

28-5.01D(2) Quality Control

28-5.01D(2)(a) General

Reserved

28-5.01D(2)(b) Quality Control Manager

Reserved

28-5.01D(2)(c) Quality Control Testing

Test the concrete base under the test methods and at the locations and frequencies shown in the following table:

07-15-16

Concrete Base Sampling Location and Testing Frequencies

Quality characteristic	Test method	Sample location	Minimum testing frequency ^a
Cleanness value	California Test 227	Source	1 per 500 cubic yards but at least 1 per shift
Sand equivalent	California Test 217		
Aggregate gradation	California Test 202		
Air content	California Test 504	Job site	1 per 500 cu yd but at least 1 per shift
Yield	California Test 518		1 per shift
Slump or penetration	ASTM C143 or California Test 533		1 per 2 hours of placement
Density	California Test 518		1 per shift
Aggregate moisture meter calibration ^b	California Test 223 or California Test 226		1 per shift
Modulus of rupture	California Test 524		1 per 500 cu yd but at least 1 per shift

^aTest at the most frequent interval.

^bCheck calibration of the plant moisture meter by comparing moisture meter readings with California Test 223 or California Test 226 test results.

28-5.01D(3) Department Acceptance

The Department accepts a concrete base based on compliance with the requirements shown in the following table:

Concrete Base Requirements for Acceptance

Quality characteristic	Test method	Requirement
Modulus of rupture (min, psi at 28 days)	California Test 523	570

Acceptance for the modulus of rupture is on a lot basis. The Department provides the molds and machines for the modulus of rupture acceptance testing. Provide any material and labor the Engineer may require for the testing.

AA

29 TREATED PERMEABLE BASES

07-15-16

Replace the headings and paragraphs in section 29-1.01 with:

07-15-16

29-1.01 GENERAL

29-1.01A Summary

Section 29-1 includes general specifications for constructing treated permeable bases.

29-1.01B Definitions

Reserved

29-1.01C Submittals

Submit a treated permeable base quality control plan.

29-1.01D Quality Assurance

29-1.01D(1) General

Reserved

29-1.01D(2) Quality Control**29-1.01D(2)(a) General**

Reserved

29-1.01D(2)(b) Quality Control Plan

Reserved

29-1.01D(2)(c) Qualifications

Reserved

29-1.01D(3) Department Acceptance

Reserved

Replace the headings and paragraphs in section 29-2.01D with:

07-15-16

29-2.01D Quality Assurance**29-2.01D(1) General**

The Engineer determines the asphalt content of the asphalt mixture under California Test 382. The bitumen ratio, pounds of asphalt per 100 lb of dry aggregate, must not vary more than 0.5 lb of asphalt above or below the quantity designated by the Engineer. Samples used to determine the bitumen ratio are obtained from trucks at the plant or from the mat behind the paver before rolling. If the sample is taken from the mat behind the paver, the bitumen ratio must not be less than the quantity designated by the Engineer, less 0.7 lb of asphalt per 100 lb of dry aggregate.

29-2.01D(2) Quality Control**29-2.01D(2)(a) General**

Reserved

29-2.01D(2)(b) Quality Control Testing

ATPB quality control must include testing the quality characteristics at the frequencies shown in the following table:

QC Testing Frequencies

Quality characteristic	Test method	Sampling location	Minimum frequency
Gradation	California Test 202	Stockpiles or plant	1 for every 4 hours of production but at least one per day of placement
Cleanness value	California Test 227	Stockpiles or plant	1 for every 4 hours of production but at least one per day
Percentage of crushed particles	California Test 205	Stockpiles or plant	1 test before production and one every 5,000 cu yd thereafter
Los Angeles rattler loss at 500 rev	California Test 211	Stockpiles or plant	1 test before production and one every 5,000 cu yd thereafter
Film stripping	California Test 302	Plant	1 test before production and one every 5000 cu yd thereafter
Asphalt content of the asphalt mixture	California Test 382	Plant, transportation units, windrows, or roadway	1 for every 4 hours of production but at least one per day

29-2.01D(3) Department Acceptance

The Department accepts ATPB based on aggregate gradation, cleanness value, percent of crushed particles, Los Angeles rattler, film stripping and asphalt content requirements specified in section 29-2.02 and section 29-2.01D(1).

The Engineer takes samples for aggregate gradation, cleanness value, percent of crushed particles, Los Angeles rattler, and film stripping from the plant.

The Engineer takes samples for asphalt content of the asphalt mixture from any of the following locations:

1. Plant
2. Truck
3. Windrow
4. Roadbed

Replace the headings and paragraphs in section 29-3.01 with:

07-15-16

29-3.01 GENERAL**29-3.01A Summary**

Section 29-3 includes specifications for constructing cement treated permeable bases.

29-3.01B Definitions

Reserved

29-3.01C Submittals

Reserved

29-3.01D Quality Assurance**29-3.01D(1) General**

Reserved

29-3.01D(2) Quality Control**29-3.01D(2)(a) General**

Reserved

29-3.01D(2)(b) Quality Control Testing

CTPB quality control must include testing the quality characteristics at the frequencies shown in the following table:

QC Testing Frequencies

Quality characteristic	Test method	Sampling location	Minimum frequency
Gradation	California Test 202	Stockpiles or plant	1 for every 4 hours of production but at least one per day of placement
Cleanness value	California Test 227	Stockpiles or plant	1 for every 4 hours of production but at least one per day
Los Angeles rattler loss at 500 rev	California Test 211	Stockpiles or plant	1 test before production and one every 5,000 cu yd thereafter
Soundness	California Test 214	Stockpiles or plant	1 test before production and one every 5,000 cu yd thereafter

DIVISION V SURFACINGS AND PAVEMENTS**37 BITUMINOUS SEALS**

07-15-16

Replace section 37 with:

07-15-16

37 SEAL COATS**37-1 GENERAL****37-1.01 GENERAL****37-1.01A Summary**

Section 37-1 includes general specifications for applying seal coats.

37-1.01B Definitions

Reserved

37-1.01C Submittals

At least 10 days before the preconstruction meeting submit a list of participants in the preconstruction meeting. Provide each participant's name, employer, title, and role in the production and placement of the seal coats.

At least 10 days before starting seal coat activities, submit the names of the authorized laboratories for quality control testing.

For each delivery of asphalt binder or asphaltic emulsion to the job site, submit a certificate of compliance and a copy of the specified test results.

For a seal coat that uses crumb rubber modifier, submit a Crumb Rubber Usage Report form monthly and at the end of project.

37-1.01D Quality Assurance**37-1.01D(1) General**

For aggregate testing, quality control laboratories must be in compliance with the Department's Independent Assurance Program to be an authorized laboratory. Quality control personnel must be qualified under the Department's Independent Assurance Program.

For emulsion testing, quality control laboratories must participate in the AASHTO Material's Reference Laboratory proficiency sample program.

37-1.01D(2) Preconstruction Meeting

Hold a preconstruction meeting within 5 days before start of seal coat work at a mutually agreed time and place with the Engineer and your:

1. Project superintendent
2. Project foreman
3. Traffic control foreman

Make arrangements for the conference facility. Preconstruction meeting participants must sign an attendance sheet provided by the Engineer. Be prepared to discuss:

1. Quality control testing
2. Acceptance testing
3. Seal coat placement
4. Proposed application rates for asphaltic emulsion or asphalt binder and aggregate.
5. Training on placement methods
6. Checklist of items for proper placement
7. Unique issues specific to the project, including:
 - 7.1. Weather
 - 7.2. Alignment and geometrics
 - 7.3. Traffic control requirements

- 7.4. Haul distances
- 7.5. Presence and absence of shaded areas
- 7.6. Any other local conditions
8. Contingency plan for material deliveries, equipment breakdowns, and traffic handling
9. Who in the field has authority to adjust application rates and how adjustments will be documented
10. Schedule of sweepings

37-1.02 MATERIALS

Not Used

37-1.03 CONSTRUCTION

37-1.03A General

If seal coat activities affect access to public parking, residential property, or commercial property, post signs at 100-foot intervals on the affected streets. Signs must display *No Parking – Tow Away*. Signs must state the dates and hours parking or access will be restricted. Notify residents, businesses, and local agencies at least 24 hours before starting activities. The notice must:

1. Describe the work to be performed
2. Detail streets and limits of activities
3. Indicate dates and work hours
4. Be authorized

Asphaltic emulsion or asphalt binder for seal coats may be reheated if necessary. After loading the asphaltic emulsion or asphalt binder into a truck for transport to the job site, do not heat asphaltic emulsion above 160 degrees F and asphalt rubber binder above 425 degrees F. During reheating, circulate or agitate the asphaltic emulsion or asphalt binder to prevent localized overheating.

Except for fog seals, apply quick setting Grade 1 asphaltic emulsions at a temperature from 75 to 130 degrees F and apply quick setting Grade 2 asphaltic emulsions at a temperature from 110 to 185 degrees F.

You determine the application rates for asphaltic emulsion or asphalt binder and aggregate and the Engineer authorizes the application rates.

37-1.03B Equipment

A self-propelled distributor truck for applying asphaltic emulsion or asphalt binder must be equipped with:

1. Pressure-type system with insulated tanks with circulating unit
2. Spray bars:
 - 2.1. With minimum length of 9 feet and full-circulating type
 - 2.2. With full-circulating-type extensions if needed to cover a greater width
 - 2.3. Adjustable to allow positioning at various heights above the surface to be treated
 - 2.4. Operated by levers such that 1 or all valves may be quickly opened or closed in one operation
3. Devices and charts to provide for accurate and rapid determination and control of asphaltic emulsion or asphalt binder quantities being applied. Include an auxiliary wheel type meter that registers:
 - 3.1. Speed in ft/min
 - 3.2. Trip by count
 - 3.3. Total distance in feet
4. Distribution system:
 - 4.1. Capable of producing a uniform application of asphaltic emulsion or asphalt binder in controlled quantities ranging from 0.02 to 1 gal/sq yd of surface and at a pressure ranging from 25 to 75 psi
 - 4.2. Pumps that spray asphaltic emulsion or asphalt binder within 0.02 gal/sq yd of the set rate
 - 4.3. With a hose and nozzle for application of asphaltic emulsion to areas inaccessible to the spray bar
 - 4.4. With pressure gauges and a thermometer for determining temperatures of the asphaltic emulsion or asphalt binder

You may use cab-controlled valves for the application of asphaltic emulsion or asphalt binder. The valves controlling the flow from nozzles must act positively to provide a uniform unbroken application of asphaltic emulsion or asphalt binder.

Maintain distributor and storage tanks at all times to prevent dripping.

37-1.04 PAYMENT

Not Used

37-2 CHIP SEALS

37-2.01 GENERAL

37-2.01A General

37-2.01A(1) Summary

Section 37-2.01 includes general specifications for applying chip seals.

37-2.01A(2) Definitions

Reserved

37-2.01A(3) Submittals

At least 15 days before starting placement of chip seal, submit:

1. Samples for:
 - 1.1. Asphaltic emulsion chip seal, two 1-quart wide mouth plastic containers with screw top lid of asphaltic emulsion
 - 1.2. Polymer modified asphaltic emulsion chip seal, two 1-quart wide mouth plastic containers with screw top lid of polymer modified asphaltic emulsion
 - 1.3. Asphalt rubber binder chip seal, two 1-quart cans of base asphalt binder
 - 1.4. Asphalt rubber binder chip seal, five 1-quart cans of asphalt rubber binder
2. Asphaltic emulsion, polymer modified asphaltic emulsion, asphalt binder or asphalt rubber binder data as follows:
 - 2.1. Supplier and Type/Grade of asphaltic emulsion or asphalt binder
 - 2.2. Type of modifier used including polymer or crumb rubber or both
 - 2.3. Percent of crumb rubber, if used as modifier
 - 2.4. Copy of the specified test results for asphaltic emulsion or asphalt binder
3. 50 lb of uncoated aggregate
4. Aggregate test results for the following:
 - 4.1. Gradation
 - 4.2. Los Angeles Rattler
 - 4.3. Percent of crushed particles
 - 4.4. Flat and elongated particles
 - 4.5. Film stripping
 - 4.6. Cleanness value
 - 4.7. Durability
5. Vialit test results

Submit quality control test results for the quality characteristics within the reporting times allowance after sampling shown in the following table:

Quality Control Test Result Reporting

Quality characteristic	Maximum reporting time allowance
Los Angeles Rattler loss (max, %)	48 hours
Percent of crushed particles (min, %)	48 hours
Flat and elongated particles (max by weight at 3:1, %)	48 hours
Film stripping (max, %)	48 hours
Durability (min)	48 hours
Gradation (percentage passing)	24 hours
Cleanness value (min)	24 hours
Asphaltic emulsion spread rate (gal/sq yd)	24 hours

Within 3 days after taking asphaltic emulsion or asphalt binder quality control samples, submit the authorized laboratory's test results.

37-2.01A(4) Quality Assurance

37-2.01A(4)(a) General

Reserved

37-2.01A(4)(b) Quality Control

37-2.01A(4)(b)(i) General

Reserved

37-2.01A(4)(b)(ii) Aggregate

All tests must be performed on uncoated aggregate except for film stripping which must be performed on precoated aggregate.

For aggregate, the authorized laboratory must perform sampling and testing at the specified frequency and location for the following quality characteristics:

Aggregate Quality Control Requirements

Quality characteristic	Test method	Minimum sampling and testing frequency	Location of sampling
Los Angeles Rattler loss (max, %) At 100 revolutions At 500 revolutions	California Test 211	1st day of production	See California Test 125
Percent of crushed particles Coarse aggregate (min, %) One-fractured face Two-fractured faces Fine aggregate (min, %) (Passing No. 4 sieve and retained on No. 8 sieve) One fractured face	AASHTO T 335	1st day of production	See California Test 125
Flat and elongated particles (max by weight at 3:1, %)	ASTM D4791	1st day of production	See California Test 125
Film stripping (max, %)	California Test 302	1st day of production	See California Test 125
Durability (min)	California Test 229	1st day of production	See California Test 125
Gradation (% passing)	California Test 202	2 per day	See California Test 125
Cleanness value (min)	California Test 227	2 per day	See California Test 125

37-2.01A(4)(b)(iii) Chip Seals

For a chip seal, the authorized laboratory must perform sampling and testing at the specified frequency and location for the following quality characteristics:

Chip Seal Quality Control Requirements

Quality characteristic	Test method	Minimum sampling and testing frequency	Location of sampling
Asphaltic emulsion binder spread rate (gal/sq yd)	California Test 339	1 per day per distributor truck	Pavement surface

37-2.01A(4)(c) Department Acceptance

Department Acceptance shall not apply to identified areas where the existing surfacing before application of chip seal, contains defective areas as determined by the Engineer and Contractor. At least 7 days

before starting placement of the chip seal, the Contractor shall submit a written list of existing defective areas, identifying the lane direction, lane number, starting and ending highway post mile locations, and defect type. The Engineer must agree on which of the identified areas are defective.

Defective areas are defined as one of the following:

1. Areas with wheel path rutting in excess of 3/8 inch when measured by placing a straightedge 12 feet long on the finished surface perpendicular to the center line and measuring the vertical distance between the finished surface and the lower edge of the straightedge
2. Areas exhibiting flushing

For a chip seal, acceptance is based on visual inspection for the following:

1. Uniform surface texture
2. Raveling, which consists of the separation of the aggregate from the asphaltic emulsion or asphalt binder
3. Flushing, which consists of the occurrence of a film of asphaltic material on the surface of the chip seal.
4. Streaking, which consists of alternating longitudinal bands of asphaltic emulsion or asphalt binder without uniform aggregate retention, approximately parallel with the lane line.

Areas of raveling, flushing or streaking that are greater than 0.5 sq ft shall be considered defective and must be repaired.

Raveling and streaking must be repaired by placing an additional layer of chip seal over the defective area.

For asphaltic emulsion or asphalt binder, acceptance is based on the Department's sampling and testing for compliance with the requirements for the quality characteristics specified.

For aggregate, acceptance is based on the Department's sampling and testing for compliance with the requirements shown in the following table:

Chip Seal Aggregate Acceptance Criteria

Quality characteristic	Test method	Requirements
Los Angeles Rattler loss (max, %)		
At 100 revolutions	California Test 211	10
At 500 revolutions		40
Percent of crushed particles:	AASHTO T 335	
Coarse aggregate (min, %)		
One-fractured face		95
Two-fractured faces		90
Fine aggregate (min, %)		
(Passing No. 4 sieve and retained on No. 8 sieve)		
One fractured face		70
Flat and elongated particles (max by weight at 3:1, %)	ASTM D4791	10
Film stripping (max, %)	California Test 302	25
Durability (min)	California Test 229	52
Gradation (% passing by weight)	California Test 202	Aggregate Gradation table shown under Materials for the chip seal type specified.
Cleanness value (min)	California Test 227	80

If test results for the aggregate gradation do not comply with specifications, you may remove the chip seal represented by these tests or request that it remain in place with a payment deduction. The deduction is \$1.75 per ton for the aggregate represented by the test results.

If test results for aggregate cleanness value do not comply with the specifications, you may remove the chip seal represented by these tests or you may request that the chip seal remain in place with a pay deduction corresponding to the cleanness value shown in the following table:

Chip Seal Cleanness Value Deductions

Cleanness value	Deduction
80 or over	None
79	\$2.00 /ton
77-78	\$4.00 /ton
75-76	\$6.00 /ton

If the aggregate cleanness value is less than 75, remove the chip seal.

37-2.01B Materials

37-2.01B(1) General

Reserved

37-2.01B(2) Asphaltic Emulsions and Asphalt Binders

Reserved

37-2.01B(3) Aggregate

37-2.01B(3)(a) General

Aggregate must be broken stone, crushed gravel, or both.

Aggregate must comply with the requirements shown in the following table:

Chip Seal Aggregate Requirements

Quality characteristic	Test method	Requirements
Los Angeles Rattler loss (max, %)		
At 100 revolutions	California Test 211	10
At 500 revolutions		40
Percent of crushed particles	AASHTO T 335	
Coarse aggregate (min, %)		
One-fractured face		95
Two-fractured faces		90
Fine aggregate (min, %)		
(Passing No. 4 sieve and retained on No. 8 sieve)		
One fractured face		70
Flat and elongated particles (max by weight at 3:1, %)	ASTM D4791	10
Film stripping (max, %)	California Test 302	25
Durability (min)	California Test 229	52
Gradation (% passing by weight)	California Test 202	Aggregate Gradation table shown under Materials for the chip seal type specified.
Cleanness value (min)	California Test 227	80

The authorized laboratory must conduct the Vialit test using the proposed asphaltic emulsion or asphalt binder and aggregate for compliance with the requirements shown in the following table:

Chip Retention Requirements

Quality characteristic	Test method	Requirement
Chip retention (%)	Vialit test method for aggregate in chip seals, French chip (Modified) ^a	95

^aThe asphaltic emulsion or asphalt binder must be within the field placement temperature range and application rate during specimen preparation. For asphalt binder cure the specimen for first 2 hours at 100 °F.

37-2.01B(3)(b) Precoated Aggregate

Precoating of aggregate must be performed at a central mixing plant. The plant must be authorized under the Department's *MPQP*.

When precoating aggregate, do not recombine fine materials collected in dust control systems.

Precoated aggregate must be preheated from 260 to 325 degrees F. Coat with any of the asphalts specified in the table titled "Performance Graded Asphalt Binder" in section 92. The asphalt must be from 0.5 to 1.0 percent by weight of dry aggregate. You determine the exact asphalt rate for precoating of aggregate.

Do not stockpile precoated aggregate.

37-2.01C Construction

37-2.01C(1) General

For chip seals on 2-lane, 2-way roadways, place a W8-7 (LOOSE GRAVEL) sign and a W13-1 (35) plaque at 2,000-foot maximum intervals along each side of the traveled way where aggregate is spread on a traffic lane and at public roads or streets entering the chip seal area. Place the 1st W8-7 sign in each direction where traffic first encounters the loose aggregate, regardless of which lane the aggregate is spread on. A W13-1 (35) plaque is not required where the posted speed limit is less than 40 mph.

For chip seals on freeways, expressways, and multilane conventional highways, place a W8-7, (LOOSE GRAVEL) sign and a W13-1 (35) plaque at 2,000-foot maximum intervals along the outside edge of the traveled way nearest to the lane worked on, at on ramps, and at public roads or streets entering the chip seal area. Place the 1st W8-7 sign where the aggregate starts with respect to the direction of travel on that lane. A W13-1 (35) plaque is not required where the posted speed limit is less than 40 mph.

Pilot cars must have cellular or radio contact with other pilot cars and personnel in the work zone. The maximum speed of the pilot cars conveying or controlling traffic through the traffic control zone must be 15 mph on 2-lane, two-way highways and 25 mph on multilane divided and undivided highways. Pilot cars must only use traffic lanes open to traffic.

On the days that closures are not allowed, you may use a moving closure to maintain the seal coat surface. The moving closure is only allowed during daylight hours when traffic will be the least inconvenienced and delayed. The Engineer determines the hours for the moving closure.

Maintain signs in place at each location until the final sweeping of the chip seal surface for that location is complete. Signs may be set on temporary portable supports with the W13-1 sign below the W8-7 sign or on barricades with the W13-1 sign alternating with the W8-7 sign.

Schedule chip seal activities so that the chip seals are placed on both lanes of the traveled way each work shift.

If traffic is routed over a surface where a chip seal application is intended, the chip seal must not be applied to more than half the width of the traveled way at a time, and the remaining width must be kept free of obstructions and open to traffic until the previously applied width is ready for traffic use.

Wherever maintenance sweeping of the chip seal surface is complete, place permanent traffic stripes and pavement markings within 10 days.

If you fail to place the permanent traffic stripes and pavement markings within the specified time, the Department withholds 50 percent of the estimated value of the chip seal work completed that has not received permanent traffic stripes and pavement markings.

37-2.01C(2) Equipment

Equipment for chip seals must include and comply with the following:

1. Aggregate haul trucks must have:
 - 1.1. Tailgate that discharge aggregate
 - 1.2. Device to lock onto the rear aggregate spreader hitch
 - 1.3. Dump bed that will not push down on the spreader when fully raised
 - 1.4. Dump bed that will not spill aggregate on the roadway when transferred to the spreader hopper
 - 1.5. Tarpaulin to cover precoated aggregate when haul distance exceeds 30 minutes or ambient temperature is less than 65 degrees F
2. Self-propelled aggregate spreaders must have:
 - 2.1. Aggregate hopper in the rear
 - 2.2. Belt conveyor that carries the aggregate to the front
 - 2.3. Spreading hopper capable of providing a uniform aggregate spread rate over the entire width of the traffic lane in 1 application.
3. Self-propelled power brooms must:
 - 3.1. Not be steel-tined brooms on emulsion chip seals
 - 3.2. Be capable of removing loose aggregate adjacent to barriers that prevent aggregate from being swept off the roadway, including curbs, gutters, dikes, berms, and railings
4. Pneumatic or foam filled rubber tired rollers must:
 - 4.1. Be an oscillating type at least 4 feet wide
 - 4.2. Be self-propelled and reversible
 - 4.3. Have tires of equal size, diameter, type, and ply
 - 4.4. Carry at least 3,000 lbs of load on each wheel
 - 4.5. Have tires with an air pressure of 100 ± 5 psi or be foam filled

37-2.01C(3) Surface Preparation

Before applying chip seals, cover manholes, valve and monument covers, grates, or other exposed facilities located within the area of application, using a plastic or oil resistant construction paper secured by tape or adhesive to the facility being covered. Reference the covered facilities with enough control points to relocate the facilities after the application of the chip seal.

Immediately before applying chip seals, clean the surface to receive a chip seal by removing any extraneous material affecting adhesion of the chip seal with the existing surface and drying. Use self-propelled power brooms to clean the existing pavement.

37-2.01C(4) Placement

37-2.01C(4)(a) General

Schedule the operations so that chip seals are placed on both lanes of the traveled way each work shift. At the end of the work shift, the end of the chip seals on both lanes must generally match.

37-2.01C(4)(b) Applying Asphaltic Emulsions or Asphalt Binders

Prevent spraying on existing pavement not intended for chip seals or on previously applied chip seals using a material such as building paper. Remove the material after use.

Align longitudinal joints between chip seal applications with designated traffic lanes.

For asphaltic emulsion or asphalt binder, overlap longitudinal joints by not more than 4 inches. You may overlap longitudinal joints up to 8 inches if authorized.

For areas not accessible to a truck distributor bar apply:

1. Asphaltic emulsions by hand spraying
2. Asphalt binders with a squeegee or other authorized means

You may overlap the asphaltic emulsion or asphalt binder applications before the application of aggregate at longitudinal joints.

Do not apply the asphaltic emulsion or asphalt binder unless there is sufficient aggregate at the job site to cover the asphaltic emulsion or asphalt binder.

Discontinue application of asphaltic emulsion or asphalt binder early enough to comply with lane closure requirements. Apply to 1 lane at a time and cover the lane width entirely in 1 operation.

37-2.01C(4)(c) Spreading Aggregates

37-2.01C(4)(c)(i) General

Prevent vehicles from driving on asphaltic emulsion or asphalt binder before spreading aggregate.

Spread aggregate within 10 percent of your determined rate.

Spread aggregate at a uniform rate over the full lane width in 1 application. Apply to 1 lane at a time.

Sweep excess aggregate at joints before spreading adjacent aggregate.

Operate the spreader at speeds slow enough to prevent aggregate from rolling over after dropping.

If the spreader is not moving, aggregate must not drop. If you stop spreading and aggregate drops, remove the excess aggregate before resuming activities.

37-2.01C(4)(c)(ii) Precoated Aggregate Application

During transit, cover precoated aggregate with tarpaulins if the ambient air temperature is below 65 degrees F or the haul time exceeds 30 minutes.

When applied, precoated aggregate must be from 225 to 325 degrees F.

37-2.01C(4)(d) Finishing

37-2.01C(4)(d)(i) General

Remove piles, ridges, or unevenly distributed aggregate. Repair permanent ridges, bumps, streaks or depressions in the finished surface. Spread additional aggregate and roll if aggregate is picked up by rollers or vehicles.

Chip seal joints between adjacent applications of a chip seal must be smooth, straight, uniform, and completely covered.

A coverage is 1 roller movement over the entire width of lane. A pass is 1 roller movement parallel to the chip seal application in either direction. Overlapping passes are part of the coverage being made and are not part of a subsequent coverage. Do not start a new coverage until completing the previous coverage.

Before opening to traffic, finish the chip seals in the following sequence:

1. Perform initial rolling consisting of 1 coverage with a pneumatic-tired roller
2. Perform final rolling consisting of 2 coverages with a pneumatic-tired roller
3. Sweep excess aggregate from the roadway and adjacent abutting areas
4. Apply a flush coat if specified
5. Remove covers from the facilities

37-2.01C(4)(d)(ii) Traffic Control With Pilot Car

For 2-lane 2-way roadways under 1-way traffic control, upon completion of final rolling, traffic must be controlled with pilot cars and routed over the new chip seal for a period of 2 to 4 hours before opening the lane to traffic not controlled with pilot cars.

For multilane roadways, when traffic is controlled with pilot cars, a maximum of 1 lane in the direction of travel must be open to traffic. Traffic must be controlled with pilot cars and be routed on the new chip seal surface of the lane for a minimum of 2 hours after completion of the initial sweeping and before opening the lane to traffic not controlled with pilot cars. Once traffic controlled with pilot cars is routed over the chip seal at a particular location, continuous control must be maintained at that location until the chip seal placement and sweeping on adjacent lanes to receive a chip seal is completed.

37-2.01C(4)(d)(iii) Sweeping

Sweeping must be performed after the chip seal has set and there is no damage or dislodging of aggregate from the chip seal surface. As a minimum, sweeping is required at the following times:

1. On 2-lane 2-way roadways, from 2 to 4 hours after traffic, controlled with pilot cars, has been routed on the chip seal
2. On multilane roadways, from 2 to 4 hours after aggregate have been placed
3. In addition to previous sweeping, perform final sweeping immediately before opening any lane to public traffic, not controlled with pilot cars

37-2.01C(4)(d)(iv) Excess Aggregate

Dispose of excess aggregate. If ordered, salvaging and stockpiling of excess aggregate is change order work.

37-2.01C(4)(e) Chip Seal Maintenance

Perform sweeping on the morning following the application of aggregate on any lane that has been open to traffic not controlled with pilot cars and before starting any other activities.

Chip seal surfaces must be maintained for 4 consecutive days from the day aggregate is applied. Maintenance must include sweeping to maintain a surface free of loose aggregate and to prevent formation of corrugations. Sweeping must not dislodge aggregate set in asphaltic emulsion or asphalt binder.

After 4 consecutive days, excess aggregate must be removed from the paved areas.

37-2.01D Payment

If there is no bid item for traffic control system, furnishing and using a pilot car is included in the various items of the work involved in applying the chip seal.

The payment quantity for precoated aggregate is the weight measured after the aggregate is preheated and precoated with asphalt binder.

If recorded batch weights are printed automatically, the payment quantity for aggregate is the weight determined from the printed batch weights if:

1. Total weight for the precoated aggregate per batch is printed
2. Total asphalt binder weight per batch is printed
3. Zero tolerance weight is printed before weighing the first batch and after weighing the last batch for each truckload
4. Time, date, mix number, load number, and truck identification are correlated with a load slip
5. Copy of the recorded batch weights is certified by a licensed weighmaster

37-2.02 ASPHALTIC EMULSION CHIP SEALS**37-2.02A General****37-2.02A(1) Summary**

Section 37-2.02 includes specifications for applying asphaltic emulsion chip seals. An asphaltic emulsion chip seal includes applying an asphaltic emulsion, followed by aggregate, and then a flush coat.

A double asphaltic emulsion chip seal is the application of an asphaltic emulsion followed by aggregate, applied twice in sequence and then a flush coat.

37-2.02A(2) Definitions

Reserved

37-2.02A(3) Submittals

Immediately after sampling, submit two 1-quart plastic containers of asphaltic emulsion taken in the presence of the Engineer. Samples must be submitted in insulated shipping container.

37-2.02A(4) Quality Assurance**37-2.02A(4)(a) General**

Reserved

37-2.02A(4)(b) Quality Control**37-2.02A(4)(b)(i) General**

Reserved

37-2.02A(4)(b)(ii) Asphaltic Emulsions

Circulate asphaltic emulsion in the distributor truck before sampling. Take samples from the distributor truck at mid load or from a sampling tap or thief. Before taking samples, draw and dispose of 1 gallon. In the presence of the Engineer, take two 1-quart samples in a plastic container with lined sealed lid for acceptance testing.

For asphaltic emulsion, the authorized laboratory must perform quality control sampling and testing at the specified frequency and location for the following quality characteristics:

Asphaltic Emulsion

Quality characteristic	Test method	Minimum sampling and testing frequency	Sampling location
Saybolt Furol Viscosity, at 25 °C (Saybolt Furol seconds)	AASHTO T 59	Minimum 1 per day per delivery truck	Distributor truck
Sieve Test (%)			
Storage stability, 1 day (%)			
Residue by distillation (%)			
Particle charge ^a			
Tests on Residue from Distillation Test:			
Penetration, 25 °C	AASHTO T 49	Minimum 1 per day per delivery truck	Distributor truck
Ductility	AASHTO T 51		
Solubility in trichloroethylene	AASHTO T 44		

^aIf the result of the particle charge is inconclusive, the asphaltic emulsion must be tested for pH under ASTM E70. Grade QS1h asphaltic emulsion must have a minimum pH of 7.3. Grade CQS1h asphaltic emulsion must have a maximum pH of 6.7.

37-2.02A(4)(c) Department Acceptance

Aggregate acceptance is based on the Department's sampling and testing for compliance with the requirements shown in the following table:

Aggregate Gradation Acceptance Criteria

Quality characteristic	Test method	Requirement		
Gradation (% passing by weight)	California Test 202	3/8"	5/16"	1/4"
Sieve size:		--	--	--
3/4"		100	--	--
1/2"		85-100	100	100
3/8"		0-15	0-50	60-85
No. 4		0-5	0-15	0-25
No. 8		--	0-5	0-5
No. 16		--	0-3	0-3
No. 30		0-2	0-2	0-2
No. 200				

37-2.02B Materials**37-2.02B(1) General**

Reserved

37-2.02B(2) Asphaltic Emulsions

Reserved

37-2.02B(3) Aggregate

Aggregate gradation for an asphaltic emulsion chip seal must comply with the requirements shown in the following table:

Asphaltic Emulsion Chip Seal Aggregate Gradation

Quality characteristic	Test method	Requirement		
Gradation (% passing by weight)	California Test 202	3/8"	5/16"	1/4"
Sieve size:				
3/4"		--	--	--
1/2"		100	--	--
3/8"		85–100	100	100
No. 4		0–15	0–50	60–85
No. 8		0–5	0–15	0–25
No. 16		--	0–5	0–5
No. 30		--	0–3	0–3
No. 200		0–2	0–2	0–2

37-2.02C Construction**37-2.02C(1) General**

Reserved

37-2.02C(2) Asphaltic Emulsions

Asphaltic emulsions must be applied within the application rate ranges shown in the following table:

Asphaltic Emulsion Application Rates

Aggregate gradation	Application rate range (gal/sq yd)
3/8"	0.30–0.45
5/16"	0.25–0.35
1/4"	0.20–0.30

For double asphaltic emulsion chip seals, the asphaltic emulsions must be applied within the application rates shown in the following table:

Asphaltic Emulsion Application Rates

Double chip seals	Application rate range (gal/sq yd)
1st application	0.30–0.45
2nd application	0.20–0.30

When applied, the temperature of the asphaltic emulsions must be from 130 to 180 degrees F.

Apply asphaltic emulsions when the ambient air temperature is from 65 to 110 degrees F and the pavement surface temperature is at least 80 degrees F.

Do not apply asphaltic emulsions when weather forecasts predict the ambient air temperature will fall below 39 degrees F within 24 hours after application.

37-2.02C(3) Spreading Aggregates

Aggregate must be spread within the spread rate ranges shown in the following table:

Aggregate Spread Rates

Aggregate gradation	Spread rate range (lb/sq yd)
3/8"	20–30
5/16"	16–25
1/4"	12–20

For double asphaltic emulsion chip seals, aggregate must be spread within the spread rate ranges shown in the following table:

Aggregate Spread Rates

Double chip seal	Spread rate range (lb/sq yd)
1st application	23–30
2nd application	12–20

Remove excess aggregate on the 1st application before the 2nd application of asphaltic emulsion.

You may stockpile aggregate for asphaltic emulsion chip seals if you prevent contamination. Aggregate must have a damp surface at spreading. If water visibly separates from the aggregate, do not spread. You may re-dampen aggregate in the delivery vehicle.

Spread aggregate before an asphaltic emulsion sets or breaks.

Do not spread aggregate more than 2,500 feet ahead of the completed initial rolling.

37-2.02D Payment

Not Used

37-2.03 POLYMER MODIFIED ASPHALTIC EMULSION CHIP SEALS**37-2.03A General****37-2.03A(1) Summary**

Section 37-2.03 includes specifications for applying polymer modified asphaltic emulsion chip seals. A polymer modified asphaltic emulsion chip seal includes applying a polymer modified asphaltic emulsion, followed by aggregate, and then a flush coat.

A double polymer modified asphaltic emulsion chip seal is the application of a polymer modified asphaltic emulsion followed by aggregate, applied twice in sequence and then a flush coat.

37-2.03A(2) Definitions

Reserved

37-2.03A(3) Submittals

Immediately after sampling, submit two 1-quart cans of polymer modified asphaltic emulsion taken in the presence of the Engineer. A sample must be submitted in an insulated shipping container.

37-2.03A(4) Quality Assurance**37-2.03A(4)(a) General**

Reserved

37-2.03A(4)(b) Quality Control**37-2.03A(4)(b)(i) General**

Reserved

37-2.03A(4)(b)(ii) Polymer Modified Asphaltic Emulsions

Circulate polymer modified asphaltic emulsions in the distributor truck before sampling. Take samples from the distributor truck at mid load or from a sampling tap or thief. Before taking samples, draw and dispose of 1 gallon. In the presence of the Engineer, take two 1-quart samples for acceptance testing.

For polymer modified asphaltic emulsions, the authorized laboratory must perform quality control sampling and testing at the specified frequency and location for the following quality characteristics:

Polymer Modified Asphaltic Emulsion

Quality characteristic	Test method	Minimum sampling and testing frequency	Sampling location
Saybolt Furol Viscosity, at 50 °C (Saybolt Furol seconds)	AASHTO T 59	Minimum 1 per day per delivery truck	Distributor truck
Settlement, 5 days (max, %)			
Storage stability test, 1 day (max, %)			
Sieve test (max, %)			
Demulsibility (min, %)			
Particle charge			
Ash content (max, %)	ASTM D3723		
Residue by evaporation (min, %)	California Test 331		
Tests on residue from evaporation test:			
Penetration, 25 °C	AASHTO T 49	Minimum 1 per day per delivery truck	Distributor truck
Penetration, 4 °C, 200g for 60 seconds	AASHTO T 49		
Ductility, 25 °C (min, mm)	AASHTO T 51		
Torsional recovery (min, %)	California Test 332		
Ring and Ball Softening Point (min, °F)	AASHTO T 53		

37-2.03A(4)(c) Department Acceptance

Aggregate acceptance is based on the Department's sampling and testing for compliance with the requirements shown in the following table:

Aggregate Gradation Acceptance Criteria

Quality characteristic	Test method	Requirement		
		3/8"	5/16"	1/4"
Gradation (% passing by weight)	California Test 202	3/8"	5/16"	1/4"
Sieve size:				
3/4"		--	--	--
1/2"		100	--	--
3/8"		85–100	100	100
No. 4		0–15	0–50	60–85
No. 8		0–5	0–15	0–25
No. 16		--	0–5	0–5
No. 30		--	0–3	0–3
No. 200	0–2	0–2	0–2	

37-2.03B Materials

37-2.03B(1) General

Reserved

37-2.03B(2) Polymer Modified Asphaltic Emulsions

A polymer modified asphaltic emulsion must include elastomeric polymer.

A polymer modified asphaltic emulsion must be Grade PMRS2, PMRS2h, PMCRS2, or PMCRS2h. Polymer content in percent by weight does not apply.

A polymer modified asphaltic emulsion must comply with section 94 and the quality characteristic requirements in the following table:

Polymeric Asphaltic Emulsion

Quality characteristic	Test method	Requirement
Penetration, 4 °C, 200g for 60 seconds (min)	AASHTO T 49	6
Ring and Ball Softening Point (min, °F)	AASHTO T 53	135

37-2.03B(3) Aggregate

The aggregate gradation for a polymer modified asphaltic emulsion chip seal must comply with the requirements shown in the following table:

Asphaltic Emulsion Chip Seal Aggregate Gradation

Quality characteristic	Test method	Requirement		
Gradation (% passing by weight) Sieve Size	California Test 202	3/8"	5/16"	1/4"
3/4"		--	--	--
1/2"		100	--	--
3/8"		85–100	100	100
No. 4		0–15	0–50	60–85
No. 8		0–5	0–15	0–25
No. 16		--	0–5	0–5
No. 30		--	0–3	0–3
No. 200		0–2	0–2	0–2

37-2.03C Construction

Polymer modified asphaltic emulsions must be applied within the application rate ranges shown in the following table:

Polymer Modified Asphaltic Emulsion Application Rates

Aggregate gradation	Application rate range (gal/sq yd)
3/8"	0.30–0.45
5/16"	0.25–0.35
1/4"	0.20–0.30

For double polymer modified asphaltic emulsion chip seals, polymer modified asphaltic emulsions must be applied within the application rates shown in the following table:

Polymer Modified Asphaltic Emulsion Application Rates

Double application	Application rate range (gal/sq yd)
1st application	0.30–0.45
2nd application	0.20–0.30

Apply polymer modified asphaltic emulsions when the ambient air temperature is from 60 to 105 degrees F and the pavement surface temperature is at least 80 degrees F.

Do not apply polymer modified asphaltic emulsions when weather forecasts predict the ambient air temperature will fall below 39 degrees F within 24 hours after application.

Aggregate must be spread within the spread rate ranges shown in the following table:

Aggregate Spread Rates

Chip seal type	Spread rate range (lb/sq yd)
3/8"	20–30
5/16"	16–25
1/4"	12–20

For double chip seals, aggregate must be spread within spread rate ranges shown in the following table:

Aggregate Spread Rates

Double application	Spread rate range (lb/sq yd)
1st application	23–30
2nd application	12–20

Remove excess aggregate on the 1st application before the 2nd application of asphaltic emulsion.

You may stockpile aggregate for the polymer modified asphaltic emulsion chip seals if you prevent contamination. Aggregate must have damp surfaces at spreading. If water visibly separates from the aggregate, do not spread. You may redampen aggregate in the delivery vehicle.

Spread aggregate before the polymer modified asphaltic emulsion sets or breaks.

Do not spread aggregate more than 2,500 feet ahead of the completed initial rolling.

37-2.03D Payment

Not Used

37-2.04 ASPHALT RUBBER BINDER CHIP SEALS**37-2.04A General****37-2.04A(1) Summary**

Section 37-2.04 includes specifications for applying asphalt rubber binder chip seals.

An asphalt rubber binder chip seal consists of applying asphalt rubber binder followed by heated aggregate precoated with asphalt binder followed by a flush coat.

37-2.04A(2) Definitions

crumb rubber modifier: Combination of ground or granulated high natural scrap tire crumb rubber and scrap tire crumb rubber derived from waste tires described in Pub Res Code § 42703.

descending viscosity reading: Subsequent viscosity reading at least 5 percent lower than the previous viscosity reading.

high natural scrap tire crumb rubber: Material containing 40 to 48 percent natural rubber.

scrap tire crumb rubber: Any combination of vehicle tires or tire buffing.

37-2.04A(3) Submittals

At least 5 business days before use, submit the permit issued by the local air district for asphalt rubber binder field blending equipment and application equipment. If an air quality permit is not required by the local air district for producing asphalt rubber binder, submit verification from the local air district that an air quality permit is not required.

For each delivery of asphalt rubber binder ingredients to the job site, submit a certificate of compliance with a copy of the specified test results.

Submit a certified volume or weight slip for each delivery of asphalt rubber binder ingredients and asphalt rubber binder.

Submit a SDS for each asphalt rubber binder ingredient and the asphalt rubber binder.

At least 15 days before use, submit:

1. Samples of each asphalt rubber binder ingredient:
 - 1.1. 2 lbs of scrap tire crumb rubber
 - 1.2. 2 lbs of high natural scrap tire crumb rubber
 - 1.3. Two 1-quart cans of base asphalt binder
 - 1.4. Two 1-quart cans of asphalt modifier
2. Asphalt rubber binder formulation and data as follows:
 - 2.1. For asphalt modifier, include:
 - 2.1.1. Source of asphalt modifier
 - 2.1.2. Type of asphalt modifier
 - 2.1.3. Percentage of asphalt modifier by weight of asphalt binder
 - 2.1.4. Percentage of combined asphalt binder and asphalt modifier by weight of asphalt rubber binder
 - 2.1.5. Test results for the specified quality characteristics
 - 2.2. For crumb rubber modifier, include:
 - 2.2.1. Each source and type of scrap tire crumb rubber and high natural scrap tire crumb rubber
 - 2.2.2. Percentage of scrap tire crumb rubber and high natural scrap tire crumb rubber by total weight of asphalt rubber binder
 - 2.2.3. Test results for the specified quality characteristics
 - 2.3. For asphalt rubber binder, include minimum reaction time and temperature

Immediately after sampling, submit five 1-quart cans of asphalt rubber binder taken in the presence of the Engineer. Sample must be submitted in insulated shipping containers.

Submit notification 15 minutes before each viscosity test or submit a schedule of testing times.

Submit the log of asphalt rubber binder descending viscosity test results within 1 business day after sampling.

Submit asphalt rubber binder quality control viscosity test results within 1 business day after sampling.

37-2.04A(4) Quality Assurance

37-2.04A(4)(a) General

The equipment used in producing asphalt rubber binder and the equipment used in spreading asphalt rubber binder must be permitted for use or exempted by the local air district.

37-2.04A(4)(b) Quality Control

37-2.04A(4)(b)(i) General

Reserved

37-2.04A(4)(b)(ii) Asphalt Modifiers

For asphalt modifiers, the authorized laboratory must perform quality control sampling and testing at the specified frequency for the following quality characteristics:

Asphalt Modifier for Asphalt Rubber Binder

Quality characteristic	Test method	Frequency
Viscosity	ASTM D445	1 per shipment
Flash point	ASTM D92	
Molecular Analysis:		
Asphaltenes	ASTM D2007	1 per shipment
Aromatics	ASTM D2007	

37-2.04A(4)(b)(iii) Crumb Rubber Modifiers

Sample and test scrap tire crumb rubber and high natural scrap tire crumb rubber separately.

Perform quality control sampling and testing at the specified frequency for the following quality characteristics:

Crumb Rubber Modifier

Quality characteristic	Test method	Frequency
Scrap tire crumb rubber gradation	California Test 385	1 per 10,000
High natural scrap tire crumb rubber gradation	California Test 385	1 per 3,400 lb
Wire in CRM	California Test 385	1 per 10,000 lb
Fabric in CRM	California Test 385	
CRM particle length	--	
CRM specific gravity	California Test 208	
Natural rubber content in high natural scrap tire crumb rubber	ASTM D297	1 per 3,400 lb

37-2.04A(4)(b)(iv) Asphalt Rubber Binders

For asphalt rubber binders, the authorized laboratory must perform quality control sampling and testing at the specified frequency and location for the following quality characteristics:

Asphalt Rubber Binder Quality Control Requirements

Quality characteristic	Test method	Sampling location	Frequency
Descending viscosity ^a at 375 °F (Pa•s x 10 ⁻³)	ASTM D7741	Reaction vessel	1 per lot ^b
Viscosity at 375 °F (Pa•s x 10 ⁻³)	ASTM D7741	Distribution truck	15 minutes before use per lot ^b
Cone penetration at 25 °C (0.10 mm)	ASTM D217	Distribution truck	1 per lot ^b
Resilience at 25 °C (% rebound)	ASTM D5329		
Softening point (°C)	ASTM D36		

^aStart taking viscosity readings at least 45 minutes after adding crumb rubber modifier and continue taking viscosity readings every 30 minutes until 2 consecutive descending viscosity readings have been obtained and the final viscosity complies with the specification requirement.

^bA lot is defined in the *MPQP*.

Retain samples from each lot. Test samples for cone penetration, resilience, and softening point for the first 3 lots and if all 3 lots pass, the testing frequency may be reduced to once for every 3 lots.

If QC test results indicate that the asphalt rubber binder does not comply with the specifications, take corrective action and notify the Engineer.

37-2.04A(4)(c) Department Acceptance**37-2.04A(4)(c)(i) General**

Reserved

37-2.04A(4)(c)(ii) Asphalt Modifiers

The Department accepts asphalt modifier based on compliance with the requirements shown in the following table:

Asphalt Modifier for Asphalt Rubber Binder

Quality characteristic	Test method	Requirement
Viscosity at 100 °C (m ² /s x 10 ⁻⁶)	ASTM D445	X ± 3 ^a
Flash point (min, °C)	ASTM D92	207
Molecular Analysis:		
Asphaltenes (max, % by mass)	ASTM D2007	0.1
Aromatics (min, % by mass)	ASTM D2007	55

^aThe symbol "X" is the asphalt modifier viscosity.

37-2.04A(4)(c)(iii) Crumb Rubber Modifiers

Scrap tire CRM and high natural CRM are sampled and tested separately.

The Department accepts scrap tire CRM and high natural CRM based on compliance with the requirements shown in the following table:

Crumb Rubber Modifier for Asphalt Rubber Binder

Quality characteristic	Test method	Requirement
Wire in CRM (max, %)	California Test 385	0.01
Fabric in CRM (max, %)	California Test 385	0.05
CRM particle length (max, in)	--	3/16
CRM specific gravity	California Test 208	1.1–1.2
Natural rubber content in high natural CRM (%)	ASTM D297	40.0–48.0

The Department accepts CRM gradation based on the requirements shown in the following table:

Crumb Rubber Modifier Gradation Requirements

Quality characteristic	Test method	Requirement			
		Scrap tire crumb rubber		High natural scrap tire crumb rubber	
Gradation (% passing by weight) Sieve size:	California Test 385	Operating range	Contract compliance	Operating range	Contract compliance
No. 8		100	100	--	--
No. 10		95–100	90–100	100	100
No. 16		35–85	32–88	92–100	85–100
No. 30		2–25	1–30	25–95	20–98
No. 50		0–10	0–15	6–35	2–40
No. 100		0–5	0–10	0–7	0–10
No. 200		0–2	0–5	0–3	0–5

If a test result for CRM gradation does not comply with the specifications, the Department deducts the corresponding amount for each gradation test as shown in the following table:

Material	Gradation test result ^a	Deduction
Scrap tire crumb rubber	Operating range < TR < Contract compliance	\$250
Scrap tire crumb rubber	TR > Contract compliance	\$1,100
High natural scrap tire crumb rubber	Operating range < TR < Contract compliance	\$250
High natural scrap tire crumb rubber	TR > Contract compliance	\$600

^aTest Result = TR

Each gradation test for scrap tire crumb rubber represents 10,000 lb or the quantity used in that day's production, whichever is less.

Each gradation test for high natural scrap tire crumb rubber represents 3,400 lb or the quantity used in that day's production, whichever is less.

37-2.04A(4)(c)(iv) Asphalt Rubber Binders

For Department acceptance testing, take a sample of asphalt rubber binder in the Engineer's presence every 5 lots or once a day, whichever is greater. Each sample must be in five 1-quart cans with an open top and friction lid.

For an asphalt rubber binder, acceptance is based on the Department's sampling and testing for compliance with the requirements shown in the following table:

Asphalt Rubber Binder

Quality characteristic	Test method	Requirement
Cone penetration at 25 °C (0.10 mm)	ASTM D217	25–60
Resilience at 25 °C (% rebound)	ASTM D5329	18–50
Softening point (°C)	ASTM D36	55–88
Viscosity at 375 °F (Pa·s x 10 ⁻³) ^a	ASTM D7741	1,500–2,500

^aPrepare sample for viscosity test under California Test 388.

37-2.04A(4)(c)(v) Precoated Aggregate

The Department accepts precoated aggregate based on compliance with the requirements shown in the following table:

Precoated Aggregate Gradation Acceptance Criteria

Quality Characteristic	Test method	Requirement
1/2" gradation (% passing by weight) Sieve size: 3/4" 1/2" 3/8" No. 4 No. 8 No. 200	California Test 202	100 85–90 0–30 0–5 -- 0–1
3/8" gradation (% passing by weight) Sieve size: 3/4" 1/2" 3/8" No. 4 No. 8 No. 200	California Test 202	100 95–100 70–85 0–15 0–5 0–1

37-2.04B Materials**37-2.04B(1) General**

Reserved

37-2.04B(2) Asphalt Binders

Asphalt binder used as the base binder for asphalt rubber binder must comply with the specifications for asphalt binder. Do not modify asphalt binder with polymer.

37-2.04B(3) Asphalt Modifiers

An asphalt modifier must be a resinous, high flash point, and aromatic hydrocarbon. An asphalt modifier must comply with the requirements shown in the following table:

Asphalt Modifier for Asphalt Rubber Binder

Quality characteristic	Test method	Requirement
Viscosity at 100 °C (m ² /s x 10 ⁻⁶)	ASTM D445	X ± 3 ^a
Flash point (min, CL.O.C., °C)	ASTM D92	207
Molecular analysis:		
Asphaltenes by mass (max, %)	ASTM D2007	0.1
Aromatics by mass (min, %)	ASTM D2007	55

^aX denotes the proposed asphalt modifier viscosity from 19 to 36. A change in X requires a new asphalt rubber binder submittal.

37-2.04B(4) Crumb Rubber Modifiers

The CRM to be used must be on the Authorized Materials List for crumb rubber modifier.

The CRM must be ground or granulated at ambient temperature.

Scrap tire crumb rubber and high natural scrap tire crumb rubber must be delivered to the asphalt rubber binder production site in separate bags.

Steel and fiber must be separated. If steel and fiber are cryogenically separated, it must occur before grinding and granulating. Cryogenically-produced CRM particles must be large enough to be ground or granulated.

The CRM must be dry, free-flowing particles that do not stick together. A maximum of 3 percent calcium carbonate or talc by weight of CRM may be added. The CRM must not cause foaming when combined with the asphalt binder and asphalt modifier.

The CRM must comply with the requirements shown in the following table:

Crumb Rubber Modifier for Asphalt Rubber Binder

Quality characteristic	Test method	Requirement
Wire in CRM (max, %)	California Test 385	0.01
Fabric in CRM (max, %)	California Test 385	0.05
CRM particle length (max, in)	--	3/16
CRM specific gravity	California Test 208	1.1–1.2

The CRM must comply with the requirements shown in the following table:

Crumb Rubber Modifier Requirements

Quality characteristic	Test method	Requirement	
		Scrap tire crumb rubber	High natural scrap tire crumb rubber
Acetone extract (%)	ASTM D297	6.0–16.0	4.0–16.0
Rubber hydrocarbon (min, %)		42.0–65.0	50.0
Natural rubber content (%)		22.0–39.0	40.0–48.0
Carbon black content (%)		28.0–38.0	--
Ash content (max, %)		8.0	--

Scrap tire crumb rubber gradation must comply with the gradation requirements shown in the following table:

Scrap Tire Crumb Rubber Gradation

Quality characteristic	Test method	Requirement		
		Gradation limit	Operating range	Contract compliance
Gradation (% passing by weight)	California Test 385			
Sieve size:				
No. 8		100	100	100
No. 10		98–100	95–100	90–100
No. 16		45–75	35–85	32–88
No. 30		2–20	2–25	1–30
No. 50		0–6	0–10	0–15
No. 100		0–2	0–5	0–10
No. 200	0	0–2	0–5	

High natural scrap tire crumb rubber gradation must comply with the gradation requirements shown in the following table:

High Natural Scrap Tire Crumb Rubber Gradation

Quality characteristic	Test method	Requirement		
		Gradation limit	Operating range	Contract compliance
Gradation (% passing by weight) Sieve size:	California Test 385			
No. 10		100	100	100
No. 16		95–100	92–100	85–100
No. 30		35–85	25–95	20–98
No. 50		10–30	6–35	2–40
No. 100		0–4	0–7	0–10
No. 200		0–1	0–3	0–5

37-2.04B(5) Asphalt Rubber Binders

An asphalt rubber binder must be a combination of:

1. Asphalt binder
2. Asphalt modifier
3. Crumb rubber modifier

Asphalt rubber binder blending equipment must be authorized under the Department's *MPQP*.

The blending equipment must allow the determination of weight percentages of each asphalt rubber binder ingredient.

An asphalt rubber binder must be 79 ± 1 percent by weight asphalt binder and 21 ± 1 percent by weight of CRM. The minimum percentage of CRM must be 20.0 percent and lower values must not be rounded up.

The CRM must be 75 ± 2 percent by weight scrap tire crumb rubber and 25 ± 2 percent by weight high natural scrap tire crumb rubber.

An asphalt modifier and asphalt binder must be blended at the production site. An asphalt modifier must be from 2.5 to 6.0 percent by weight of the asphalt binder in the asphalt rubber binder. The asphalt rubber binder supplier determines the exact percentage.

If blended before adding CRM, the asphalt binder must be from 375 to 440 degrees F when an asphalt modifier is added and the mixture must circulate for at least 20 minutes. An asphalt binder, asphalt modifier, and CRM may be proportioned and combined simultaneously.

The blend of an asphalt binder and an asphalt modifier must be combined with the CRM at the asphalt rubber binder production site. The asphalt binder and asphalt modifier blend must be from 375 to 440 degrees F when the CRM is added. Combined ingredients must be allowed to react at least 45 minutes at temperatures from 375 to 425 degrees F except the temperature must be at least 10 degrees F below the flash point of the asphalt rubber binder.

After reacting, the asphalt rubber binder must comply with the requirements shown in the following table:

Asphalt Rubber Binder

Quality characteristic	Test method	Requirement
Cone penetration at 25 °C (0.10 mm)	ASTM D217	25–60
Resilience at 25 °C (% rebound)	ASTM D5329	18–50
Softening point (°C)	ASTM D36	55–88
Viscosity at 375 °F (Pa·s x 10 ⁻³) ^a	ASTM D7741	1,500–2,500

^aPrepare sample for viscosity test under California Test 388.

Maintain asphalt rubber binder at a temperature from 375 to 415 degrees F.

Stop heating unused asphalt rubber binder 4 hours after the 45-minute reaction period. Reheating asphalt rubber binder that cools below 375 degrees F is a reheat cycle. Do not exceed 2 reheat cycles. If reheating, the asphalt rubber binder must be from 375 to 415 degrees F before use.

During reheating, you may add CRM. The CRM must not exceed 10 percent by weight of the asphalt rubber binder. Allow added CRM to react for at least 45 minutes. Reheated asphalt rubber binder must comply with the specifications for asphalt rubber binder.

37-2.04B(6) Precoated Aggregate

Before precoating with asphalt binder, aggregate for an asphalt rubber binder chip seal must comply with the gradation requirements shown in the following table:

Asphalt Rubber Binder Chip Seal Aggregate Gradation

Quality characteristic	Test method	Requirement	
Gradation (% passing by weight)	California Test 202	1/2"	3/8"
Sieve size:			
3/4"		100	100
1/2"		85–90	95–100
3/8"		0–30	70–85
No. 4		0–5	0–15
No. 8		--	0–5
No. 200		0–1	0–1

37-2.04C Construction

37-2.04C(1) General

Reserved

37-2.04C(2) Equipment

Distributor trucks must be equipped with:

1. Mixing and heating unit
2. Observation platform on the rear of the truck for an observer on the platform to see the nozzles and unplug them if needed

37-2.04C(3) Asphalt Rubber Binder Application

Apply the asphalt rubber binder when the ambient temperature is from 60 to 105 degrees F and the pavement surface temperature is at least 55 degrees F.

Do not apply the asphalt rubber binder unless enough aggregate is available at the job site to cover the asphalt rubber binder within 2 minutes. Intersections, turn lanes, gore points, and irregular areas must be covered within 15 minutes.

Do not apply asphalt rubber binder when pavement is damp or during high wind conditions. If authorized, you may adjust the distributor bar height and distribution speed and use shielding equipment during high wind conditions.

When applied, the temperature of the asphalt rubber binder must be from 385 to 415 degrees F.

Apply the asphalt rubber binder at a rate from 0.55 to 0.65 gal/sq yd. You may reduce the application rate by 0.050 gal/sq yd in the wheel paths.

37-2.04C(4) Precoated Aggregate Spreading

Spread aggregate at a rate from 28 to 40 lb/sq yd. Do not spread aggregate more than 200 feet ahead of the completed initial rolling.

37-2.04C(5) Rolling and Sweeping

Perform initial rolling within 90 seconds of spreading aggregate. If authorized for final rolling, you may use a steel-wheeled roller weighing from 8 to 10 tons in static mode only.

Perform a final sweeping before Contract acceptance. The final sweeping must not dislodge aggregate.

37-2.04D Payment

Asphalt rubber binder is measured as specified for asphalt binder.

37-2.05 STRESS ABSORBING MEMBRANE INTERLAYERS

37-2.05A General

Section 37-2.05 includes specifications for placing stress absorbing membrane interlayers (SAMI).

Comply with section 37-2.04 except a flush coat is not required.

Traffic must not be allowed on a SAMI.

37-2.05B Materials

For a SAMI, aggregate must comply with the 3/8-inch gradation.

37-2.05C Construction

If a SAMI is overlaid in the same work shift, section 37-2.01C(4)(e) does not apply.

Final sweeping is not required for a SAMI.

37-2.05D Payment

Not Used

37-2.06 MODIFIED ASPHALT BINDER CHIP SEALS

Reserved

37-2.07 SCRUB SEALS

Reserved

37-3 SLURRY SEALS AND MICRO-SURFACINGS

37-3.01 GENERAL

37-3.01A General

37-3.01A(1) Summary

Section 37-3.01 includes general specifications for applying slurry seals and micro-surfacings.

37-3.01A(2) Definitions

Reserved

37-3.01A(3) Submittals

At least 15 days before starting placement of a slurry seal or micro-surfacing, submit:

1. Samples for:
 - 1.1. Asphaltic emulsion slurry seal, two 1-quart wide mouth plastic containers with screw top lid of asphaltic emulsion
 - 1.2. Polymer modified asphaltic emulsion slurry seal, two 1-quart wide mouth plastic containers with screw top lid of polymer modified asphaltic emulsion
 - 1.3. Micro-surfacing, two 1-quart wide mouth plastic containers with screw top lid of micro-surfacing emulsion
2. Asphaltic emulsion, polymer modified asphaltic emulsion, or micro-surfacing emulsion data as follows:
 - 2.1. Supplier and Type/Grade of asphaltic emulsion
 - 2.2. Type of modifier polymer for polymer modified asphaltic emulsion or micro-surfacing emulsion
 - 2.3. Copy of the specified test results for asphaltic emulsion, polymer modified asphaltic emulsion, or micro-surfacing emulsion
3. 50 lb of aggregate
4. Aggregate test results for the followings:
 - 4.1. Gradation
 - 4.2. Los Angeles Rattler
 - 4.3. Percent of crushed particles

- 4.4 Sand equivalent
- 4.5 Durability

At least 10 days before starting placement of a slurry seal or micro-surfacing, submit a laboratory report of test results and the proposed mix design from an authorized laboratory. The authorized laboratory must sign the laboratory report and mix design.

The report must include:

1. Test results used in the mix design compared with specification requirements
2. Proportions based on the dry weight of aggregate, including ranges, for:
 - 2.1. Aggregate
 - 2.2. Water
 - 2.3. Additives
 - 2.4. Mineral filler
 - 2.5. Slurry seal emulsion or micro-surfacing emulsion residual asphalt content
3. Recommended changes to the proportions based on heating the mixture to 100 degrees F and mixing for 60 seconds, if atmospheric temperatures during application will be 90 degrees F or above, for:
 - 3.1. Water
 - 3.2. Additives
 - 3.3. Mineral filler
4. Quantitative moisture effects on the aggregate's unit weight determined under ASTM C29M

If the mix design consists of the same materials covered by a previous laboratory report, you may submit the previous laboratory report that must include material testing data performed within the previous 12 months for authorization.

If you change any of the materials in the mix design, submit a new mix design and laboratory report at least 10 days before starting slurry seal or micro-surfacing work.

Submit a certificate of compliance as specified for asphaltic emulsion in section 94-1.01C with each shipment of asphaltic emulsion, polymer modified asphaltic emulsion or micro-surfacing emulsion.

Submit quality control test results for the quality characteristics within the reporting times allowance after sampling shown in the following table:

Quality Control Test Reporting Requirements

Quality characteristic	Maximum reporting time allowance
Los Angeles Rattler loss (max, %)	2 business days
Percent of crushed particles (min, %)	2 business days
Durability (min)	2 business days
Resistance of fine aggregate to degradation by abrasion in the Micro-Deval Apparatus (% loss by weight)	2 business days
Gradation (% passing by weight)	48 hours
Sand equivalent (min)	48 hours
Moisture content (%)	48 hours

Within 3 days after taking asphaltic emulsion, polymer modified asphaltic emulsion or micro-surfacing emulsion quality control samples, submit the authorized laboratory's test results.

37-3.01A(4) Quality Assurance

37-3.01A(4)(a) General

Your authorized laboratory must be able to perform International Slurry Surfacing Association tests and mix design.

37-3.01A(4)(b) Quality Control**37-3.01A(4)(b)(i) General**

Reserved

37-3.01A(4)(b)(ii) Aggregate

For aggregate, the authorized laboratory must perform sampling and testing at the specified frequency and location for the following quality characteristics:

Aggregate Quality Control

Quality characteristic	Test method	Minimum sampling and testing frequency	Location of sampling
Los Angeles Rattler loss (max, %) At 500 revolutions	California Test 211	1st day of production	See California Test 125
Percent of crushed particles (min, %)	AASHTO T 335	1st day of production	See California Test 125
Sand equivalent (min)	California Test 217	1 per working stockpile per day	See California Test 125
Resistance of fine aggregate to degradation by abrasion in the Micro-Deval Apparatus (% loss by weight)	ASTM D7428	1 per working stockpile per day	See California Test 125
Gradation (% passing by weight)	California Test 202	1 per working stockpile per day	See California Test 125
Moisture content, from field stockpile (%)	AASHTO T 255 ^a	1 per working stockpile per day	See California Test 125

^aTest aggregate moisture at field stockpile every 2 hours if you are unable to maintain the moisture content to within a maximum daily variation of ± 0.5 percent.

37-3.01A(4)(b)(iii) Slurry Seals and Micro-surfacings

Reserved

37-3.01A(4)(c) Department Acceptance

Slurry Seal and micro-surfacing acceptance is based on:

1. Visual inspection for the following:
 - 1.1. Uniform surface texture throughout the work limits.
 - 1.2. Marks in the surface:
 - 1.2.1. Up to 4 marks in the completed slurry seal or micro-surfacing surface that are up to 1 inch wide and up to 6 inches long per 1000 square feet of slurry seal or micro-surfacing placed.
 - 1.2.2. No marks in the completed slurry seal or micro-surfacing surface that are over 1 inch wide or 6 inches long.
 - 1.3. Excessive raveling consisting of the separation of the aggregate from the asphaltic emulsion, polymer modified asphaltic emulsion or micro-surfacing emulsion.
 - 1.4. Bleeding consists of the occurrence of a film of asphaltic material on the surface of the slurry seal or micro-surfacing.
 - 1.5. Delaminating of slurry seal or micro-surfacing from the existing pavement.
 - 1.6. Rutting or wash-boarding.
2. Department's sampling and testing for compliance with the requirements for aggregate shown in the following table:

Aggregate Gradation Acceptance Criteria

Quality characteristic	Test method	Requirements		
Gradation (% passing by weight) Sieve Size:	California Test 202	Type I	Type II	Type III
3/8"		--	100	100
No. 4		100	94–100	70–90
No. 8		90–100	65–90	45–70
No. 16		60–90	40–70	28–50
No. 30		40–65	25–50	19–34
No. 200		10–20	5–15	5–15

An aggregate gradation test represents 300 tons or 1 day's production, whichever is less.

If test results for aggregate gradation do not comply with the specifications, you may remove the slurry seal or micro-surfacing represented by the test results or request it remain in place with a payment deduction. If your request is authorized, the Department deducts:

1. \$1.75 per ton of slurry seal for each noncompliant aggregate gradation
2. \$2.00 per ton of micro-surfacing for each noncompliant aggregate gradation

37-3.01B Materials**37-3.01B(1) General**

Additional water must not cause separation of the asphaltic emulsion, polymer modified asphaltic emulsion or micro-surfacing emulsion from the aggregate before placement.

You may use an additive that does not adversely affect the slurry seal or micro-surfacing.

37-3.01B(2) Aggregate

Aggregate must be rock dust. Aggregate must be free from vegetable matter, deleterious substances, caked or clay lumps, and oversized particles.

Aggregate for a slurry seal and micro-surfacing must comply with the gradations shown in the following table:

Aggregate Gradation

Quality characteristic	Test method	Requirements		
Gradation (% passing by weight) Sieve size:	California Test 202	Type I	Type II	Type III
3/8"		--	100	100
No. 4		100	94–100	70–90
No. 8		90–100	65–90	45–70
No. 16		60–90	40–70	28–50
No. 30		40–65	25–50	19–34
No. 200		10–20	5–15	5–15

37-3.01C Construction**37-3.01C(1) General**

Before applying slurry seals or micro-surfacings, cover manholes, valve and monument covers, grates, and other exposed facilities located within the area of application using plastic or oil resistant construction paper secured by tape or adhesive to the facility being covered. Reference the covered facilities with enough control points to relocate the facilities after application of the slurry seals or micro-surfacings.

37-3.01C(2) Proportioning

Proportion slurry seal and micro-surfacing ingredients in compliance with the authorized mix design.

37-3.01C(3) Mixing and Spreading Equipment**37-3.01C(3)(a) General**

Mixing and spreading equipment for slurry seals and micro-surfacings must proportion the asphaltic emulsions, water, aggregate, and any additives by volume and mix them in continuous pug mill mixers.

Introduce emulsions into the mixer with a positive displacement pump. If you use a variable-rate pump, the adjusting unit must be sealed in its calibrated position.

Introduce water into the mixer through a meter that measures gallons.

Choose a truck mounted mixer-spreader or continuous self-loading mixer spreader.

37-3.01C(3)(b) Truck Mounted Mixer Spreaders

Truck mounted mixer spreaders must comply with:

1. Rotating and reciprocating equipment must be covered with metal guards.
2. Proportion aggregate using a belt feeder with an adjustable cutoff gate. The Engineer verifies the height of the gate opening.
3. Belt feeder must have a depth monitor device. The depth monitor device must automatically shut down power to the belt feeder when the aggregate depth is less than 70 percent of the target depth.
4. Separate monitor device must detect the revolutions of the belt feeder. This device must automatically shut down power to the belt feeder if it detects no revolutions. If the belt feeder is an integral part of the equipment's drive chain, the monitor device is not required.
5. Aggregate belt feeder must be connected directly to the drive on the emulsion pump. The aggregate feeder drive shaft must have a revolution counter reading the nearest 0.10 revolution for micro-surfacing, and nearest 1 revolution for slurry seal.
6. Emulsion storage must be equipped with a device that automatically shuts down power to the emulsion pump and aggregate belt feeder when the level of stored emulsion is lowered. To allow for normal fluctuations, there may be a delay of 3 seconds between detection of low emulsion storage levels or low aggregate depths and automatic power shut down.
7. Emulsion storage must be located immediately before the emulsion pump.
8. Emulsion storage tank must have a temperature indicator at the pump suction level. The indicator must be accurate to ± 5 degrees F.
9. No-flow and revolution warning devices must be in working condition. Low-flow indicators must be visible while walking alongside the equipment.

37-3.01C(3)(c) Continuous Self-Loading Mixer Spreaders

Continuous self-loading mixer spreaders must be automatically sequenced and self-propelled. The mixing machine must deliver each material to a double shafted mixer and discharge the mixed material on a continuous flow basis. The mixing machines must have sufficient storage capacity to maintain a continuous supply of material to the proportioning controls. The mixing machine operators must have full control of forward and reverse speeds during placement.

37-3.01C(3)(d) Spreader Boxes

The spreader boxes used to spread slurry seals and micro-surfacings must be:

1. Capable of spreading the slurry seal or micro-surfacing a minimum of 12 feet wide and preventing the loss of slurry seal or micro-surfacing.
2. Equipped with flexible rubber belting on each side. The belting must contact the pavement to prevent the loss of slurry seal or micro-surfacing from the box.
3. Equipped to uniformly apply the slurry seal or micro-surfacing on superelevated sections and shoulder slopes. Micro-surfacing spreader box must be equipped with reversible motor driven augers.
4. Equipped with a series of strike-off devices at its rear.
 - 4.1. The leading strike off device must be:
 - 4.1.1. Fabricated of a suitable material such as steel or stiff rubber
 - 4.1.2. Designed to maintain close contact with the pavement during spreading
 - 4.1.3. Capable of obtaining the specified thickness
 - 4.1.4. Capable of being adjusted to the various pavement cross sections
 - 4.2. The final strike-off device must be:
 - 4.2.1. Fabricated of flexible material that produces a uniform texture in the finished surface

4.2.2. Cleaned daily and changed if longitudinal scouring occurs in the slurry seal of micro-surfacing

5. Clean and free of slurry seal or micro-surfacing at the start of each work shift.

37-3.01C(3)(e) Shoulder Equipment

Spread the slurry seal or micro-surfacing on shoulders with a device such as an edge box that forms clean and straight joints and edges.

37-3.01C(3)(f) Equipment Calibration

Equipment calibration must comply with the *MPQP*. Notify the Engineer at least 5 business days before calibrating.

If the Department authorizes a truck or continuous mixer spreader, its calibration is valid for 6 months provided you:

1. Use the same truck or continuous mixer spreader verified with a unique identifying number
2. Use the same materials in compliance with the authorized mix design
3. Do not perform any repair or alteration to the proportioning systems

Calibrate the adjustable cut-off gate settings of each truck or continuous mixer spreader on the project to achieve the correct delivery rate of aggregate and emulsion per revolution of the aggregate feeder under the *MPQP*.

Checks must be performed for each aggregate source using an authorized vehicle scale.

Individual checks of the aggregate belt feeder's delivery rate to the pug mill mixer must not vary more than 2 percent from the average of 3 runs of at least 3 tons each.

Before using a variable-rate emulsion pump, the pump must be calibrated and sealed in the calibrated condition under the *MPQP*.

Individual checks of the emulsion pump's delivery rate to the pug mill mixer must not vary more than 2 percent from the average of 3 runs of at least 500 gal each.

37-3.01C(4) Surface Preparation

Immediately before applying slurry seals or micro-surfacings, clean the surface to receive slurry seals or micro-surfacings by removing any extraneous material affecting adhesion of the slurry seal or micro-surfacing with the existing surface. Use self-propelled power brooms or other methods such as flushing to clean the existing pavement.

37-3.01C(5) Placement

37-3.01C(5)(a) General

If truck-mounted mixer-spreaders are used, keep at least 2 operational spreaders at the job site during placement.

Spread slurry seals and micro-surfacings uniformly and do not spot, rehandle, or shift the mixture. However in areas inaccessible to spreading equipment, spread the slurry seal or micro-surfacing mixtures with hand tools or other authorized methods. If placing with hand tools, lightly dampen the area first.

You may fog the roadway surface with water ahead of the spreader box. The fog spray must be adjusted for pavement:

1. Temperature
2. Surface texture
3. Dryness

You determine the application rates for slurry seals or micro-surfacings and the Engineer authorizes the application rates. Spread within 10 percent of authorized rate.

The mixtures must be uniform and homogeneous after spreading, and there must not be separation of the emulsion and aggregate after setting.

37-3.01C(5)(b) Weather Conditions

Only place slurry seals or micro-surfacings if both the pavement and air temperatures are at least 50 degrees F and rising. The expected high temperature must be at least 65 degrees F within 24 hours after placement.

Do not place slurry seals or micro-surfacings if rain is imminent or the air temperature is expected to be below 36 degrees F within 24 hours after placement.

37-3.01C(5)(c) Joints

Transverse and longitudinal joints must be:

1. Uniform
2. Straight
3. Neat in appearance
4. Without material buildup
5. Without uncovered areas

Transverse joints must be butt-type joints.

Prevent double placement at transverse joints over previously placed slurry seals or micro-surfacings.

Place longitudinal joints:

1. On centerlines, lane lines, edge lines, or shoulder lines
2. With overlaps not more than 4 inches

You may request other longitudinal joint patterns if they do not adversely affect the slurry seals or micro-surfacings.

The maximum difference between the pavement surface and the bottom edge of a 12-foot straightedge placed perpendicular to the longitudinal joint must be 0.04 foot.

37-3.01C(5)(d) Finished Surfaces

Finished slurry seals or micro-surfacings must be smooth and free of irregularities such as scratch or tear marks. You may leave up to 4 marks that are up to 1 inch wide and 6 inches long per 75 linear feet of slurry seal or micro-surfacing placed. Do not leave any marks that are over 1 inch wide or 6 inches long.

37-3.01C(5)(e) Maintenance Sweeping

Sweep the slurry seals or micro-surfacings 24 hours after placement without damaging the slurry seals or micro-surfacings. For 4 days afterwards, sweep the slurry seals or micro-surfacings daily unless determined otherwise by the Engineer.

37-3.01C(5)(f) Repair of Early Distress

The slurry seals or micro-surfacings must not show bleeding, raveling, separation, or other distresses for 15 days after placing. If bleeding, raveling, delaminating, rutting, or wash-boarding occurs after placing the slurry seals or micro-surfacings, make repairs using an authorized method.

37-3.01D Payment

Not Used

37-3.02 SLURRY SEALS**37-3.02A General****37-3.02A(1) Summary**

Section 37-3.02 includes specifications for applying slurry seals.

Applying a slurry seal consists of spreading a mixture of asphaltic emulsion or polymer modified asphaltic emulsion, aggregate, additives, and water on a surface or pavement.

37-3.02A(2) Definitions

Reserved

37-3.02A(3) Submittals

Immediately after sampling, submit two 1-quart wide mouth plastic containers of asphaltic emulsion or polymer modified asphaltic emulsion taken in the presence of the Engineer. Samples must be submitted in insulated shipping containers.

37-3.02A(4) Quality Assurance**37-3.02A(4)(a) General**

Reserved

37-3.02A(4)(b) Quality Control**37-3.02A(4)(b)(i) General**

Take samples of asphaltic emulsion and polymer modified asphaltic emulsion from the tank truck at mid load or from a sampling tap or thief. Before taking samples, draw and dispose of 1 gallon. In the presence of the Engineer take two 1-quart samples in wide mouth plastic containers with lined, sealed lids for acceptance testing.

37-3.02A(4)(b)(ii) Asphaltic Emulsion

For asphaltic emulsions, the authorized laboratory must perform quality control sampling and testing at the specified frequency and location for the following quality characteristics:

Asphaltic Emulsion

Quality characteristic	Test method	Minimum sampling and testing frequency	Sampling location
Saybolt Furol Viscosity, at 25 °C (Saybolt Furol seconds)	AASHTO T 59	Minimum 1 per day per delivery truck	Delivery truck
Sieve Test (%)			
Storage stability, 1 day (%)			
Residue by distillation (%)			
Particle charge ^a			
Tests on Residue from Distillation Test:			
Penetration, 25 °C	AASHTO T 49	Minimum 1 per day per delivery truck	Delivery truck
Ductility	AASHTO T 51		
Solubility in trichloroethylene	AASHTO T 44		

^aIf the result of the particle charge is inconclusive, the asphaltic emulsion must be tested for pH under ASTM E70. Grade QS1h asphaltic emulsion must have a minimum pH of 7.3. Grade CQS1h asphaltic emulsion must have a maximum pH of 6.7.

37-3.02A(4)(b)(iii) Polymer Modified Asphaltic Emulsion

For polymer modified asphaltic emulsions, the authorized laboratory must perform quality control sampling and testing at the specified frequency and location for the following quality characteristics:

Polymer Modified Asphaltic Emulsion

Quality characteristic	Test method	Minimum sampling and testing frequency	Sampling Location
Tests on emulsion:			
Saybolt Furol Viscosity at 25 °C (Saybolt Furol seconds)	AASHTO T 59	Minimum 1 per day per delivery truck	Delivery truck
Sieve test (%)	AASHTO T 59		
Storage stability after 1 day (%)	AASHTO T 59		
Residue by evaporation (min, %)	California Test 331		
Particle charge	AASHTO T 59		
Tests on residue by evaporation:			
Penetration at 25 °C	AASHTO T 49	Minimum 1 per day per delivery truck	Delivery truck
Ductility at 25 °C (min, mm)	AASHTO T 51		
Torsional recovery (min, %)	California Test 332		
Or Polymer content based on residual asphalt (min, %)	California Test 401		

37-3.02A(4)(c) Department Acceptance

For a slurry seal asphaltic emulsion and polymer modified asphaltic emulsion, acceptance is based on the Department's sampling and testing for compliance with the requirements for the quality characteristics specified.

Aggregate acceptance is based on the Department's sampling and testing for compliance with the requirements shown in the following table:

Aggregate Acceptance Criteria

Quality characteristic	Test method	Requirement
Los Angeles Rattler loss (max, %) At 500 revolutions	California Test 211 ^a	35
Percent of crushed particles (min, %)	California Test 205	95
Durability (min)	California Test 229	55
Sand equivalent (min)	California Test 217	45
Type I		
Type II		
Type III		60

^aCalifornia Test 211 must be performed on the source aggregate before crushing.

A sand equivalent test represents 300 tons or 1 day's production, whichever is less.

If test results for sand equivalent do not comply with the specifications, you may remove the slurry seal represented by the test results or request it remain in place with a payment deduction. If your request is authorized, the Department deducts \$1.75 per ton of slurry seal for each noncompliant sand equivalent test.

37-3.02B Materials**37-3.02B(1) General**

Reserved

37-3.02B(2) Asphaltic Emulsions

An asphaltic emulsion must comply with the requirements in Section 94. The asphaltic emulsion must be Grade CQS1h.

37-3.02B(3) Polymer Modified Asphaltic Emulsions

A polymer modified asphaltic emulsion must:

1. Consist of an elastomeric polymer mixed with an asphaltic material uniformly emulsified with water and an emulsifying or stabilization agent.
2. Use either neoprene polymer or butadiene and styrene copolymer. The polymer must be homogeneous and milled into the asphaltic emulsion at the colloid mill.
3. Be Grade PMCQS1h and must comply with the requirements shown in the following table:

Polymer Modified Asphaltic Emulsion Requirements		
Quality characteristic	Test method	Requirement
Tests on emulsion:		
Saybolt Furol Viscosity at 25 °C (Saybolt Furol seconds)	AASHTO T 59	15–90
Sieve test (%)	AASHTO T 59	0–0.3
Storage stability after 1 day (%)	AASHTO T 59	0–1
Residue by evaporation (min, %)	California Test 331	60
Particle charge	AASHTO T 59	Positive
Tests on residue by evaporation:		
Penetration at 25 °C	AASHTO T 49	40–90
Ductility at 25 °C (min, mm)	AASHTO T 51	400
Torsional recovery (min, %)	California Test 332	18
Or		
Polymer content based on residual asphalt (min, %)	California Test 401	2.5

37-3.02B(4) Aggregate

Aggregate must comply with the quality characteristic requirements shown in the following table:

Aggregate Requirements		
Quality characteristic	Test method	Requirement
Los Angeles Rattler loss (max, %) At 500 revolutions	California Test 211 ^a	35
Percent of crushed particles (min, %)	California Test 205	95
Durability (min)	California Test 229	55
Sand equivalent (min)		
Type I	California Test 217	45
Type II		55
Type III		60

^aCalifornia Test 211 must be performed on the source aggregate before crushing. The aggregate supplier must certify that the crushed aggregate being used on the project is manufactured from the source aggregate complying with the LA rattler requirements.

37-3.02B(5) Slurry Seal Mix Design

The slurry seal mix design, using project source aggregate, an asphaltic emulsion, and set-control agents if any, must comply with the requirements shown in the following table:

Slurry Seal Mix Design Requirements

Quality characteristic	Test method ^a	Requirement
Consistency (max, mm)	Technical Bulletin 106	30
Wet stripping	Technical Bulletin 114	Pass
Compatibility	Technical Bulletin 115	Pass ^b
Cohesion test, within 1 hour (min, kg-mm)	Technical Bulletin 139	200
Wet track abrasion (max, g/m ²)	Technical Bulletin 100	810

^aTest methods are by the International Slurry Surfacing Association.

^bMixing test must pass at the maximum expected air temperature at the job site during placement.

The mix design must have the percent of asphaltic residue, based on percentage by weight of the dry aggregate, within the ranges shown in the following table:

Slurry seal type	Residue range
Type I	10–16
Type II	7.5–13.5
Type III	6.5–12.0

Determine the exact percentage based on the design asphalt binder content and the asphalt residual content of the asphaltic emulsion furnished.

37-3.02C Construction

37-3.02C(1) General

Reserved

37-3.02C(2) Proportioning

After proportioning, slurry seal mixtures must be workable.

37-3.02C(3) Mixing and Spreading Equipment

Reserved

37-3.02C(4) Placement

The slurry seal spread rates must be within the ranges shown in the following table:

Slurry Seal Spread Rates	
Slurry seal type	Application range (lb of dry aggregate/sq yd)
Type I	8–12
Type II	10–18
Type III	20–25

Within 4 hours after placement, slurry seals must be set enough to allow traffic without pilot cars. Protect slurry seals from damage until it has set and will not adhere or be picked up by vehicle tires. Slurry seals must not exhibit distress from traffic such as bleeding, raveling, separation or other distresses.

37-3.02D Payment

The payment quantity for slurry seal is the weight determined by combining the weights of the aggregate and asphaltic emulsion or polymeric asphaltic emulsion. The payment quantity for slurry seal does not include the weights of the added water and set-control additives.

37-3.03 MICRO-SURFACINGS

37-3.03A General

37-3.03A(1) Summary

Section 37-3.03 includes specifications for applying micro-surfacings.

Applying a micro-surfacing consists of spreading a mixture of a micro-surfacing emulsion, water, additives, mineral filler, and aggregate on the pavement.

37-3.03A(2) Definitions

Reserved

37-3.03A(3) Submittals

Immediately after sampling, submit two 1-quart wide mouth plastic containers of micro-surfacing emulsion taken in the presence of the Engineer. Samples must be submitted in insulated shipping container.

37-3.03A(4) Quality Assurance

37-3.03A(4)(a) General

Reserved

37-3.03A(4)(b) Quality Control

37-3.03A(4)(b)(i) General

Reserved

37-3.03A(4)(b)(ii) Micro-surfacing Emulsions

Take samples from the truck tank at mid load from a sampling tap or thief. Before taking samples, draw and dispose of 1 gallon. In the presence of the Engineer, take two 1-quart wide mouth plastic containers for acceptance testing.

For a micro-surfacing emulsion, the authorized laboratory must perform quality control sampling and testing at the specified frequency and location for the quality characteristics shown in the following table:

Micro-Surfacing Emulsion

Quality characteristic	Test method	Minimum sampling and testing frequency	Sampling location
Tests on emulsion:			
Saybolt Furol Viscosity, at 25°C (Saybolt Furol seconds)	AASHTO T 59	Minimum 1 per day per delivery truck	Delivery truck
Storage stability, 1 day (max, %) ^a			
Sieve test (max, %)			
Residue by evaporation (min, %)	California Test 331	Minimum 1 per day per delivery truck	Delivery truck
Tests on residue from evaporation test:			
Penetration at 25 °C	AASHTO T 49	Minimum 1 per day per delivery truck	Delivery truck
Softening point (min, °C)	AASHTO T 53		

^aStorage stability test will be run if the storage exceeds 48 hours

37-3.03A(4)(c) Department Acceptance

For micro-surfacing emulsions, acceptance is based on the Department's sampling and testing for compliance with the requirements shown in the following table:

Micro-surfacing Emulsion Acceptance Criteria

Quality characteristic	Test method	Requirement
Tests on emulsion:		
Saybolt Furol Viscosity at 25 °C (Saybolt Furol seconds)	AASHTO T 59	15–90
Sieve test (%)	AASHTO T 59	0.30
Storage stability, 1 day (max, %)	AASHTO T 59	0–1
Settlement ^a , 5 days (max, %)	ASTM D244	5
Residue by evaporation (min, %)	California Test 331	62
Tests on residue by evaporation:		
Penetration at 25 °C	AASHTO T 49	40–90
Softening point (min, °C)	AASHTO T 53	57

^aSettlement test on emulsion is not required if used within 48 hours of shipment.

Acceptance of aggregate, except mineral filler, is based on the Department's sampling and testing for compliance with the requirements shown in the following table:

Aggregate Acceptance Criteria

Quality characteristic	Test method	Requirement
Los Angeles Rattler loss (max, %) At 500 revolutions	California Test 211 ^a	35
Percent of crushed particles (min, %)	California Test 205	95
Durability (min)	California Test 229	65
Sand equivalent (min)	California Test 217	
Type II		65
Type III		65

^aCalifornia Test 211 must be performed on the aggregate before crushing. The aggregate supplier must certify that the crushed aggregate being used on the project is manufactured from the source aggregate complying with the LA rattler requirements.

An aggregate sand equivalent test represents 300 tons or 1 day's production, whichever is less.

If the test results for aggregate sand equivalent do not comply with the specifications, you may remove the micro-surfacing represented by the test results or request it remain in place with a payment deduction. If your request is authorized, the Department deducts \$2.00 per ton of micro-surfacing for each noncompliant aggregate sand equivalent test.

37-3.03B Materials**37-3.03B(1) General**

Reserved

37-3.03B(2) Micro-surfacing Emulsions

A micro-surfacing emulsion must be a homogeneous mixture of asphalt, an elastomeric polymer and an emulsifier solution.

Add an elastomeric polymer modifier to asphalt or emulsifier solution before emulsification. An elastomeric polymer solid must be a minimum of 3 percent by weight of the micro-surfacing emulsion's residual asphalt.

A micro-surfacing emulsion must comply with the requirements shown in the following table:

Micro-surfacing Emulsion Requirements

Quality characteristic	Test method	Requirement
Tests on emulsion:		
Saybolt Furol Viscosity at 25 °C (Saybolt Furol seconds)	AASHTO T 59	15–90
Sieve test (%)	AASHTO T 59	0.30
Storage stability, 1 day (max, %)	AASHTO T 59	0–1
Settlement ^a , 5 days (max, %)	ASTM D244	5
Residue by evaporation (min, %)	California Test 331	62
Tests on residue by evaporation:		
Penetration at 25 °C	AASHTO T 49	40–90
Softening point (min, °C)	AASHTO T 53	57

^aSettlement test on emulsion is not required if used within 48 hours of shipment.

37-3.03B(3) Aggregate

Aggregate must comply with the quality characteristic requirements shown in the following table:

Aggregate Requirements

Quality characteristic	Test method	Requirement
Los Angeles Rattler loss (max, %) At 500 revolutions	California Test 211 ^a	35
Percent of crushed particles (min, %)	California Test 205	95
Durability (min)	California Test 229	65
Sand equivalent (min)	California Test 217	
Type II		65
Type III		65

^aCalifornia Test 211 must be performed on the source aggregate before crushing. The aggregate supplier must certify that the crushed aggregate being used on the project is manufactured from the source aggregate complying with the LA rattler requirements.

37-3.03B(4) Mineral Fillers

If a mineral filler is used, it must be type I or type II Portland cement. A mineral filler used during mix design must be used during production.

37-3.03B(5) Micro-Surfacing Mix Designs

The micro-surfacing mix design must have the material proportion limits shown in the following table:

Micro-surfacing Mix Design Proportion Limits

Material	Proportion limits
Micro-surfacing emulsion asphalt residual content (% of dry weight of aggregate)	5.5–10.5
Water and additives	As Required
Mineral filler (% of dry weight of aggregate)	0–3

The micro-surfacing mix design must comply with the requirements shown in the following table:

Micro-surfacing Mix Design Requirements

Quality characteristics	Test method ^a	Requirement
Wet cohesion At 30 minutes (set) (min, kg-cm) At 60 minutes (traffic) (min, kg-cm)	Technical Bulletin 139	12 20
Excess asphalt (max, g/m ²)	Technical Bulletin 109	540
Wet stripping (min, %)	Technical Bulletin 114	90
Wet track abrasion loss 6-day soak (max, g/m ²)	Technical Bulletin 100	810
Displacement Lateral (max, %) Specific gravity after 1000 cycles of 57 kg (max)	Technical Bulletin 147A	5 2.10
Classification compatibility (min, grade points)	Technical Bulletin 144	(AAA, BAA) 11
Mix time at 25 °C (min)	Technical Bulletin 113	Controllable to 120 seconds

^aTest methods are by the International Slurry Surfacing Association.

37-3.03B(6) Tack Coats

If there is a bid item for tack coat, you must coat the pavement surface with an asphaltic emulsion mixed with additional water before applying a micro-surfacing. The maximum ratio of water to asphaltic emulsion must be 2 to 1. Apply the tack coat at a rate from 0.08 to 0.15 gal/sq yd. The exact rate must be authorized.

You determine the grade of slow-setting or quick setting asphaltic emulsion to be used.

37-3.03C Construction**37-3.03C(1) General**

Reserved

37-3.03C(2) Proportioning

Field conditions may require adjustments to the proportions within the authorized mix design during construction.

37-3.03C(3) Mixing and Spreading Equipment**37-3.03C(3)(a) General**

Reserved

37-3.03C(3)(b) Scratch Course Boxes

Spread the scratch courses with the same type of spreader box used to spread micro-surfacings except use an adjustable steel strike-off device instead of a final strike-off device.

37-3.03C(3)(c) Wheel Path Depression Boxes

Each wheel path depression box must have adjustable strike-off device between 5 and 6 feet wide to regulate depth. The wheel path depression box must also have devices such as hydraulic augers capable of:

1. Moving the mixed material from the rear to the front of the filling chamber
2. Guiding larger aggregate into the deeper section of the wheel path depression
3. Forcing the finer material towards the outer edges of the spreader box

37-3.03C(4) Test Strips

If micro-surfacing placement will require more than 1 day, you must construct a test strip. The test strip must be:

1. From 300 to 450 feet long
2. The same as the full production micro-surfacing

3. On 1 of the application courses specified at an authorized location
4. At the same time of day or night the full production micro-surfacing is to be applied

If multiple application courses are specified, you may construct test strips over 2 days or nights.

The Engineer evaluates the test strip after traffic has used it for 12 hours. If the Engineer determines the mix design or placement procedure is unacceptable, make modifications and construct a new test strip for the Engineer's evaluation.

37-3.03C(5) Placement

37-3.03C(5)(a) General

Reserved

37-3.03C(5)(b) Repair Wheel Path Depressions

If repairing wheel path depressions is shown in plans, fill wheel path depressions and irregularities with micro-surfacing material before spreading micro-surfacing. If the depressions are less than 0.04 foot deep, fill with a scratch course. If the depressions are 0.04 foot deep or more, fill the depressions using a wheel path depression box.

Spread scratch courses by adjusting the steel strike-off of a scratch course box until it is directly in contact with the pavement surface.

Spread micro-surfacings with a wheel path depression box leaving a slight crown at the surface. Use multiple applications to fill depressions more than 0.12 foot deep. Do not apply more than 0.12 foot in a single application.

Allow traffic to compact each filled wheel path depression for a minimum of 12 hours before placing additional micro-surfacings.

37-3.03C(5)(c) Micro-surfacing Pavement Surfaces

The micro-surfacing spread rates must be within the ranges shown in the following table:

Micro-surfacing type	Application range (lb of dry aggregate/sq yd)
Type II	10–20
Type III ^a	20–32
Type III ^b	30–32

^aOver asphalt concrete pavement

^bOver concrete pavement and concrete bridge decks

Within 2 hours after placement, micro-surfacings must be set enough to allow traffic without pilot cars. Protect the micro-surfacings from damage until it has set and will not adhere or be picked up by vehicle tires. Micro-surfacings must not exhibit distress from traffic such as bleeding, raveling, separation or other distresses.

37-3.03D Payment

The payment quantity for micro-surfacing is the weight determined by combining the weights of the aggregate and micro-surfacing emulsion. The payment quantity for micro-surfacing does not include the weights of added water, mineral filler, and additives.

37-3.04 RUBBERIZED AND MODIFIED SLURRY SEALS

Reserved

37-4 FOG SEALS AND FLUSH COATS

37-4.01 GENERAL

37-4.01A General

37-4.01A(1) Summary

Section 37-4.01 includes general specifications for applying fog seals and flush coats.

37-4.01A(2) Definitions

Reserved

37-4.01A(3) Submittals

At least 15 days before use, submit:

1. Sample of asphaltic emulsion in two 1-quart plastic container with lined, sealed lid
2. Asphaltic emulsion information and test data as follows:
 - 2.1. Supplier
 - 2.2. Type/Grade of asphalt emulsion
 - 2.3. Copy of the specified test results for asphaltic emulsion

37-4.01B Materials

Not Used

37-4.01C Construction**37-4.01C(1) General**

Reserved

37-4.01C(2) Weather Conditions

Only place a fog seal or flush coat if both the pavement and ambient temperatures are at least 50 degrees F and rising. Do not place a fog seal or flush coat within 24 hours of rain or within 24 hours of forecast rain or freezing temperatures.

37-4.01D Payment

Not Used

37-4.02 FOG SEALS**37-4.02A General****37-4.02A(1) Summary**

Section 37-4.02 includes specifications for applying fog seals.

Applying a fog seal includes applying a diluted slow-setting or quick setting asphaltic emulsion.

37-4.02A(2) Definitions

Reserved

37-4.02A(3) Submittals

Immediately after sampling, submit two 1-quart plastic container of asphaltic emulsion taken in the presence of the Engineer. Samples must be submitted in insulated shipping container.

37-4.02A(4) Quality Assurance**37-4.02A(4)(a) General**

Reserved

37-4.02A(4)(b) Quality Control**37-4.02A(4)(b)(i) General**

Reserved

37-4.02A(4)(b)(ii) Asphaltic Emulsions

Circulate asphaltic emulsions in the distributor truck before sampling. Take samples from the distributor truck at mid load or from a sampling tap or thief. Before taking samples, draw and dispose of 1 gallon. In the presence of the Engineer, take asphalt emulsion sample in two 1-quart plastic container with lined, sealed lid.

For asphaltic emulsions, the authorized laboratory must perform quality control sampling and testing at the specified frequency and location for the following quality characteristics:

Asphaltic Emulsion

Quality characteristic	Test Method	Minimum sampling and testing frequency	Sampling location
Saybolt Furol Viscosity, at 25 °C (Saybolt Furl seconds)	AASHTO T 59	Minimum 1 per day per delivery truck	Distributor truck
Sieve Test (%)			
Storage stability, 1 day (%)			
Residue by distillation (%)			
Particle charge ^a			
Tests on Residue from Distillation Test:			
Penetration, 25 °C	AASHTO T 49	Minimum 1 per day per delivery truck	Distributor truck
Ductility	AASHTO T 51		
Solubility in trichloroethylene	AASHTO T 44		

^aIf the result of the particle charge is inconclusive, the asphaltic emulsion must be tested for pH under ASTM E70. Grade QS1h asphaltic emulsion must have a minimum pH of 7.3. Grade CQS1h asphaltic emulsion must have a maximum pH of 6.7.

37-4.02A(4)(b)(iii) Asphaltic Emulsion Spread Rates

For fog seals, the authorized laboratory must perform sampling and testing at the specified frequency and location for the following quality characteristics:

Fog Seal Quality Control Requirements

Quality characteristic	Test method	Minimum sampling and testing frequency	Location of sampling
Asphaltic emulsion spread rate (gal/sq yd)	California Test 339	2 per day	Pavement surface

37-4.02A(4)(c) Department Acceptance

Fog seal acceptance is based on:

1. Visual inspection for the following:
 - 1.1. Uniform surface texture throughout the work limits
 - 1.2. Flushing consisting of the occurrence of a film of asphaltic material on the surface
 - 1.4. Streaking consisting of alternating longitudinal bands of asphaltic emulsion approximately parallel with the lane line
2. The Department's sampling and testing for compliance with the requirements for the quality characteristics specified in section 94 for asphaltic emulsion
3. Department's sampling and testing for compliance with the requirements for fog seal shown in the following table:

Fog Seal Acceptance Criteria

Quality Characteristic	Test Method	Requirement
Asphaltic emulsion spread rate (gal/sq yd)	California Test 339	TV \pm 10%

37-4.02B Materials

You determine the grade of slow-setting or quick setting asphaltic emulsion to be used.

37-4.02C Construction

Apply asphaltic emulsions for fog seals at a residual asphalt rate from 0.02 to 0.06 gal/sq yd.

If additional water is added to the asphaltic emulsions, the resultant mixture must not be more than 1 part asphaltic emulsion to 1 part water. You determine the dilution rate.

If the fog seals become tacky, sprinkle water as required.

If fog seals and chip seals are on the same project, the joint between the seal coats must be neat and uniform.

37-4.02D Payment

The Department does not adjust the unit price for an increase or decrease in the asphaltic emulsion quantity.

37-4.03 FLUSH COATS

37-4.03A General

37-4.03A(1) Summary

Section 37-4.03 includes specifications for applying flush coats.

Applying a flush coat includes applying a fog seal coat followed by sand.

37-4.03A(2) Definitions

Reserved

37-4.03A(3) Submittals

At least 15 days before use, submit:

1. Proposed target X values for sand gradation.
2. Gradation test results for sand

Submit quality control test results for sand gradation within 2 business days of sampling.

37-4.03A(4) Quality Assurance

37-4.03A(4)(a) General

Reserved

37-4.03A(4)(b) Quality Control

For sand, the authorized laboratory must perform sampling and testing at the specified frequency and location for the following quality characteristics:

Sand Quality Control

Quality characteristic	Test method	Minimum sampling and testing frequency	Location of sampling
Gradation (% passing by weight)	California Test 202	1 per day	See California Test 125

37-4.03A(4)(c) Department Acceptance

Flush coat acceptance is based on fog seal acceptance and the following:

1. Visual inspection for uniform application of sand.
2. Sand acceptance is based on the Department's sampling and testing for compliance with the requirements shown in the following table:

Sand Gradation Acceptance Criteria

Quality characteristic	Test method	Requirement
Gradation (% passing by weight)	California Test 202	
Sieve size:		
3/8"		100
No. 4		93–100
No. 8		61–99
No. 16		$X \pm 13$
No. 30		$X \pm 12$
No. 50		$X \pm 9$
No.100		1–15
No. 200	0–10	

NOTE: "X" is the gradation that you propose to furnish for the specific sieve size.

37-4.03B Material**37-4.03B(1) General**

Reserved

37-4.03B(2) Sand

Sand must be free from deleterious coatings, clay balls, roots, bark, sticks, rags, and other extraneous material.

Sand for a flush coat must comply with the gradations shown in the following table:

Sand Gradation

Quality characteristic	Test method	Requirement
Gradation (% passing by weight)	California Test 202	
Sieve size:		
3/8"		100
No. 4		93–100
No. 8		61–99
No. 16		$X \pm 13$
No. 30		$X \pm 12$
No. 50		$X \pm 9$
No.100		1–15
No. 200	0–10	

NOTE: "X" is the gradation that you propose to furnish for the specific sieve size.

Fine aggregate sizes must be distributed such that the difference between the total percentage passing the No. 16 and No. 30 sieves is from 10 to 40, and the difference between the percentage passing the No. 30 and No. 50 sieves is from 10 to 40.

37-4.03C Construction**37-4.03C(1) General**

During flush coat activities, close adjacent lanes to traffic. Do not track asphaltic emulsion on existing pavement surfaces.

Apply sand immediately after applying asphaltic emulsions.

Spread sand aggregate with a mechanical device that spreads sand at a uniform rate over the full width of a traffic lane in a single application. Spread sand at a rate from 2 to 6 lb/sq yd. You determine the application rates for sand and the Engineer authorizes the application rate.

37-4.03C(2) Sweeping

Sweep loose sand material remaining on the surface 24 hours after application.

37-4.03D Payment

The Department does not adjust the unit price for an increase or decrease in the sand cover (seal) quantity.

37-5 PARKING AREA SEALS**37-5.01 GENERAL****37-5.01A Summary**

Section 37-5 includes specifications for applying parking area seals. Sealing a parking area consists of spreading a mixture of asphaltic emulsion, aggregate, polymer, and water.

37-5.01B Definitions

Reserved

37-5.01C Submittals

At least 15 days before starting placement, submit a 20 lb sample of the aggregate to be used.

At least 10 days before starting placement, submit:

1. Name of the authorized laboratory to perform testing and mix design.
2. Laboratory report of test results and a proposed mix design. The report and mix design must include the specific materials to be used and show a comparison of test results and specifications. The mix design report must include the quantity of water allowed to be added at the job site. The authorized laboratory performing the tests must sign the original laboratory report and mix design.
3. Manufacturer's data for oil seal primer and polymer.

If the mix design consists of the same materials covered by a previous laboratory report, you may submit the previous laboratory report that must include material testing data performed within the previous 12 months for authorization.

If you request substitute materials, submit a new laboratory report and mix design at least 10 days before starting placement.

Submit a certificate of compliance for the parking area seal material.

Immediately after sampling, submit two 1-quart plastic containers of parking area seal taken in the presence of the Engineer. Samples must be submitted in insulated shipping containers.

37-5.01D Quality Assurance**37-5.01D(1) General**

Reserved

37-5.01D(2) Quality Control**37-5.01D(2)(a) General**

Reserved

37-5.01D(2)(b) Asphaltic Emulsions

For an asphaltic emulsion, the authorized laboratory must perform quality control sampling and testing at the specified frequency and location for the following quality characteristics:

Asphaltic Emulsion

Quality characteristic	Test Method	Minimum sampling and testing frequency	Sampling location
Saybolt Furol Viscosity, at 25 °C (Saybolt Furol seconds)	AASHTO T 59	Minimum 1 per day per delivery truck	Distributor truck
Sieve Test (%)			
Storage stability, 1 day (%)			
Residue by distillation (%)			
Particle charge ^a			
Tests on Residue from Distillation Test			
Penetration, 25 °C	AASHTO T 49	Minimum 1 per day per delivery truck	Distributor truck
Ductility	AASHTO T 51		
Solubility in trichloroethylene	AASHTO T 44		

^aIf the result of the particle char is inconclusive, the asphaltic emulsion must be tested for pH under ASTM E70. Grade QS1h asphaltic emulsion must have a minimum pH of 7.3. Grade CQS1h asphaltic emulsion must have a maximum pH of 6.7.

37-5.01D(2)(c) Sand

For sand, the authorized laboratory must perform sampling and testing at the specified frequency and location for the following quality characteristics:

Sand Quality Control

Quality characteristic	Test method	Minimum sampling and testing frequency	Location of sampling
Gradation (% passing by weight)	California Test 202	One per project	See California Test 125

37-5.01D(2)(d) Parking Area Seals

For a parking area seal, the authorized laboratory must perform quality control sampling and testing at the specified frequency for the following quality characteristics:

Parking Area Seal Requirements

Quality characteristic	Test method	Frequency
Mass per liter (kg)	ASTM D244	One per project
Cone penetration (mm)	California Test 413	
Nonvolatile (%)	ASTM D2042 ^a	
Nonvolatile soluble in trichloroethylene (%)		
Wet track abrasion (g/m ²)	ASTM D3910	
Dried film color	--	
Viscosity (KU) ^b	ASTM D562	

^aWeigh 10 g of homogenous material into a previously tarred, small can. Place in a constant temperature oven at 165 ± 5 °C for 90 ± 3 minutes. Cool, reweigh, and calculate nonvolatile components as a percent of the original weight.

^bKrebs units

37-5.01D(3) Department Acceptance

Parking area seal acceptance is based on:

1. Visual inspection for:
 - 1.1. Uniform surface texture throughout the work limits
 - 1.2. Marks in the surface:
 - 1.2.1. Up to 4 marks in the completed parking area seal that are up to 1 inch wide and up to 6 inches long per 1,000 square feet of parking area seal placed.

- 1.2.2. No marks in the completed parking area seal surface that are over 1 inch wide or 6 inches long.
- 1.2. Raveling consisting of the separation of the aggregate from the asphaltic emulsion
- 1.3. Bleeding consisting of the occurrence of a film of asphaltic material on the surface of the parking area seal
- 1.4. Delaminating of the parking area seal from the existing pavement
- 1.5. Rutting or wash-boarding
2. The Department's sampling and testing of aggregate for compliance with 100 percent passing no. 16 sieve under California Test 202
3. The Department's sampling and testing for compliance with the requirements shown in the following table:

Parking Area Seal Acceptance Criteria

Quality characteristic	Test method	Requirement
Mass per liter (min, kg)	ASTM D244	1.1
Cone penetration (mm)	California Test 413	340–700
Nonvolatile (min, %)	ASTM D2042 ^a	50
Nonvolatile soluble in trichloroethylene (%)		10–35
Wet track abrasion (max, g/m ²)	ASTM D3910	380
Dried film color	--	Black
Viscosity (min, KU) ^b	ASTM D562	75

^aWeigh 10 g of homogenous material into a previously tared, small ointment can. Place in a constant temperature oven at 165 ± 5 °C for 90 ± 3 minutes. Cool, reweigh, and calculate nonvolatile components as a percent of the original weight.

^bKrebs units

37-5.02 MATERIALS

37-5.02A General

Aggregate must be clean, hard, durable, uncoated, and free from organic and deleterious substances. One hundred percent of the aggregate must pass the no. 16 sieve.

Asphaltic emulsion must be either Grade SS1h or CSS1h, except the values for penetration at 25 degrees C for tests on residue from distillation must be from 20 to 60.

Polymer must be either neoprene, ethylene vinyl acetate, or a blend of butadiene and styrene.

Oil seal primer must be a quick-drying emulsion with admixtures. Oil seal primer must be manufactured to isolate the parking area seal from pavement with residual oils, petroleum grease, and spilled gasoline.

Crack sealant must comply with section 37-6.

Water must be potable and not separate from the emulsion before the material is placed.

37-5.02B Mix Design

The proposed mix design for a parking area seal must comply with the requirements shown in the following table:

Parking Area Seal Mix Design Requirements

Quality characteristic	Test method	Requirement
Mass per liter (min, kg)	ASTM D244	1.1
Cone penetration (mm)	California Test 413	340–700
Nonvolatile (min, %)	ASTM D2042 ^a	50
Nonvolatile soluble in trichloroethylene (%)		10–35
Wet track abrasion (max, g/m ²)	ASTM D3910	380
Dried film color	--	Black
Viscosity (min, KU) ^b	ASTM D562	75

^aWeigh 10 g of homogenous material into a previously tarred, small ointment can. Place in a constant temperature oven at 165 ± 5 °C for 90 ± 3 minutes. Cool, reweigh, and calculate nonvolatile components as a percent of the original weight.

^bKrebs units

A parking area seal must contain a minimum of 2 percent polymer by volume of undiluted asphaltic emulsion.

37-5.02C Proportioning

Parking area seal ingredients must be mixed at a central plant. The plant must include mechanical or electronic controls that consistently proportion the ingredients. Mix an asphaltic emulsion with the other ingredients mechanically.

Store the parking area seal in a tank equipped with mixing or agitation devices. Keep stored materials thoroughly mixed. Protect stored materials from freezing conditions.

37-5.03 CONSTRUCTION

37-5.03A General

Request that the Engineer shut off the irrigation control system at least 5 days before placing the seal. Do not water plants adjacent to the seal at least 24 hours before and after the seal coat placement.

37-5.03B Surface Preparations

If cracks in the existing pavement are from 1/4 to 1 inch wide, treat the cracks under section 37-6. Do not place the parking area seals until the Engineer determines that the crack treatments are cured.

If cracks in the existing pavement are greater than 1 inch wide, the Engineer orders the repair. This work is change order work.

After any crack treatment and before placing parking area seals, clean the pavement surface, including removal of oil and grease spots. Do not use solvents.

If cleaning the pavement with detergents, thoroughly rinse with water. Allow all water to dry before placing parking area seals.

You must seal oil and grease spots that remain after cleaning. Use an oil seal primer and comply with the manufacturer's instructions.

If the existing pavement has oil and grease spots that do not come clean and sealing is insufficient, the Engineer orders the repair of the pavement. This work is change order work.

Before placing the parking area seals, dampen the pavement surface using a distributor truck. Place the seal on the damp pavement but do not place it with standing water on the pavement.

37-5.03C Placement

If adding water at the job site based on the manufacturer's instructions for consistency and spreadability, do not exceed 15 percent by volume of undiluted asphaltic emulsion.

Place the parking area seals in 1 or more application. The seals must be uniform and smooth, free of ridges or uncoated areas.

If placing in multiple applications, allow the last application to thoroughly dry before the subsequent application.

Do not allow traffic on the parking area seals for at least 24 hours after placement.

Do not stripe over the parking area seals until it is dry.

37-5.04 PAYMENT

The payment quantity for parking area seal is the weight determined by combining the weights of the aggregate and asphaltic emulsion. The payment quantity for parking area seal does not include the added water and set-control additive.

37-6 CRACK TREATMENTS

37-6.01 GENERAL

37-6.01A Summary

Section 37-6 includes specifications for treating cracks in asphalt concrete pavement.

37-6.01B Definitions

Reserved

37-6.01C Submittals

If your selected crack treatment material is on the Authorized Material List for flexible pavement crack treatment material, submit a certificate of compliance including:

1. Manufacturer's name
2. Production location
3. Brand or trade name
4. Designation
5. Batch or lot number
6. Crack treatment material type
7. Contractor or subcontractor name
8. Contract number
9. Lot size
10. Shipment date
11. Manufacturer's signature

If your selected crack treatment material is not on the Authorized Material List for flexible pavement crack treatment material, submit a sample and test results from each batch or lot 20 days before use. Testing must be performed by an authorized laboratory and test results must show compliance with the specifications. Test reports must include the information specified for the certificate of compliance submittal. Each hot-applied crack treatment material sample must be a minimum of 3 lb and submitted in a silicone release container. Each cold-applied crack treatment material sample must be a minimum of 2 quarts and submitted in a plastic container.

At least 10 days before the start of work, submit sand gradation test results under California Test 202.

Submit the following with each delivery of crack treatment material to the job site:

1. Manufacturer's heating and application instructions
2. Manufacturer's SDS
3. Name of the manufacturer's recommended detackifying agent

37-6.01D Quality Assurance

37-6.01D(1) General

Hot-applied crack treatment material must be sampled at least once per project in the Engineer's presence. Collect two 3-pounds-minimum samples of crack treatment material from the dispensing wand into silicone release boxes.

Cold-applied crack treatment material must be sampled at least once per project in the Engineer's presence. Collect 2 samples of crack treatment material from the dispensing wand into 1-quart containers.

37-6.01D(2) Quality Control

Reserved

37-6.01D(3) Department Acceptance

Crack treatment acceptance is based on:

1. Visual inspection for uniform filling of cracks throughout the work limits including:
 - 1.2. Crack treatment is not more than a 1/4 inch below the specified level
 - 1.3. Sealant failures
 - 1.4. Crack re-opening
 - 1.5. Crack overbanding is less than 3 inches wide
2. The Department's sampling and testing for compliance with the requirements shown in the following table:

Crack Treatment Acceptance Criteria

Quality characteristic ^a	Test method ^b	Requirement				
		Type 1	Type 2	Type 3	Type 4	Type 5
Softening point (min, °C)	ASTM D36	102	96	90	84	84
Cone penetration at 77 °F (max)	ASTM D5329	35	40	50	70	90
Resilience at 77 °F, unaged (%)	ASTM D5329	20–60	25–65	30–70	35–75	40–80
Flexibility (°C) ^c	ASTM D3111	0	0	0	-11	-28
Tensile adhesion (min, %)	ASTM D5329	300	400	400	500	500
Specific gravity (max)	ASTM D70	1.25	1.25	1.25	1.25	1.25
Asphalt compatibility	ASTM D5329	Pass	Pass	Pass	Pass	Pass
Sieve test (% passing)	See note d	100	100	100	100	100

^aCold-applied crack treatment material residue collected under ASTM D6943, Method B and sampled under ASTM D140 must comply with the grade specified.

^bExcept for viscosity, cure each specimen at a temperature of 23 ± 2 °C and a relative humidity of 50 ± 10 percent for 24 ± 2 hours before testing.

^cFor the flexibility test, the specimen size must be 6.4 ± 0.2 mm thick by 25 ± 0.2 mm wide by 150 ± 0.5 mm long. The test mandrel diameter must be 6.4 ± 0.2 mm. The bend arc must be 180 degrees. The bend rate must be 2 ± 1 seconds. At least 4 of 5 test specimens must pass at the specified test temperature without fracture, crazing, or cracking.

^dFor hot-applied crack treatment, dilute with toluene and sieve through a no. 8 sieve. For cold-applied crack treatment, sieve the material as-received through a no. 8 sieve. If the manufacturer provides a statement that added components passed the no. 16 sieve before blending, this requirement is void.

37-6.02 MATERIALS

37-6.02A General

Reserved

37-6.02B Crack Treatment Material

A crack treatment material must comply with the requirements shown in the following table:

Crack Treatment Material

Quality characteristic ^a	Test method ^b	Requirement				
		Type 1	Type 2	Type 3	Type 4	Type 5
Softening point (min, °C)	ASTM D36	102	96	90	84	84
Cone penetration at 77 °F (max)	ASTM D5329	35	40	50	70	90
Resilience at 77 °F, unaged (%)	ASTM D5329	20–60	25–65	30–70	35–75	40–80
Flexibility (°C) ^c	ASTM D3111	0	0	0	-11	-28
Tensile adhesion (min, %)	ASTM D5329	300	400	400	500	500
Specific gravity (max)	ASTM D70	1.25	1.25	1.25	1.25	1.25
Asphalt compatibility	ASTM D5329	Pass	Pass	Pass	Pass	Pass
Sieve test (% passing)	See note d	100	100	100	100	100

^aCold-applied crack treatment material residue collected under ASTM D6943, Method B and sampled under ASTM D140 must comply with the grade specifications.

^bExcept for viscosity, cure each specimen at a temperature of 23 ± 2 °C and a relative humidity of 50 ± 10 percent for 24 ± 2 hours before testing.

^cFor the flexibility test, the specimen size must be 6.4 ± 0.2 mm thick by 25 ± 0.2 mm wide by 150 ± 0.5 mm long. The test mandrel diameter must be 6.4 ± 0.2 mm. The bend arc must be 180 degrees. The bend rate must be 2 ± 1 seconds. At least 4 of 5 test specimens must pass at the specified test temperature without fracture, crazing, or cracking.

^dFor hot-applied crack treatment, dilute with toluene and sieve through a no. 8 sieve. For cold-applied crack treatment, sieve the material as-received through a no. 8 sieve. If the manufacturer provides a statement that added components passed the no. 16 sieve before blending, this requirement is void.

A crack treatment material must be delivered to the job site with the information listed below. If crack treatment material is delivered to the job site in containers, each container must be marked with the following information.

1. Manufacturer's name
2. Production location
3. Brand or trade name
4. Designation
5. Crack treatment trade name
6. Batch or lot number
7. Maximum heating temperature
8. Expiration date for cold application only

Hot-applied crack treatment must be delivered to the job site premixed in cardboard containers with meltable inclusion liners or in a fully meltable package.

Cold-applied crack treatment must have a minimum shelf life of 3 months from the date of manufacture.

37-6.02C Sand

Sand applied to tacky crack treatment material must be clean, free of clay, and comply with the gradation shown in the following table:

Sand Gradation

Quality characteristic	Test method	Requirement
Gradation (% passing by weight)	California Test 202	
Sieve size:		
No. 4		100
No. 50		0–30
No. 200		0–5

Add to the table in the 4th paragraph of section 39-2.01A(1):

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01-15-16

Add to item 8 in the 4th paragraph of section 39-2.01A(3)(b)(i):

, except lime supplier and source

07-15-16

Replace the headings and paragraphs of section 39-2.01A(3)(i) with:

39-2.01A(3)(i) Reserved

01-15-16

Replace the 2nd sentence in the 3rd paragraph of section 39-2.01A(4)(b) with:

Submit 3 parts and keep 1 part.

01-15-16

Add between *single* and *test* in the 7th paragraph of section 39-2.01A(4)(i)(i):

aggregate or HMA

07-15-16

Replace the 1st paragraph of section 39-2.01B(2)(b) with:

If the proposed JMF indicates that the aggregate is being treated with dry lime or lime slurry with marination, or the HMA with liquid antistrip, then testing the untreated aggregate under AASHTO T 283 and AASHTO T 324 is not required.

07-15-16

If HMA treatment is required or being used by the Contractor, determine the plasticity index of the aggregate blend under California Test 204.

Add between *aggregate* and *with dry lime* in the 3rd and 4th paragraphs of section 39-2.01B(2)(b):

blend

07-15-16

Replace the 9th through 11th paragraphs of section 39-2.01B(8)(a) with:

HMA must be produced at the temperatures shown in the following table:

07-15-16

HMA Production Temperatures

HMA compaction	Temperature (°F)
HMA	
Density based	≤ 325
Method	305–325
HMA with WMA technology	
Density based	240–325
Method	260–325

04-15-16

Delete the 1st paragraph of section 39-2.01B(11).

Add after the 2nd paragraph of section 39-2.01B(11):

04-15-16

For miscellaneous areas and dikes:

1. Choose the aggregate gradation from:
 - 1.1. 3/8-inch Type A HMA aggregate gradation
 - 1.2. 1/2-inch Type A HMA aggregate gradation
 - 1.3. 1/2-inch dike mix aggregate gradation
2. Choose asphalt binder Grade PG 64-10, PG 64-16 or PG 70-10.
3. Minimum asphalt binder content must be:
 - 3.1. 6.40 percent for 3/8-inch Type A HMA aggregate gradation
 - 3.2. 5.70 percent for 1/2-inch Type A HMA aggregate gradation
 - 3.3. 6.40 percent for 1/2-inch dike mix aggregate gradation

If you request and the Engineer authorizes, you may reduce the minimum asphalt binder content.

Aggregate gradation for 1/2-inch dike mix must be within the TV limits for the specified sieve size shown in the following table:

**Aggregate Gradation for 1/2-inch Dike Mix
(Percentage Passing)**

Sieve size	Target value limit	Allowable tolerance
3/4"	100	--
1/2"	90–95	TV ± 5
No. 4	70–75	TV ± 5
No. 8	23–25	TV ± 5
No. 50	15–35	TV ± 5
No. 200	7.0–13.0	TV ± 2.0

Replace item 4 in the 2nd paragraph of section 39-2.01C(1) with:

07-15-16

4. For method compaction:
 - 4.1. The temperature of the HMA and the HMA produced with WMA water injection technology in the windrow does not fall below 260 degrees F
 - 4.2. The temperature of the HMA produced using WMA additive technology in the windrow does not fall below 250 degrees F

Delete item 3 in the 8th paragraph of section 39-2.01C(1).

07-15-16

Replace 39-2.01A(3)(m)(iv) in the 6th paragraph of section 39-2.01C(3)(e) with:

36-3.01C(3)

01-15-16

Replace 2.06 in the 4th paragraph of section 39-2.01C(3)(f) with:

2.05

07-15-16

Add to the end of section 39-2.01C(15)(b):

The compacted lift thickness must not exceed 0.25 foot.

07-15-16

Add between *rectangles* and *with* in the 4th paragraph of section 39-2.01C(16):

, half the lane width,

04-15-16

Add between *to* and *the* in item 1 of the 4th paragraph of section 39-2.01C(16):

and along

04-15-16

Delete *coat* in the 5th paragraph of section 39-2.01C(16).

07-15-16

Replace 37 in the 5th paragraph of section 39-2.01C(16) with:

37-4.02

07-15-16

Replace section 39-2.02A(3)(b) with:

The JMF must be based on the superpave HMA mix design as described in *MS-2 Asphalt Mix Design Methods* by the Asphalt Institute.

01-15-16

Add between the 1st and 2nd paragraphs of section 39-2.02C:

If the ambient air temperature is below 60 degrees F, cover the loads in trucks with tarpaulins. If the time for HMA discharge to truck at the HMA plant until transfer to paver's hopper is 90 minutes or greater and if the ambient air temperature is below 70 degrees F, cover the loads in trucks with tarpaulins, unless the time from discharging to the truck until transfer to the paver's hopper or the pavement surface is less than 30 minutes. The tarpaulins must completely cover the exposed load until you transfer the mixture to the paver's hopper or the pavement surface.

07-15-16

Replace the table in the 2nd paragraph of section 39-2.02C with:

07-15-16

Minimum Ambient Air and Surface Temperatures

Lift thickness (feet)	Ambient air (°F)		Surface (°F)	
	Unmodified asphalt binder	Modified asphalt binder	Unmodified asphalt binder	Modified asphalt binder
Type A HMA and Type A HMA produced with WMA water injection technology				
<0.15	55	50	60	55
≥0.15	45	45	50	50
Type A HMA produced with WMA additive technology				
<0.15	45	45	50	45
≥0.15	40	40	40	40

07-15-16

Delete the 3rd paragraph of section 39-2.02C.

Add between *HMA* and *placed* in the 1st sentence of the 4th paragraph of section 39-2.02C:

07-15-16

and Type A HMA produced with WMA water injection technology

Add between the 4th and the 5th paragraphs of section 39-2.02C:

07-15-16

For Type A HMA produced with WMA additive technology placed under method compaction, if the asphalt binder is:

1. Unmodified, complete:
 - 1.1 1st coverage of breakdown compaction before the surface temperature drops below 240 degrees F
 - 1.2 Breakdown and intermediate compaction before the surface temperature drops below 190 degrees F
 - 1.3 Finish compaction before the surface temperature drops below 140 degrees F
 - 1.4 You may continue static rolling below 140 degrees F to remove roller marks.
2. Modified, complete:
 - 2.1 1st coverage of breakdown compaction before the surface temperature drops below 230 degrees F
 - 2.2 Breakdown and intermediate compaction before the surface temperature drops below 170 degrees F
 - 2.3 Finish compaction before the surface temperature drops below 130 degrees F
 - 2.4 You may continue static rolling below 130 degrees F to remove roller marks.

Replace the 2nd paragraph of section 39-2.03A(3)(b) with:

01-15-16

The JMF must be based on the superpave HMA mix design as described in *MS-2 Asphalt Mix Design Methods* by the Asphalt Institute.

Replace the requirement in the row for *voids in mineral aggregate on plant produced HMA* in the 2nd table in section 39-2.03A(4)(e)(i) with:

01-15-16

18.0-23.0

Add before the 1st paragraph of section 39-2.03A(4)(e)(ii)(C):

04-15-16

CRM used must be on the Authorized Materials List for Crumb Rubber Modifier.

CRM must be a ground or granulated combination of scrap tire crumb rubber and high natural scrap tire crumb rubber, CRM must be 75.0 ± 2.0 percent scrap tire crumb rubber and 25.0 ± 2.0 percent high natural scrap tire crumb rubber by total weight of CRM. Scrap tire crumb rubber and high natural scrap tire crumb rubber must be derived from waste tires described in Pub Res Code § 42703.

Replace the row for *Hamburg wheel track* in the table in section 39-2.03B(2) with:

01-15-16

Hamburg wheel track (min, number of passes at the inflection point)	AASHTO T 324 (Modified) ^d	
Binder grade:		
PG 58		10,000
PG 64		12,500
PG 70		15,000

Replace *RHMA-G* in the 3rd and 5th paragraphs of section 39-2.03C with:

07-15-16

RHMA-G and RHMA-G produced with WMA water injection technology

Add between the 5th and 6th paragraphs of section 39-2.03C:

07-15-16

For RHMA-G produced with WMA additive technology placed under method compaction:

1. Complete the 1st coverage of breakdown compaction before the surface temperature drops below 260 degrees F
2. Complete breakdown and intermediate compaction before the surface temperature drops below 230 degrees F
3. Complete finish compaction before the surface temperature drops below 180 degrees F
4. You may continue static rolling below 140 degrees F to remove roller marks

Replace the 6th and 7th paragraphs of section 39-2.04C with:

07-15-16

For HMA-O and HMA-O produced with WMA water injection technology:

1. With unmodified asphalt binder:
 - 1.1. Spread and compact only if the atmospheric temperature is at least 55 degrees F and the surface temperature is at least 60 degrees F.
 - 1.2. Complete the 1st coverage using 2 rollers before the surface temperature drops below 240 degrees F.
 - 1.3. Complete all compaction before the surface temperature drops below 200 degrees F.
2. With modified asphalt binder, except asphalt rubber binder:
 - 2.1. Spread and compact only if the atmospheric temperature is at least 50 degrees F and the surface temperature is at least 50 degrees F.
 - 2.2. Complete the 1st coverage using 2 rollers before the surface temperature drops below 240 degrees F.
 - 2.3. Complete all compaction before the surface temperature drops below 180 degrees F.

For HMA-O produced with WMA additive technology:

1. With unmodified asphalt binder:
 - 1.1. Spread and compact only if the atmospheric temperature is at least 45 degrees F and the surface temperature is at least 50 degrees F.
 - 1.2. Complete the 1st coverage using 2 rollers before the surface temperature drops below 230 degrees F.
 - 1.3. Complete all compaction before the surface temperature drops below 190 degrees F.
2. With modified asphalt binder, except asphalt rubber binder:
 - 2.1. Spread and compact only if the atmospheric temperature is at least 40 degrees F and the surface temperature is at least 40 degrees F.
 - 2.2. Complete the 1st coverage using 2 rollers before the surface temperature drops below 230 degrees F.
 - 2.3. Complete all compaction before the surface temperature drops below 170 degrees F.

Replace *RHMA-O* and *RHMA-O-HB* in the 8th paragraph of section 39-2.04C with:

RHMA-O and RHMA-O produced with WMA water injection technology, and RHMA-O-HB and RHMA-O-HB produced with WMA water injection technology 07-15-16

Add between the 8th and 9th paragraphs of section 39-2.04C:

For RHMA-O produced with WMA additive technology and RHMA-O-HB produced with WMA additives technology: 07-15-16

1. Spread and compact if the ambient air temperature is at least 45 degrees F and the surface temperature is at least 50 degrees F
2. Complete the 1st coverage using 2 rollers before the surface temperature drops below 270 degrees F
3. Complete all compaction before the surface temperature drops below 240 degrees F

Add to the 2nd paragraph of section 39-2.05A(3)(b):

The material transfer vehicle must receive HMA directly from the truck. 01-15-16

Replace *Table 6.1* at each occurrence in the table in section 39-2.05B(2) with:

Table 8.1 01-15-16

Replace *SP-2 Asphalt Mixture* in the 1st footnote in the table in the 2nd paragraph of section 39-2.05B(2)(b) with:

MS-2 Asphalt Mix Design Methods 01-15-16

Replace *Manual Series No. 2 (MS-2)* in the 1st footnote in the table in the 2nd paragraph of section 39-2.05B(2)(b) with:

MS-2 Asphalt Mix Design Methods 01-15-16

Replace the 10th paragraph of section 49-1.01D(3) with:

07-15-16

Furnish labor, materials, tools, equipment, and incidentals as required to assist the Department in the transportation, installation, operation, and removal of Department-furnished steel load test beams, jacks, bearing plates, drills, and other test equipment. This is change order work.

Replace the 7th paragraph of section 49-1.01D(4) with:

07-15-16

Piles to be dynamically monitored must:

1. Have an additional length of 2 times the pile diameter plus 2 feet.
2. Be available to the Department at least 2 business days before driving.
3. Be safely supported at least 6 inches off the ground in a horizontal position on at least 2 support blocks. If requested, rotate the piles on the blocks.
4. Be positioned such that the Department has safe access to the entire pile length and circumference for the installation of anchorages and control marks for monitoring.

Delete *business* in item 6 in the list in the 8th paragraph of section 49-1.01D(4).

07-15-16

Add to the list in 9th paragraph of section 49-1.01D(4):

07-15-16

3. Cut pile to the specified cut-off elevation after bearing acceptance criteria is provided by the Department

Delete the 3rd paragraph of section 49-1.03.

04-15-16

Delete the 2nd paragraph of section 49-1.04.

04-15-16

Delete the 4th paragraph of section 49-2.01C(5).

01-15-16

Replace item 3 in the list in the 2nd paragraph of section 49-3.01A with:

07-15-16

3. CISS concrete piles

Add between *undisturbed material* and *in a dry* in the 1st paragraph of section 49-3.01C:

07-15-16

, casing, or steel shell

Replace the 2nd and 3rd paragraphs of section 49-3.01C with:

07-15-16

Place and secure reinforcement. Securely block the reinforcement to provide the minimum clearance shown between the reinforcing steel cage and the sides of the drilled hole, casing, or steel shell.

Steel shells, casings, and drilled holes must be clean and free of debris before reinforcement and concrete are placed.

Replace *dewatered* in the 4th paragraphs of section 49-3.01C with:

drilled

07-15-16

Add to section 49-3.02A(1):

Permanent steel casing and driven steel shell must comply with section 49-2.02.

07-15-16

Replace the paragraph of section 49-3.02A(2) with:

dry hole: A drilled hole that requires no work to keep it free of water.

07-15-16

dewatered hole: A drilled hole that:

1. Accumulates no more than 12 inches of water at the bottom during a 1 hour period without any pumping from the hole.
2. Has no more than 3 inches of water at the bottom immediately before placing concrete.
3. Does not require temporary casing to control the groundwater.

Replace item 8 in the list in the 1st paragraph of section 49-3.02A(3)(b) with:

8. Drilling plan and sequence
9. Concrete sequence and placement plan
10. If inspection pipes are required, methods for ensuring the inspection pipes remain straight, undamaged, and properly aligned during concrete placement

07-15-16

Replace *1 business day* in the paragraph of section 49-3.02A(3)(d) with:

2 business days

07-15-16

Add to section 49-3.02A(3)(d):

The log must:

07-15-16

1. Show the pile location, tip elevation, cutoff elevation, dates of excavation and concrete placement, total quantity of concrete placed, length and tip elevation of any casing, and details of any hole stabilization method and materials used.
2. Include an 8-1/2 by 11 inch graph of concrete placed versus depth of hole filled as follows:
 - 2.1. Plot the graph continuously throughout concrete placement. Plot the depth of drilled hole filled vertically with the pile tip at the bottom and the quantity of concrete placed horizontally.
 - 2.2. Take readings at each 5 feet of pile depth, and indicate the time of the reading on the graph.

Add after the sentence in the paragraph of section 49-3.02A(3)(e):

Allow 10 days for the review.

07-15-16

Replace the 3rd sentence in the paragraph of section 49-3.02A(3)(f) with:

Allow 10 days for the review and analysis of this report.

07-15-16

Add after *rejected pile* in the 1st sentence in the 1st paragraph of section 49-3.02A(3)(g):

to be mitigated

07-15-16

Delete the 2nd paragraph of section 49-3.02A(3)(g).

07-15-16

Replace item 3 in the list in the 3rd paragraph of section 49-3.02A(3)(g) with:

3. Step by step description of the mitigation work to be performed, including drawings if necessary. If the *ADSC Standard Mitigation Plan* is an acceptable mitigation method, include the most recent version. For the most recent version of the *ADSC Standard Mitigation Plan*, go to:
<http://www.dot.ca.gov/hq/esc/geotech/ft/adscmitplan.htm>

07-15-16

Replace the 2nd sentence in the paragraph of section 49-3.02A(3)(i) with:

Allow 10 days for the review.

07-15-16

Add to section 49-3.02A(3):

49-3.02A(3)(j) Certifications

If synthetic slurry is used, submit as an informational submittal the names and certifications of your employees who are trained and certified by the synthetic slurry manufacturer.

07-15-16

Add after *excavated hole* in the 1st sentence in the 3rd paragraph of section 49-3.02A(4)(c):

lined with plastic

07-15-16

Replace the 1st paragraph of section 49-3.02A(4)(d)(i) with:

Section 49-3.02A(4)(d) applies to CIDH concrete piles except for piles (1) less than 24 inches in diameter or (2) constructed in dry or dewatered holes.

07-15-16

Replace *gamma-gamma logging* in the 2nd paragraph of section 49-3.02A(4)(d)(i) with:

GGL

07-15-16

Replace the 1st sentence in the 3rd paragraph of section 49-3.02A(4)(d)(i) with:

After notification by the Engineer of pile acceptance, fill the inspection pipes and cored holes with grout. 07-15-16

Replace *gamma-gamma logging* in section 49-3.02A(4)(d)(ii) with:

GGL 07-15-16

Replace the 3rd and 4th paragraphs of section 49-3.02A(4)(d)(iii) with:

The Department may perform CSL to determine the extent of the anomalies identified by GGL and to further evaluate a rejected pile for the presence of anomalies not identified by GGL. The pile acceptance test report will indicate if the Department intends to perform CSL and when the testing will be performed. Allow the Department 20 additional days for a total of 50 days to perform CSL and to provide supplemental results. 07-15-16

If authorized, you may perform testing on the rejected pile.

Delete the 8th paragraph of section 49-3.02A(4)(d)(iii).

07-15-16

Add to the end of section 49-3.02A(4)(d)(iii):

If the Engineer determines it is not feasible to repair the rejected pile, submit a mitigation plan for replacement or supplementation of the rejected pile. 07-15-16

Add to section 49-3.02A(4):

07-15-16

49-3.02A(4)(e) Certifications

If synthetic slurry is used, your employees who will be providing technical assistance in the slurry activities must be trained and certified by the synthetic slurry manufacturer to show their competency to perform inspection of slurry operations.

Replace section 49-3.02B(4) with:**49-3.02B(4) Reserved**

07-15-16

Replace *near* in the 3rd, 4th, and 5th paragraphs of section 49-3.02B(6)(b) with:

within 2 feet of 07-15-16

Replace *twice per shift* in item 2 in the 3rd paragraph of section 49-3.02B(6)(b) with:

every 4 hours 07-15-16

Delete the 7th and 8th paragraphs of section 49-3.02B(6)(b).

07-15-16

Delete the 3rd paragraph of section 49-3.02B(6)(c).

07-15-16

Replace *near* in item 2 in the 4th paragraph of section 49-3.02B(6)(c) with:

within 2 feet of

07-15-16

Replace item 5 in the 4th paragraph of section 49-3.02B(6)(c) with:

5. After final cleaning and immediately before placing concrete.

07-15-16

Replace section 49-3.02B(9) with:

49-3.02B(9) Inspection Pipes

Inspection pipes must be schedule 40 PVC pipe complying with ASTM D1785 with a nominal pipe size of 2 inches.

Watertight PVC couplers complying with ASTM D2466 are allowed to facilitate pipe lengths in excess of those commercially available.

07-15-16

Add to the beginning of section 49-3.02C(1):

Unless otherwise authorized, drilling the hole and placing reinforcement and concrete in the hole must be performed in a continuous operation.

07-15-16

Replace the 5th paragraph of section 49-3.02C(2) with:

If slurry is used during excavation, maintain the slurry level at a height required to maintain a stable hole, but not less than 10 feet above the piezometric head.

07-15-16

Replace the 1st sentence in the 9th paragraph of section 49-3.02C(2) with:

Remove water that has infiltrated the dewatered hole before placing concrete, as required for dewatered hole.

07-15-16

Replace the 1st sentence in the 10th paragraph of section 49-3.02C(2) with:

If authorized, to control caving or water seepage, you may enlarge portions of the hole, backfill the hole with slurry cement backfill, concrete, or other material, and redrill the hole to the diameter shown.

07-15-16

Replace the 4th paragraph of section 49-3.02C(3) with:

07-15-16

Remove the temporary casing during concrete placement. Maintain the concrete in the casing at a level required to maintain a stable hole, but not less than 5 feet above the bottom of the casing, to prevent displacement of the concrete by material from outside the casing.

Replace the 5th paragraph of section 49-3.02C(4) with:

07-15-16

For a single CIDH concrete pile supporting a column:

1. If the pile and the column share the same reinforcing cage diameter, this cage must be accurately placed as shown
2. If the pile reinforcing cage is larger in diameter than the column cage:
 - 2.1. Maintain a clear horizontal distance of at least 3.5 inches between the two cages, if the concrete is placed under dry conditions
 - 2.2. Maintain a clear horizontal distance of at least 5 inches between the two cages if the concrete is placed under slurry
 - 2.3. The offset between the centerlines of the two cages must not exceed 6 inches

Replace the paragraphs in section 49-3.02C(5) with:

07-15-16

For acceptance testing, install and test vertical inspection pipes as follows:

1. Log the location of the inspection pipe couplers with respect to the plane of pile cutoff.
2. Cap each inspection pipe at the bottom. Extend the pipe from 3 feet above the pile cutoff to the bottom of the reinforcing cage. Provide a temporary top cap or similar means to keep the pipes clean before testing. If pile cutoff is below the ground surface or working platform, extend inspection pipes to 3 feet above the ground surface or working platform.
3. If any changes are made to the pile tip, extend the inspection pipes to the bottom of the reinforcing cage.
4. Install inspection pipes in a straight alignment and parallel to the main reinforcement. Securely fasten inspection pipes in place and provide protective measures to prevent misalignment or damage to the inspection pipes during installation of the reinforcement and placement of concrete in the hole. Construct CIDH concrete piles such that the relative distance of inspection pipes to vertical steel reinforcement remains constant.
5. After concrete placement is complete, fill inspection pipes with water to prevent debonding of the pipe.
6. Provide safe access to the tops of the inspection pipes.
7. After placing concrete and before requesting acceptance testing, test each inspection pipe in the Engineer's presence by passing a rigid cylinder through the length of pipe. The rigid cylinder must be 1-1/4-inch diameter by 4.5-foot long, weigh 12 pounds or less, and be able to freely pass down through the entire length of the pipe under its own weight and without the application of force.
8. When performing acceptance testing, inspection pipes must provide a 2-inch-diameter clear opening and be completely clean, unobstructed, and either dry or filled with water as authorized.
9. After acceptance testing is complete, completely fill the inspection pipes with water.

If the rigid cylinder fails to pass through the inspection pipe:

1. Completely fill the inspection pipes in the pile with water immediately.
2. Core a nominal 2-inch-diameter hole through the concrete for the entire length of the pile for each inspection pipe that does not pass the rigid cylinder. Coring must not damage the pile reinforcement.
3. Locate cored holes as close as possible to the inspection pipes they are replacing and no more than 5 inches clear from the reinforcement.

Core holes using a double wall core barrel system with a split tube type inner barrel. Coring with a solid type inner barrel is not allowed.

Coring methods and equipment must provide intact cores for the entire length of the pile.

Photograph and store concrete cores as specified for rock cores in section 49-1.01D(5).

The coring operation must be logged by an engineering geologist or civil engineer licensed in the State and experienced in core logging. Coring logs must comply with the Department's *Soil and Rock Logging, Classification, and Presentation Manual* for rock cores. Coring logs must include core recovery, rock quality designation of the concrete, locations of breaks, and complete descriptions of inclusions and voids encountered during coring.

The Department evaluates the portion of the pile represented by the cored hole based on the submitted coring logs and concrete cores. If the Department determines a pile is anomalous based on the coring logs and concrete cores, the pile is rejected.

Replace item 2 in the list in the 2nd paragraph of section 49-3.02C(7) with:

2. Extend at least 5 feet below the construction joint. If placing casing into rock or a dry hole, the casing must extend at least 2 feet below the construction joint. 07-15-16

Add to the beginning of section 49-3.02C(9):

49-3.02C(9)(a) General 07-15-16

Replace the 2nd sentence of the 3rd paragraph of section 49-3.02C(9) with:

Do not vibrate the concrete. 04-15-16

Add after *concrete pump* in the 8th paragraph of section 49-3.02C(9):

and slurry pump 07-15-16

Replace item 3 in the list in the 11th paragraph of section 49-3.02C(9) with:

3. Maintain the slurry level at a height required to maintain a stable hole, but not less than 10 feet above the piezometric head. 07-15-16

Replace the 13th paragraph of section 49-3.02C(9) with:

Maintain a log of concrete placement for each drilled hole. 07-15-16

Replace 14th and 15th paragraphs of section 49-3.02C(9) with:

If a temporary casing is used, maintain concrete placed under slurry at a level required to maintain a stable hole, but not less than 5 feet above the bottom of the casing. The withdrawal of the casing must not cause contamination of the concrete with slurry. 07-15-16

The equivalent hydrostatic pressure inside the casing must be greater than the hydrostatic pressure on the outside of the casing to prevent intrusion of water, slurry, or soil into the column of freshly placed concrete.

Remove scum, laitance, and slurry-contaminated concrete from the top of the pile.

Add to section 49-3.02C(9):

07-15-16

49-3.02C(9)(b) Mineral Slurry

Remove any caked slurry on the sides or bottom of hole before placing reinforcement.

If concrete is not placed immediately after placing reinforcement, the reinforcement must be removed and cleaned of slurry, the sides of the drilled hole must be cleaned of caked slurry, and the reinforcement again placed in the hole for concrete placement.

49-3.02C(9)(c) Synthetic Slurry

A manufacturer's representative must:

1. Provide technical assistance for the use of their material
2. Be at the job site before introduction of the synthetic slurry into the drilled hole
3. Remain at the job site until released by the Engineer

After the manufacturer's representative has been released by the Engineer, your employee certified by the manufacturer must be present during the construction of the pile under slurry.

Replace the heading of section 49-3.03 with:

07-15-16

CAST-IN-STEEL SHELL CONCRETE PILING**Replace the 1st paragraph of section 49-3.03A(1) with:**

07-15-16

Section 49-3.03 includes specifications for constructing CISS concrete piles consisting of driven open-ended or closed-ended steel shells filled with reinforcement and concrete.

Add to the end of section 49-3.03A(1):

07-15-16

CISS concrete piles include Class 90 Alternative V and Class 140 Alternative V piles.

Add to section 49-3.03A(3):

01-15-16

Submit a Pile and Driving Data Form under section 49-2.01A(3)(a) if specified in the special provisions.

Replace the paragraph of section 49-3.03D with:

07-15-16

Furnish piling is measured along the longest side of the pile from the specified tip elevation shown to the plane of pile cutoff.

Replace section 49-4.03 with:

01-15-16

49-4.03 CONSTRUCTION**49-4.03A General**

Reserved

Add to the list in the 6th paragraph of section 51-1.01A:

7. Drainage inlets

07-15-16

Add to section 51-1.02I:

Metal frames, covers, grates, and other miscellaneous iron and steel used with drainage inlets must comply with section 75-2.

07-15-16

Add to section 51-1.03B:

You may use PC drainage inlets as an alternative to CIP drainage inlets.

07-15-16

Add between the 10th and 11th paragraphs of section 51-1.03C(2)(a):

For drainage inlets, extend the outside forms at least 12 inches below the top of the inlet. You may place concrete against excavated earth below this depth except:

07-15-16

1. You must use full-depth outside forms or other protection when work activities or unstable earth may cause hazardous conditions or contamination of the concrete.
2. You must increase the wall thickness 2 inches if placing concrete against the excavated surface. The interior dimensions must be as shown.

Add to section 51-1.03C(2)(b):

For drainage inlets, remove exterior forms to at least 12 inches below the final ground surface. Exterior forms below this depth may remain if their total thickness is not more than 1 inch.

07-15-16

Add to the list in the 2nd paragraph of section 51-1.03F(2):

4. Interior and top surfaces of drainage inlets

07-15-16

Add to section 51-1.04:

The payment quantity for structural concrete, drainage inlet is the volume determined from the dimensions shown for CIP drainage inlets.

07-15-16

Add to section 51-4.01C(1):

For PC drainage inlets, submit field repair procedures and a patching material test sample before repairs are made. Allow 10 days for the Engineer's review.

07-15-16

Add to section 51-4.01C(2)(a):

For drainage inlets with oval or circular cross sections, submit shop drawings with calculations. Shop drawings and calculations must be sealed and signed by an engineer who is registered as a civil engineer in the State. Allow 15 days for the Engineer's review.

07-15-16

Add to section 51-4.01D(3):

07-15-16

The Engineer may reject PC drainage inlets exhibiting any of the following:

1. Cracks more than 1/32 inch wide
2. Nonrepairable honeycombed or spalled areas of more than 6 square inches
3. Noncompliance with reinforcement tolerances or cross sectional area shown
4. Wall, inlet floor, or lid less than minimum thickness
5. Internal dimensions less than dimensions shown by 1 percent or 1/2 inch, whichever is greater
6. Defects affecting performance or structural integrity

Add to section 51-4.02C:

07-15-16

Materials for PC drainage inlets must comply with the following:

1. Preformed flexible joint sealant must be butyl-rubber complying with ASTM C990
2. Resilient connectors must comply with ASTM C923
3. Sand bedding must comply with section 19-3.02F(2)
4. Bonding agents must comply with ASTM C1059/C1059, Type II

Add to section 51-4.02D:

07-15-16

51-4.02D(8) Drainage Inlets

PC units for drainage inlets must be rectangular, round, or oval in cross section, or any combination. Transitions from a rectangular grate opening to a round or oval basin must be made in not less than 8 inches. Provide means for field adjustment to meet final grade, paving, or surfacing.

If oval or circular shape cross-sections are furnished, they must comply with *AASHTO LRFD Bridge Design Specifications, Sixth Edition with California Amendments*.

Wall and slab thicknesses may be less than the dimensions shown by at most 5 percent or 3/16 inch, whichever is greater.

Reinforcement placement must not vary more than 1/2 inch from the positions shown.

Add to section 51-4.03:

07-15-16

51-4.03H Drainage Inlets

Repair PC drainage inlet sections to correct damage from handling or manufacturing imperfections before installation.

Center pipes in openings to provide a uniform gap. Seal gaps between the pipe and the inlet opening with nonshrink grout under the grout manufacturer's instructions. For systems designated as watertight, seal these gaps with resilient connectors.

Match fit keyed joints to ensure uniform alignment of walls and lids. Keys are not required at the inlet floor level if the floor is precast integrally with the inlet wall. Seal keyed joint locations with preformed butyl rubber joint sealant. You may seal the upper lid and wall joint with nonshrink grout.

Clean keyed joint surfaces before installing sealant. Joint surfaces must be free of imperfections that may affect the joint. Use a primer if surface moisture is present. Use a sealant size recommended by the sealant manufacturer. Set joints using sealant to create a uniform bearing surface.

Flat drainage inlet floors must have a field-cast topping layer at least 2 inches thick with a slope of 4:1 (horizontal:vertical) toward the outlet. Use a bonding agent when placing the topping layer. Apply the bonding agent under the manufacturer's instructions.

Nondestructive Testing for Overhead Sign Structures

Weld location	Weld type	Minimum required NDT
Base plate to post	CJP groove weld with backing ring and reinforcing fillet	100% UT and 100% MT
Base plate to gusset plate	CJP groove weld	100% UT
Circumferential splices of pipe or tubular sections	CJP groove weld with backing ring	100% UT or RT
Split post filler plate welds	CJP groove weld with backing bar	100% UT or RT
Longitudinal seam weld for pipe posts	CJP groove weld	t < 1/4 inch: 100% MT t ≥ 1/4 inch: 100% UT or RT
	PJP groove weld	Random 25% RT
Chord angle splice weld	CJP groove weld with backing bar	100% UT or RT
Truss vertical, diagonal, and wind angles to chord angles	Fillet weld	Random 25% MT
Upper junction plate to chord (cantilever type truss)	Fillet weld	Random 25% MT
Bolted field splice plates (tubular frame type)	CJP groove weld	100% UT and 100% MT
Cross beam connection plates (lightweight extinguishable message sign)	Fillet weld	Random 25% MT
Arm connection angles (lightweight extinguishable message sign)	Fillet weld	100% MT
Mast arm to arm plate (lightweight extinguishable message sign)	CJP groove weld with backing ring	t ≥ 5/16 inch: 100% UT and 100% MT t < 5/16 inch: 100% MT after root weld pass and final weld pass
Post angle to post (lightweight extinguishable message sign)	Fillet weld	100% MT
Hand holes and other appurtenances	Fillet and PJP welds	MT full length on random 25% of all sign structures

NOTE: t = pole or arm thickness

56-1.01D(2)(b)(ii) Ultrasonic Testing

For UT of welded joints with any members less than 5/16 inch thick or tubular sections less than 13 inches in diameter, the acceptance and repair criteria must comply with Clause 6.13.3.1 of AWS D1.1.

For UT of other welded joints, the acceptance and repair criteria must comply with Table 6.3 of AWS D1.1 for cyclically loaded nontubular connections.

After galvanization, perform additional inspection for toe cracks along the full length of all CJP groove welds at tube-to-transverse plate connections using UT.

When performing UT, use an authorized procedure under AWS D1.1, Annex S.

56-1.01D(2)(b)(iii) Radiographic Testing

The acceptance criteria for radiographic or real time image testing must comply with AWS D1.1 for tensile stress welds.

56-1.01D(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.

56-1.01D(3) Department Acceptance

Reserved

Replace section 56-2.01D(2)(b) with:

Reserved

07-15-16

Replace the 2nd sentence of the 1st paragraph of section 56-2.02F with:

Manufactured pipe posts must comply with one of the following:

07-15-16

Add to the list in the 1st paragraph of section 56-2.02F:

4. ASTM A1085, Grade A

07-15-16

Replace the 2nd paragraph of section 56-2.02F with:

You may fabricate pipe posts from structural steel complying with ASTM A36/A36M, ASTM A709/A709M, Grade 36, or ASTM A572/A572M, Grades 42 or 50.

07-15-16

Delete the last sentence in the 1st paragraph of section 56-2.02K(2).

07-15-16

Delete the 3rd paragraph of section 56-2.02K(2).

07-15-16

Replace the 2nd paragraph of section 56-2.02K(4) with:

Safety cable at walkways must not be kinked, knotted, deformed, frayed, or spliced.

07-15-16

Replace the 1st sentence of the paragraph in section 56-2.02K(5) with:

The edges of handholes and other large post and arm openings must be ground smooth.

07-15-16

Replace the heading of section 56-3 with:

56-3 STANDARDS, POLES, PEDESTALS, AND POSTS

07-15-16

Replace the paragraph in section 56-3.01A with:

Section 56-3 includes general specifications for fabricating and installing standards, poles, pedestals, and posts.

07-15-16

Replace section 56-3.01B(2)(b) with:

07-15-16

Standards with handholes must comply with the following:

1. Include a UL-listed lug and 3/16-inch or larger brass or bronze bolt for attaching the bonding jumper for non-slip-base standards.
2. Attach a UL-listed lug to the bottom slip base plate with a 3/16-inch or larger brass or bronze bolt for attaching the bonding jumper for slip-base standards.

Replace the 1st sentence of the 3rd paragraph of section 56-3.01C(2)(a) with:

07-15-16

After each standard, pole, pedestal, and post is properly positioned, place mortar under the base plate.

Replace the 2nd sentence of the 4th paragraph of section 56-3.01C(2)(a) with:

07-15-16

The top of the foundation at curbs or sidewalks must be finished to curb or sidewalk grade.

Replace the 10th paragraph of section 56-3.01C(2)(a) with:

07-15-16

Except when located on a structure, construct foundations monolithically.

Replace the 13th paragraph of section 56-3.01C(2)(a) with:

07-15-16

Do not erect standards, poles, pedestals, or posts until the concrete foundation has cured for at least 7 days.

Replace the 14th paragraph in section 56-3.01C(2)(a) with:

07-15-16

The Engineer selects either the plumbing or raking technique for standards, poles, pedestals, and posts. Plumb or rake by adjusting the leveling nuts before tightening nuts. Do not use shims or similar devices. After final adjustments of both top nuts and leveling nuts on anchorage assemblies have been made and each standard, pole, pedestal, and post on the structure is properly positioned, tighten nuts as follows:

1. Tighten leveling nuts and top nuts, following a crisscross pattern, until bearing surfaces of all nuts, washers, and base plates are in firm contact.
2. Use an indelible marker to mark the top nuts and base plate with lines showing relative alignment of the nut to the base plate.
3. Tighten top nuts following a crisscross pattern:
 - 3.1. Additional 1/6 turn for anchor bolts greater than 1-1/2 inches in diameter.
 - 3.2. Additional 1/3 turn for other anchor bolts.
 - 3.3. Tightening tolerance for all top nuts is $\pm 1/8$ turn.

Replace the 1st sentence of the 4th paragraph of section 56-3.01C(2)(b) with:

07-15-16

If shown, use sleeve nuts on Type 1 standards.

Add to section 56-3.01C(2)(b):

07-15-16

Spiral reinforcement must be continuous above the bottom of the anchor bolts. The top termination must be either:

1. 1'-6" lap beyond the end of pitch with a 90-degree hook extending to the opposite side of the cage, or
2. 1'-6" lap beyond the end of pitch with 2 evenly spaced authorized mechanical couplers

Replace the 1st sentence of the paragraph in section 56-3.02A(4)(b) with:

07-15-16

For cast slip bases for standards and poles with shaft lengths of 15 feet or more, perform RT on 1 casting from each lot of a maximum of 50 castings under ASTM E94.

Replace the 2nd paragraph of section 56-3.02B(1) with:

07-15-16

Material for push button posts, pedestrian barricades, and guard posts must comply with ASTM A53/A53M or ASTM A500/A500M.

Add to section 56-3.02B(1):

07-15-16

Steel pipe standards and mast arms must be hot dip galvanized after manufacturing. Remove spikes from galvanized surfaces.

Replace the 2nd paragraph of section 56-3.02B(2) with:

07-15-16

HS anchor bolts, nuts, and washers must comply with section 55-1.02D(1) and the following:

1. Bolt threads must be rolled
2. Hardness of HS anchor bolts must not exceed 34 HRC when tested under ASTM F606
3. Galvanization must be by mechanical deposition
4. Nuts must be heavy-hex type
5. Each lot of nuts must be proof load tested

Replace the 2nd sentence of the 9th paragraph of section 56-3.02B(2) with:

07-15-16

During manufacturing, properly locate the position of the luminaire arm on the arm plate to avoid interference with the cap screw heads.

Add to section 56-3.02B(3)(a):

07-15-16

Steel having a nominal thickness greater than 2 inches that is used for tube-to-transverse plate connections must have a minimum CVN impact value of 20 ft-lb at 20 degrees F when tested under ASTM E23.

Add to section 56-3.02B(3)(c):

07-15-16

The length of telescopic slip-fit splices must be at least 1.5 times the inside diameter of the exposed end of the female section.

Slotted Plastic Pipe

12" diameter	18" diameter
Zurn Z888-12	Zurn Z888-18
ACO Qmax 350	ACO Qmax 365
ADS Duraslot-12	ADS Duraslot-18

64-3.02C Concrete Backfill

Concrete for concrete backfill for slotted plastic pipe must comply with the specifications for minor concrete. You may use RSC instead of minor concrete for concrete backfill.

If RSC is used for concrete backfill, the RSC must:

1. Contain at least 590 pounds of cementitious material per cubic yard
2. Comply with section 90-3.02A, except section 90-1 does not apply
3. Comply with section 90-2

64-3.02D Heel-Resistant Grates

Heel-resistant grate must:

1. Be designed to carry traffic loadings
2. Comply with ADA requirements
3. Be constructed of steel or cast iron
4. Be provided by the same manufacturer of the slotted plastic pipe
5. Comply with the manufacturer's instructions

64-3.02E Bar Reinforcement

Bar reinforcement must comply with ASTM A615/A615M, Grade 60 or ASTM A706/A706M, Grade 60.

64-3.02F Miscellaneous Metal

Ductile iron, nuts, bolts, and washers must comply with section 75.

64-3.02G Grout

Grout must be non-shrink grout complying with ASTM C1107/C1107M.

64-3.02H Curing Compound

Non-pigmented curing compound must comply with ASTM C309, Type 1, Class B.

64-3.02I End Caps

End cap must:

1. Be provided by the same manufacturer of the slotted plastic pipe
2. Prevent concrete backfill from entering the pipe

64-3.03 CONSTRUCTION**64-3.03A General**

Cover the grate slots with heavy-duty tape or other authorized covering during paving and concrete backfilling activities to prevent material from entering the slots.

64-3.03B Preparation

Pave adjacent traffic lanes before installing slotted plastic pipes.

Excavation must comply with section 19-3.

64-3.03C Installation

Lay and join slotted plastic pipes under the pipe manufacturer's instructions.

Lay pipes to line and grade with sections closely jointed and adequately secured to prevent separation during placement of the concrete backfill. If the pipes do not have a positive interlocking mechanism like a slot and tongue connection, secure the sections together with nuts, bolts, and washers before backfilling.

3. Have a Class 1 zinc coating

80-4.02B(1)(d) Posts

Each post must:

1. Comply with ASTM F1083
2. Be standard weight, schedule 40 steel pipe with a nominal pipe size of 1 inch
3. Be galvanized steel fence post conforming to ASTM A702

80-4.02B(2) Temporary Desert Tortoise Fences

The materials for a temporary desert tortoise fence must comply with section 80-4.02B(1), except the hardware cloth must be made of at least 16-gauge wire.

80-4.02C Construction

80-4.02C(1) General

Extend the hardware cloth a minimum of 24 inches above the ground.

Plumb the posts and pull the hardware cloth taut. Correct any alignment issues.

80-4.02C(2) Permanent Desert Tortoise Fences

Excavate the ground to form a trench before installing the posts and hardware cloth. Embed the posts at maximum 5-foot intervals into the ground. If T posts are used, use 5-foot lengths and embed the posts to match the above-ground height shown for the posts.

Securely fasten the hardware cloth to the posts with wire ties and to barbless wire with hog rings as shown. Pass the wire ties through the hardware cloth. Encircle the posts and barbless wire with the ties and tie them by twisting a minimum of 3 complete turns.

Bend the twisted ends of the ties down to prevent possible snagging. Close hog rings with their ends overlapping.

Bury the hardware cloth a minimum of 12 inches into the ground. Install the cloth in 1 continuous piece. You may cut the cloth into shorter segments if authorized.

Overlap the hardware cloth segments at posts, with a minimum overlap of 6 inches centered at a post. Wire tie the overlapped cloth to posts as shown. Prevent fraying by threading barbless wire along the vertical edges of the hardware cloth on either side of the post or use 3 equally spaced hog rings (6 hog rings per location) along each wire cloth edge.

Where bedrock or caliche substrate is encountered, use the bent hardware cloth detail if authorized. Transitions from buried-to-bent or bent-to-buried configuration must occur at a post location with a minimum 6-inch overlap of the hardware cloth as shown. The maximum spacing for hold down pins is 24 inches on center. Anchor in place with hold down pins the beginning and end corners of the hardware cloth placed on the ground.

Backfill the removed earth material into the trench created to install the hardware cloth and posts. Use an 8 lb or heavier hand tamper to compact the backfill around the posts and hardware cloth. Install a post at each corner of the cloth segments.

If a gate must be installed, attach the hardware cloth to the gate frame such that there is contact along the entire length of the gate between the finished ground surface and the lower edge of the cloth. Install the gate under section 80-10.

80-4.02C(3) Temporary Desert Tortoise Fences

Fold the horizontal edge of the hardware cloth at a 90° angle toward the tortoise habitat area. Ensure the clearance to the ground at the bend is from 0 to 2 inches.

Where the hardware cloth overlaps, secure the bend piece with one of the following:

1. Barbless wire threaded along the width of the cloth
2. Minimum of 4 hog rings equally spaced along the edge

Add to the end of section 84-8.03A:

07-15-16

The noise level created by the combined grinding activities must not exceed 86 dBA when measured at a distance of 50 feet at right angles to the direction of travel.

Break rumble strips before and after intersections, driveways, railroad crossings, freeway gore areas, and freeway ramps. Place breaks and break distances as shown. You may adjust breaks and the break distances as needed at low-volume driveways or other locations if authorized.

Delete *new* in the 1st paragraph of section 84-8.03B.

07-15-16

Add to the end of section 84-8.03B:

07-15-16

Remove grinding residue under section 13-4.03E(7).

Replace the 1st paragraph of section 84-8.03C with:

07-15-16

Construct rumble strips in the top layer of HMA and asphalt concrete surfacing by the ground-in method.

Add between the 2nd and 3rd paragraphs of section 84-8.03C:

07-15-16

Dispose of the removed material.

Delete the 2nd paragraph of section 84-8.03C.

07-15-16

Replace 37-2 in the 3rd paragraph of section 84-8.03C with:

07-15-16

37-4.02

Replace section 84-8.04 with:

07-15-16

The payment quantity for any type of rumble strip is the length measured by the station along the length of the rumble strip without deductions for gaps between indentations.

Replace the 2nd paragraph of section 84-9.03B with:

04-15-16

Completely remove traffic stripes and pavement markings, including any paint in the gaps, by methods that do not remove pavement to a depth of more than 1/8 inch.

Add between the 2nd and 3rd paragraphs of section 84-9.03B:

04-15-16

Submit your proposed method for removing traffic stripes and pavement markings at least 7 days before starting the removal work. Allow 2 business days for the review.

flashing beacon control assembly: Assembly of switches, circuit breakers, terminal blocks, flasher, wiring, and other necessary electrical components housed in a single enclosure for operating a beacon.

house side lumens: Lumens from a luminaire directed to light up areas between the fixture and the pole, such as sidewalks at intersection or areas off the shoulders on freeways.

illuminance gradient: Ratio of the minimum illuminance on a 1-foot square of sign panel to that on an adjacent 1-foot square of sign panel.

inductive loop detector: Detector capable of being actuated by an inductance change caused by a vehicle passing or standing over the loop. An inductive loop detector includes a loop or group of loops installed in the roadway and a lead-in cable installed and connected inside a controller cabinet.

junction temperature: Temperature of the electronic junction of the LED device. The junction temperature is critical in determining photometric performance, estimating operational life, and preventing catastrophic failure of the LED.

L70: Extrapolated life in hours of the luminaire when the luminous output depreciates 30 percent from the initial values.

lighting standard: Pole and mast arm supporting the luminaire.

LM-79: Test method from the Illumination Engineering Society of North America specifying the test conditions, measurements, and report format for testing solid state lighting devices, including LED luminaires.

LM-80: Test method from the Illumination Engineering Society of North America specifying the test conditions, measurements, and report format for testing and estimating the long-term performance of LEDs for general lighting purposes.

luminaire: Assembly that houses the light source and controls the light emitted from the light source.

National Voluntary Laboratory Accreditation Program: U.S. Department of Energy program that accredits independent testing laboratories.

powder coating: Coating applied electrostatically using exterior-grade, UV-stable, polymer powder.

power factor: Ratio of the real power component to the complex power component.

pretimed controller assembly: Assembly operating traffic signals under a predetermined cycle length.

programming mechanism: Device to program the accessible pedestrian signal operation.

pull box: Box with a cover that is installed in an accessible place in a conduit run to facilitate the pulling in of wires or cables.

push button information message: Push button information message as defined in the *California MUTCD*.

push button locator tone: Push button locator tone as defined in the *California MUTCD*.

signal face: Signal face as defined in the *California MUTCD*.

signal head: Signal head as defined in the *California MUTCD*.

signal indication: Signal indication as defined in the *California MUTCD*.

signal section: Signal section as defined in the *California MUTCD*.

signal standard: Pole with or without mast arms carrying 1 or more signal faces.

street side lumens: Lumens from a luminaire directed to light up areas between the fixture and the roadway, such as traveled ways and freeway lanes.

surge protection device: Subsystem or component that protects equipment against short-duration voltage transients in power line.

total harmonic distortion: Ratio of the rms value of the sum of the squared individual harmonic amplitudes to the rms value of the fundamental frequency of a complex waveform.

traffic-actuated controller assembly: Assembly for operating traffic signals under the varying demands of traffic as registered by detector actuation.

traffic phase: Traffic phase as defined in the *California MUTCD*.

vehicle: Vehicle as defined in the *California Vehicle Code*.

vibrotactile pedestrian device: Vibrotactile pedestrian device as defined in the *California MUTCD*.

86-1.01C Submittals

86-1.01C(1) General

Within 15 days after Contract approval, submit a list of equipment and materials you propose to install.

Submit the list before shipping equipment and materials to the job site. The list must include:

1. Manufacturer's name
2. Make and model number
3. Month and year of manufacture
4. Lot and serial numbers
5. Contract number
6. Your contact information

Submit confirmation of the vendor's acceptance of the order for the electrical equipment and materials as an informational submittal.

Submit 3 sets of computer-generated, schematic wiring diagrams for each cabinet.

Diagrams, plans, and drawings must be prepared using graphic symbols in IEEE 315, "Graphic Symbols for Electrical and Electronic Diagrams."

Submit a schedule of values within 15 days after Contract approval.

Do not include costs for the traffic control system in the schedule of values.

Submit a manufacturer's maintenance manual or combined maintenance and operation manual as an informational submittal. The manual must have a master item index that includes:

1. Specifications
2. Design characteristics
3. General operation theory
4. Function of all controls
5. Troubleshooting procedure
6. Parts list, descriptions, stock numbers, and settings
7. Block circuit diagram
8. Layout of components
9. Schematic diagrams

86-1.01C(2) Pull Boxes

Submit the manufacturer's installation instructions for pull boxes, including:

1. Quantity and size of entries that can be made without degrading the strength of the pull box below the load rating
2. Locations where side entries can be made
3. Acceptable method for creating the entry

Submit load-rating test reports for pull boxes from a NRTL.

86-1.01C(3) LED Luminaires

Submit for an LED luminaire:

1. Maximum power in watts
2. Maximum designed junction temperature
3. Heat sink area in square inches
4. Designed junction-to-ambient thermal resistance calculation with thermal resistance components clearly defined
5. L70 in hours when extrapolated for the average nighttime operating temperature
6. Life expectancy based on the junction temperature
7. Manufacturer's data sheet for the power supply, including the rated life

Submit the manufacturer's QC test data for LED luminaires as an informational submittal.

86-1.01C(4) Low-Pressure Sodium Luminaires

Submit the manufacturer's QC test data for low-pressure sodium luminaires as an informational submittal.

86-1.01C(5) Service Equipment Enclosures

Submit shop drawings for a service equipment enclosure to METS.

86-1.01C(6) Signal Heads

Submit a certificate of compliance and the manufacturer's QC test data for signal heads as an informational submittal.

86-1.01C(7) LED Signal Modules

Submit the manufacturer's QC test data for LED signal modules as an informational submittal.

86-1.01C(8) Visors

Submit a certificate of compliance and the manufacturer's QC test data for visors as an informational submittal.

86-1.01C(9) LED Countdown Pedestrian Signal Face Modules

Submit the manufacturer's QC test data for LED countdown pedestrian signal face modules as an informational submittal.

86-1.01C(10) Accessible Pedestrian Signals

Submit the manufacturer's QC test data for accessible pedestrian signals as an informational submittal.

86-1.01D Quality Assurance**86-1.01D(1) General**

Electrical equipment must comply with one or more of the following standards:

1. ANSI
2. ASTM
3. EIA/ECIA
4. NEMA
5. NETA
6. UL/NRTL
7. TIA

Materials must comply with:

1. FCC rules
2. ITE standards
3. NEC
4. California Electrical Code

86-1.01D(2) Source Quality Control

Service equipment enclosures and cabinets must be inspected and tested at the source.

86-1.01D(3) Department Acceptance

Deliver material and equipment for testing to METS.

Allow 30 days for testing. The Department notifies you when testing is complete.

If the Department accepts the material or equipment, you must pick it up from the test site and deliver it to the job site.

If the Department rejects material or equipment, remove it within 5 business days after you are notified it is rejected. If it is not removed within that period, the Department may remove it and ship it to you and deduct the costs of labor, material and shipping.

Resubmit a new sample and allow 30 days for retesting. The retesting period starts when the replacement material or equipment is delivered to METS.

86-1.02 MATERIALS**86-1.02A General**

Anchor bolts, anchor bars or studs, and nuts and washers must comply with section 75-1.02.

Bolt threads must accept galvanized standard nuts without requiring tools or causing removal of protective coatings.

86-1.02B Conduit and Accessories**86-1.02B(1) General**

Conduit and fittings must comply with the requirements shown in the following table:

Conduit and Fitting Requirements

Type	Requirement
1	Must be hot-dip galvanized rigid steel complying with UL 6 and ANSI C80.1. The zinc coating must comply with copper sulfate test requirements in UL 6. Fittings must be electrogalvanized and certified under UL 514B.
2	Must comply with requirements for Type 1 conduit and be coated with PVC or polyethylene. The exterior thermoplastic coating must have a minimum thickness of 35 mils. The internal coating must have a minimum thickness of 2 mils. Coated conduit must comply with NEMA RN 1, or NRTL PVC-001.
3	Must be Type A, extruded, rigid PVC conduit complying with UL 651 or must be HDPE conduit complying with UL 651A.
4	Must have an inner, flexible metal core covered by a waterproof, nonmetallic, sunlight-resistant jacket, and must be UL listed for use as a grounding conductor. Fittings must be certified under UL 514B.
5	Must be intermediate steel complying with UL 1242 and ANSI C80.6. The zinc coating must comply with copper sulfate test requirements specified in UL 1242. Fittings must be electrogalvanized and certified under UL 514B.

Bonding bushings installed on metal conduit must be insulated and either a galvanized or zinc-alloy type.

86-1.02B(2) Structures Accessories

Steel hangers, steel brackets, and other fittings used to support conduit in or on a wall or bridge superstructure must comply with section 75-3.

Precast concrete cradles for conduit must be made of minor concrete and commercial-quality welded wire fabric. The minor concrete must contain a minimum of 590 lb of cementitious material per cubic yard. The cradles must be moist cured for a minimum of 3 days.

86-1.02C Pull Boxes**86-1.02C(1) General**

Pull box cover must have a marking on the top that is:

1. Clearly defined

2. Uniform in depth
3. Parallel to either side
4. 1 to 3 inches in height

Cover marking must be:

1. *SERVICE* for service circuits between a service point and service disconnect
2. *SERVICE IRRIGATION* for circuits from a service equipment enclosure to an irrigation controller
3. *SERVICE BOOSTER PUMP* for circuits from a service equipment enclosure to the booster pump
4. *TDC POWER* for circuits from a service equipment enclosure to telephone demarcation cabinet
5. *LIGHTING* for a lighting system
6. *SIGN ILLUMINATION* for a sign illumination system
7. *SIGNAL AND LIGHTING* for a signal and lighting system
8. *RAMP METER* for a ramp metering system
9. *TMS* for a traffic monitoring station
10. *FLASHING BEACON* for a flashing beacon system
11. *CMS* for a changeable message sign system
12. *INTERCONNECT* for an interconnect conduit and cable system

The load rating must be stenciled on the inside and outside of the pull box and the cover.

If a transformer or other device must be placed in the pull box, include recesses for a hanger.

The hardware must be stainless steel with 18 percent chromium and 8 percent nickel content.

86-1.02C(2) Nontraffic Pull Boxes

A nontraffic pull box and cover must comply with ANSI/SCTE 77, "Specification for Underground Enclosure Integrity," for Tier 22 load rating and must be gray or brown.

Each new pull box must have a cover with an electronic marker cast inside.

A pull box extension must be made of the same material as the pull box. The extension may be another pull box if the bottom edge of the pull box fits into the opening for the cover.

The bolts, nuts, and washers must be a captive design and galvanized. Captive bolts for securing the cover of nontraffic pull boxes must be capable of withstanding a torque from 55 to 60 ft-lb and a minimum pull-out strength of 750 lb.

86-1.02C(3) Traffic Pull Boxes

A traffic pull box and cover must comply with ASTM C857 for HS20-44 loading.

The frame must be anchored to the box with 2-1/4-inch-long concrete anchors with a 1/4 inch diameter. A no. 3-1/2(T) pull box must have 4 concrete anchors, one placed in each corner. No. 5(T) and no. 6(T) pull boxes must have 6 concrete anchors, one placed in each corner and one near the middle of each of the longer sides.

Nuts must be vibration-resistant, zinc-plated, carbon steel and have a wedge ramp at the root of the thread.

Before galvanizing a steel or cast iron cover, the manufacturer must apply the cover marking by one of the following methods:

1. Use a cast iron strip at least 1/4 inch thick with letters raised a minimum of 1/16 inch. Fasten the strip to the cover with 1/4-inch, flathead, stainless steel machine bolts and nuts. Peen the bolts after tightening.
2. Use a sheet steel strip at least 0.027 inch thick with letters raised a minimum of 1/16 inch. Fasten the strip to the cover by spot welding, tack welding, or brazing with 1/4-inch stainless steel rivets or 1/4-inch, roundhead, stainless steel machine bolts and nuts. Peen the bolts after tightening.

The steel cover must be countersunk approximately 1/4 inch to accommodate the bolt head. When tightened, the bolt head must be no more than 1/8 inch above the top of the cover.

86-1.02C(4) Reserved**86-1.02D Tapes****86-1.02D(1) General**

Reserved

86-1.02D(2) Pull Tape

Pull tape must be a flat, woven, lubricated, soft-fiber, polyester tape with a minimum tensile strength of 1,800 lb. The tape must have sequential measurement markings every 3 feet.

86-1.02D(3) Reserved**86-1.02E Reserved****86-1.02F Conductors and Cables****86-1.02F(1) Conductors****86-1.02F(1)(a) General**

Reserved

86-1.02F(1)(b) Reserved**86-1.02F(1)(c) Copper Conductors****86-1.02F(1)(c)(i) General**

Copper wire must comply with ASTM B3 and B8.

Conductor must be clearly and permanently marked the entire length of its outer surface with:

1. Manufacturer's name or trademark
2. Insulation-type letter designation
3. Conductor size
4. Voltage
5. Temperature rating
6. Number of conductors for a cable

The minimum insulation thickness and color code requirements must comply with NEC.

A conductor must be UL listed or NRTL certified and rated for 600 V(ac).

Insulation for no. 14 to no. 4 conductors must be one of the following:

1. Type TW PVC under ASTM D2219
2. Type THW PVC
3. Type USE, RHH, or RHW cross-linked polyethylene

The insulation for no. 2 and larger conductors must be one of the above or THWN.

Conductors must be identified as shown in the following table:

Conductor Identification

Circuit	Signal phase or function	Identification			Size
		Insulation color ^d		Band symbols	
		Base	Stripe ^a		
Signals (vehicle) ^{a, b}	2, 6	Red, yel, brn	Blk	2, 6	14
	4, 8	Red, yel, brn	Ora	4, 8	14
	1, 5	Red, yel, brn	None	1, 5	14
	3, 7	Red, yel, brn	Pur	3, 7	14
	Ramp meter 1	Red, yel, brn	None	NBR	14
	Ramp meter 2	Red, yel, brn	Blk	NBR	14
Pedestrian signals	2p, 6p	Red, brn	Blk	2p, 6p	14
	4p, 8p	Red, brn	Ora	4p, 8p	14
	1p, 5p	Red, brn	None	1p, 5p	14
	3p, 7p	Red, brn	Pur	3p, 7p	14
Pedestrian push buttons	2p, 6p	Blu	Blk	P-2, P-6	14
	4p, 8p	Blu	Ora	P-4, P-8	14
	1p, 5p	Blu	None	P-1, P-5	14
	3p, 7p	Blu	Pur	P-3, P-7	14
Traffic signal controller cabinet	Ungrounded circuit conductor	Blk	None	CON-1	6
	Grounded circuit conductor	Wht	None	CON-2	6
Highway lighting pull box to luminaire	Ungrounded - line 1	Blk	None	NBR	14
	Ungrounded - line 2	Red	None	NBR	14
	Grounded	Wht	None	NBR	14
Multiple highway lighting	Ungrounded - line 1	Blk	None	ML1	10
	Ungrounded - line 2	Red	None	ML2	10
Lighting control	Ungrounded - PEU	Blk	None	C1	14
	Switching leg from PEU unit or SM transformer	Red	None	C2	14
Service	Ungrounded - line 1 (signals)	Blk	None	NBR	6
	Ungrounded - line 2 (lighting)	Red	None	NBR	8
Sign lighting	Ungrounded - line 1	Blk	None	SL-1	10
	Ungrounded - line 2	Red	None	SL-2	10
Flashing beacons	Ungrounded between flasher and beacons	Red or yel	None	F-Loc. ^c	14
Grounded circuit conductor	Pedestrian push buttons	Wht	Blk	NBR	14
	Signals and multiple lighting	Wht	None	NBR	10
	Flashing beacons and sign lighting	Wht	None	NBR	12
	Lighting control	Wht	None	C-3	14
	Service	Wht	None	NBR	14
Railroad preemption		Blk	None	R	14
Spares		Blk	None	NBR	14

NBR = No band required PEU=Photoelectric unit

^aOn overlaps, the insulation is striped for the 1st phase in the designation, e.g., phase (2+3) conductor is striped as for phase 2.

^bBand for overlap and special phases as required

^cFlashing beacons having separate service do not require banding.

^dColor Code: Yel-Yellow, Brn-Brown, Blu-Blue, Blk-Black, Wht-White, Ora-Orange, Pur-Purple

The insulation color must be homogeneous throughout the full depth of the insulation. The identification stripe must be continuous throughout the length of the conductor.

86-1.02F(1)(c)(ii) Bonding Jumpers and Equipment Grounding Conductors

A bonding jumper must be copper wire or copper braid of the same cross-sectional area as a no. 8 conductor or larger.

An equipment grounding conductor may be bare or insulated.

86-1.02F(1)(c)(iii) Inductive Loop Conductors

Inductive loop conductor must comply with the requirements shown in the following table:

Conductor Requirements for Inductive Loop Detectors	
Loop wire	Requirement
Type 1	Type RHW-USE neoprene-jacketed or Type USE cross-linked polyethylene, insulated, no. 12, stranded copper wire with a minimum 40-mils insulation thickness at any point.
Type 2	Type THWN or Type XHHW, no. 14, stranded copper wire in a plastic tubing. The plastic tubing must be polyethylene or vinyl rated for use at 105 °C and resistant to oil and gasoline. The outside diameter of the tubing must be at most 0.27 inch with a wall thickness of at least 0.028 inch.

86-1.02F(1)(d) Reserved

Reserved

86-1.02F(2) Cables

86-1.02F(2)(a) General

Reserved

86-1.02F(2)(b) Reserved

Reserved

86-1.02F(2)(c) Reserved

86-1.02F(2)(d) Copper Cables

86-1.02F(2)(d)(i) General

The conductor wire size for a detector lead-in cable must comply with the requirements of ASTM B286.

Cable, except a detector lead-in cable, must be clearly and permanently marked the entire length of its outer surface with:

1. Manufacturer's name or trademark
2. Insulation-type letter designation
3. Conductor size
4. Voltage
5. Temperature rating
6. Number of conductors for a cable

86-1.02F(2)(d)(ii) Conductors Signal Cables

A conductors signal cable must have a black polyethylene jacket with an inner polyester binder sheath. The cable jacket must be rated for 600 V(ac) and 75 degrees C. Filler material, if used, must be polyethylene.

The individual conductors in the cable must be solid copper complying with ASTM B286 with Type THWN insulation. The minimum thickness of insulation must comply with NEC for conductor sizes no. 14 to no.10. The minimum thickness of the nylon jacket must be 4 mils.

Cable must comply with the requirements shown in the following table:

Cable type ^a	Conductor quantity and type	Cable jacket thickness (mils)		Maximum nominal outside diameter (inch)	Conductor color code
		Average	Minimum		
3CSC	3 no. 14	44	36	0.40	Blue/black, blue/orange, white/black stripe
5CSC	5 no. 14	44	36	0.50	Red, yellow, brown, black, white
9CSC	8 no. 14 1 no. 12	60	48	0.65	No. 12 - white, no. 14 - red, yellow, brown, black, and red/black, yellow/black, brown/black, white/black stripe
12CSC	11 no. 14 1 no. 12	60	48	0.80	No. 12 - white, no. 14 - red, yellow, brown, red/black stripe, yellow/black stripe, brown/black stripe, black/red stripe, black/white stripe, black, red/white stripe, brown/white stripe
28CSC	27 no. 14 1 no. 10	80	64	0.90	No. 10 - white no. 14 - red/black stripe, yellow/black stripe, brown/black stripe, red/orange stripe, yellow/orange stripe, brown/orange stripe, red/silver stripe, yellow/silver stripe, brown/silver stripe, red/purple stripe, yellow/purple stripe, brown/purple stripe, red/2 black stripes, brown/2 black stripes, red/2 orange stripes, brown/2 orange stripes, red/2 silver stripes, brown/2 silver stripes, red/2 purple stripes, brown/2 purple stripes, blue/black stripe, blue/orange stripe, blue/silver stripe, blue/purple stripe, white/black stripe, black/red stripe, black

86-1.02F(2)(d)(iii) Detector Lead-in Cables

Conductors for a loop detector lead-in cable must be two no. 16, 19-by-29, stranded, tinned copper wires with calculated cross-sectional areas complying with ASTM B286, table 1 and must comply with the requirements shown in the following table:

Conductor Requirements for Loop Detector Lead-In Cables

Lead-in cable	Requirement
Type B	Insulated with 20 mils of high-density polyethylene. Conductors must be twisted together with at least 2 turns per foot, and the twisted pair must be protected with a copper or aluminum polyester shield. A minimum no. 20 copper drain wire must be connected to the equipment ground within the cabinet. Cable must have a high-density polyethylene or high-density polypropylene outer jacket with a nominal thickness of 32 mils. Include an amorphous, interior, moisture penetration barrier of nonhydroscopic polyethylene or polypropylene fillers.
Type C	Comply with International Municipal Signal Association Specification no. 50-2. A minimum no. 20 copper drain wire must be connected to the equipment ground within the cabinet.

86-1.02F(2)(d)(iv) Reserved**86-1.02F(2)(d)(v) Signal Interconnect Cables**

A signal interconnect cable must be a 6-pair type with stranded, tinned, copper no. 20 conductors. The insulation for each conductor must be color-coded polypropylene with a minimum 13-mils nominal thickness. The conductors must be in color-coded, twisted pairs. Each pair must be wrapped with an aluminum polyester shield and have a no. 22 or larger, stranded, tinned, copper drain wire inside the shielded pair.

The cable jacket must be black HDPE rated for a minimum of 300 V(ac) and 60 degrees C. The jacket must have a minimum nominal wall thickness of 40 mils.

86-1.02F(2)(e) Reserved**86-1.02G Equipment Identification Characters**

Equipment identification characters must be 2-1/2 inch, series D lettering, except on wood poles, they must be 3-inch lettering.

The characters must be self-adhesive reflective labels or paint, except on wood poles, they must be embossed on aluminum.

86-1.02H Splicing Materials

Splicing materials include:

1. Connectors
2. Electrical insulating coating
3. PVC electrical tape
4. Butyl rubber stretchable tape
5. PVC pressure-sensitive adhesive tape
6. Heat shrink tubing

Connectors must be C-shaped compression or butt type.

Electrical insulating coating must be a fast drying sealant with low nontoxic fumes.

PVC electrical tape must have a minimum thickness of 80 mils.

Butyl rubber stretchable tape with liner must have a minimum thickness of 120 mils.

PVC pressure-sensitive adhesive electrical tape must have a minimum thickness of 6 mils.

Electrical tapes must be self-fusing, oil- and flame-resistant, synthetic rubber and be UL listed or NRTL certified.

Heat-shrink tubing must be made of irradiated polyolefin tubing with a minimum wall thickness of 40 mils before contraction and an adhesive mastic inner wall. When heated, the inner wall must melt and fill the crevices and interstices of the covered splice area and the outer wall must shrink to form a waterproof insulation.

Heat-shrink tubing must comply with the requirements for extruded, insulating tubing at 600 V(ac) specified in UL Standard 468D and ANSI C119.1 and the requirements shown in the following table:

Heat-Shrink Tubing Requirements

Quality characteristic	Requirement
Shrinkage ratio of supplied diameter ^a (max, %)	33
Dielectric strength (min, kV/in)	350
Resistivity (min, Ω /in)	25×10^{13}
Tensile strength (min, psi)	2,000
Operating temperature ($^{\circ}$ C)	-40–90 (135 $^{\circ}$ C in emergency)
Water absorption (max, %)	0.5

^aWhen heated to 125 $^{\circ}$ C and allowed to cool to 25 $^{\circ}$ C

86-1.02I Connectors and Terminals

A connector and terminal must comply with SAE-AS7928 and be a crimp type, rated for 600 V(ac) and either UL listed or NRTL certified.

86-1.02J Standards, Poles, Pedestals, and Posts

Standards for signals, lighting, and flashing beacons, poles for closed circuit television, pedestals for cabinets, posts for extinguishable message sign and posts for pedestrian push button assemblies must comply with section 56-3.

86-1.02K Luminaires

86-1.02K(1) General

Luminaire must be either LED or low-pressure-sodium type.

86-1.02K(2) LED Luminaires

LED luminaire must be on the Authorized Material List for LED luminaires and must:

1. Be self-contained, not requiring assembly.
2. Comply with UL 1598 for luminaires in wet locations.
3. Have a power supply with:
 - 3.1. ANSI/IEC rating of at least IP65.
 - 3.2. 2 leads to accept standard 0-10 V(dc).
 - 3.3. Dimming control compatible with IEC 60929, Annex E. If the control leads are open or the analog control signal is lost, the circuit must default to 100-percent power.
 - 3.4. Case temperature self rise of 77 degrees F or less above ambient temperature in free air with no additional heat sinks.
4. Weigh no more than 35 lb.
5. Have a minimum operating life of 63,000 hours when operated for an average time of 11.5 hours at an average temperature of 70 degrees F.
6. Be designed to operate over a temperature range from -40 to 130 degrees F.
7. Be operationally compatible with photoelectric controls.
8. Have a correlated color temperature range from 3,500 to 6,500 K and a color rendering index of 65 or greater.
9. Have a maximum-effective projected area of 1.4 sq ft when viewed from either side or end.
10. Have a housing color that matches a color no. 26152 to 26440, 36231 to 36375, or 36440 of FED-STD-595.
11. Have an ANSI C136.41-compliant, locking-type, photocontrol receptacle with dimming connections and a watertight shorting cap.
12. Comply with LM-79, LM-80 and California Test 611.

The individual LEDs must be connected such that a catastrophic loss or a failure of 1 LED does not result in the loss of more than 20 percent of the luminous output of the luminaire.

The luminaire must be permanently marked inside the unit and outside of its packaging box. Marking consists of:

1. Manufacturer's name or trademark

2. Month and year of manufacture
3. Model, serial, and lot numbers
4. Rated voltage, wattage, and power in VA

An LED luminaire's onboard circuitry must include a surge protection device to withstand high-repetition noise transients caused by utility line switching, nearby lightning strikes, and other interferences. The device must protect the luminaire from damage and failure due to transient voltages and currents as defined in Tables 1 and 4 of ANSI/IEEE C64.41.2 for location category C-High. The surge protection device must comply with UL 1449 and ANSI/IEEE C62.45 based on ANSI/IEEE C62.41.2 definitions for standard and optional waveforms for location category C-High.

An LED luminaire and its associated onboard circuitry must comply with the Class A emission limits under 47 CFR 15(B) for the emission of electronic noise.

The fluctuations of line voltage must have no visible effect on the luminous output.

The operating voltage may range from 120 to 480 V(ac), 60 \pm 3 Hz. Luminaire must operate over the entire voltage range or the voltage range must be selected from one of the following:

1. Luminaire must operate over a voltage range from 95 to 277 V(ac). The operating voltages for this option are 120 V(ac) and 240 V(ac).
2. Luminaire must operate over a voltage range from 347 to 480 V(ac). The operating voltage for this option is 480 V(ac).

LED luminaire must have a power factor of 0.90 or greater. The total harmonic distortion, current, and voltage induced into a power line by a luminaire must not exceed 20 percent. The L70 of the luminaire must be the minimum operating life or greater. Illuminance measurements must be calibrated to standard photopic calibrations.

The maximum power consumption and maintained illuminance of the LED luminaires must comply with the isofootcandle curves as shown.

LED luminaire must not allow more than 10 percent of the rated lumens to project above 80 degrees from vertical and 2.5 percent of the rated lumens to project above 90 degrees from vertical.

Luminaire must have passive thermal management with enough capacity to ensure proper heat dissipation and functioning of the luminaire over its minimum operating life. The maximum junction temperature for the minimum operating life must not exceed 221 degrees F.

The junction-to-ambient thermal resistance must be 95 degrees F per watt or less. The use of fans or other mechanical devices is not allowed for cooling the luminaire. The heat sink must be made of aluminum or other material of equal or lower thermal resistance. The luminaire must contain circuitry that automatically reduces the power to the LEDs so the maximum junction temperature is not exceeded when the ambient temperature is 100 degrees F or greater.

The luminaire's housing must be fabricated from materials designed to withstand a 3,000-hour salt spray test under ASTM B117. All aluminum used in housings and brackets must be made of a marine-grade alloy with less than 0.2 percent copper. All exposed aluminum must be anodized. A chromate conversion undercoating must be used underneath a thermoplastic polyester powder coat.

The housing must be designed to prevent the buildup of water on its top surface. Exposed heat sink fins must be oriented to allow water to run off the luminaire and carry dust and other accumulated debris away from the unit. The optical assembly of the luminaire must be protected against dust and moisture intrusion to at least an UL 60529 rating of IP66. The power supply enclosure must be protected to at least an UL 60529 rating of IP43.

The housing must have a slip fitter capable of being mounted on a 2-inch-diameter pipe tenon. Slip fitter must:

1. Fit on mast arms with outside diameters from 1-5/8 to 2-3/8 inches
2. Be adjustable to a minimum of ± 5 degrees from the axis of the tenon in a minimum of 5 steps: +5, +2.5, 0, -2.5, -5
3. Have clamping brackets that:

- 3.1. Are made of corrosion-resistant materials or treated to prevent galvanic reactions
- 3.2. Do not bottom out on the housing bosses when adjusted within the designed angular range
- 3.3. Do not permanently set in excess of 1/32 inch when tightened

Each refractor or lens must be made of UV-inhibiting high-impact plastic, such as acrylic or polycarbonate, or heat- and impact-resistant glass. The refractor or lens must be resistant to scratching. Polymeric materials, except for the lenses of enclosures containing either the power supply or electronic components of the luminaire, must be made of UL94 V-0 flame-retardant materials.

An LED luminaire and its internal components must be able to withstand mechanical shock and vibration.

If the components are mounted on a down-opening door, the door must be hinged and secured to the luminaire's housing separately from the refractor or flat lens frame. The door must be secured to the housing to prevent accidental opening. A safety cable must mechanically connect the door to the housing.

An LED luminaire must have a barrier-type terminal block secured to the housing to connect field wires. The terminal screws must be captive and equipped with wire grips for conductors up to no. 6.

The conductors and terminals must be identified and marked.

86-1.02K(3) Low-Pressure Sodium Luminaires

A low-pressure sodium luminaire must be an enclosed cutoff or semi-cutoff type and be self-contained, not requiring assembly.

The housing must be either (1) a minimum 1/16-inch-thick, corrosion-resistant, die-cast aluminum sheet and plate with concealed continuous welds or (2) a minimum 3/32-inch-thick, acrylonitrile-butadiene-styrene sheet material on a cast aluminum frame. The housing must provide mounting for all electrical components and a slip fitter. The housing must be divided into optical and power compartments that are individually accessible for service and maintenance.

The painted exterior surface of the luminaire must be finished with a fused coating of electrostatically applied polyester powder paint or other UV-inhibiting film. The color must be aluminum gray.

A sealing ring must be installed in the pipe tenon opening to prevent the entry of water and insects into the power and optical compartments. The ring must be made of high-temperature neoprene or equal material.

The power unit assembly must be accessible through a weather-tight, hinged cover secured to the housing with spring latches or captive screws.

The luminaire's hardware must be stainless steel or cadmium plated. Removable components must be secured with machine screws or bolts instead of sheet metal screws.

A semi-cutoff luminaire or a molded refractor-style cutoff luminaire must include a refractor. Other cutoff luminaires must include a flat lens. The refractor assembly and flat lens assembly must be designed to rigidly maintain their shape and be hinged and secured to the housing with spring latches.

The refractor must be either a 1-piece injection-molded polycarbonate with a minimum thickness of 3/32 inch or a 1-piece injection-molded acrylic with a minimum thickness of 1/8 inch. Alternate methods of manufacturing the refractor may be authorized provided minimum specified thicknesses are maintained.

The flat lens must be a 1-piece polycarbonate with a minimum thickness of 3/32 inch, mounted to a metal frame.

The lamp socket must be made of high-temperature, flame-retardant, thermoset material with self-wiping contacts or an equal. The socket must be rated for 660 W and 1,000 V(ac). The position of the socket and support must maintain the lamp in the correct relationship with the reflector and refractor for the designed light distribution pattern. The reflector may be an integral part of the housing.

The luminaire must comply with the isofootcandle curves as shown.

Low-pressure sodium lamp must:

1. Be a 180 W, single-ended, bayonet-base, tubular, gas-discharge lamp

2. Maintain a minimum of 93 percent of its initial lumens over its rated life
3. Reach 80 percent of its light output within 10 minutes
4. Restrike within 1 minute after a power outage or voltage drop at the lamp socket
5. Have ANSI L74/E designation

The lamp operating position must be at ± 20 degrees from the horizontal.

Lamp must comply with the minimum performance requirements shown in the following table:

Minimum Performance Requirements	
Quality characteristic	Requirement
Initial lumens (lm)	33,000
Rated average life at 10 h/start (h)	18,000

The low-pressure sodium lamp ballast must be an autotransformer or high-reactance type. The power factor must be not less than 90 percent when the ballast is operated at the nominal line voltage with a nominally-rated reference lamp. The lamp wattage regulation spread must not vary by more than ± 6 percent for ± 10 percent input voltage variation from nominal through life.

At the line voltage, the ballast must have a lamp current crest factor not exceeding 1.8 and ballast loss not exceeding 24 percent for a 180 W ballast.

The ballast must include a multi-circuit connector for quick disconnection.

86-1.02K(4) Reserved

86-1.02L Reserved

86-1.02M Photoelectric Controls

Photoelectric control types are as shown in the following table:

Photoelectric Control Types	
Control type	Description
I	Pole-mounted photoelectric unit. Test switch housed in an enclosure.
II	Pole-mounted photoelectric unit. Contactor and test switch located in a service equipment enclosure.
III	Pole-mounted photoelectric unit. Contactor and a test switch housed in an enclosure.
IV	A photoelectric unit that plugs into a NEMA twist-lock receptacle, integral with the luminaire.
V	A photoelectric unit, contactor, and test switch located in a service equipment enclosure.

The pole-mounted adaptor for Type I, II, and III photoelectric controls must include a terminal block and cable supports or clamps to support the wires.

The enclosure for Type I and III photoelectric controls must be a NEMA 3R type. The enclosure must have a factory-applied, rust-resistant prime coat and finish coat. The enclosure must be hot-dip galvanized or painted to match the color of the lighting standard.

Photoelectric unit must:

1. Have a screen to prevent artificial light from causing cycling.
2. Have a rating of 60 Hz, 105-130 V(ac), 210-240 V(ac), or 105-240 V(ac).
3. Operate at a temperature range from -20 to 55 degrees C.
4. Consume less than 10 W.
5. Be a 3-prong, twist-lock type with a NEMA IP 65 rating, ANSI C136.10-compliant
6. Have a fail-on state
7. Fit into a NEMA-type receptacle

8. Turn on from 1 to 5 footcandles and turn off from 1.5 to 5 times the turn-on level. Measurements must be made by procedures in *EEI-NEMA Standards for Physical and Electrical Interchangeability of Light-Sensitive Control Devices Used in the Control of Roadway Lighting*.

Type I, II, III, and V photoelectric controls must have a test switch to allow manual operation of the lighting circuit. Switch must be:

1. Single-hole mounting, toggle type
2. Single pole and single throw
3. Labeled *Auto-Test* on a nameplate

Photoelectric control's contactor must be:

1. Normally open
2. Mechanical-armature type with contacts of fine silver, silver alloy, or equal or better material
3. Installed to provide a minimum space of 2-1/2 inches between the contactor terminals and the enclosure's sides

The terminal blocks must be rated at 25 A, 600 V(ac), molded from phenolic or nylon material, and be the barrier type with plated-brass screw terminals and integral marking strips.

86-1.02N Fused Splice Connectors

The fused splice connector for 240 and 480 V(ac) circuits must simultaneously disconnect both ungrounded conductors. The connector must not have exposed metal parts except for the head of the stainless steel assembly screw. The head of the assembly screw must be recessed a minimum of 1/32 inch below the top of the plastic boss that surrounds the head.

The connector must protect the fuse from water or weather damage. Contact between the fuse and fuse holder must be spring loaded.

Fuses must:

1. Be standard, midget, ferrule type
2. Have a nontime-delay feature
3. Be 3/32 by 1-1/2 inches

86-1.02O Grounding Electrodes

Grounding electrode must be:

1. 1 piece
2. Minimum 10-foot length of one of the following:
 - 2.1. Galvanized steel rod or pipe not less than 3/4 inch in diameter
 - 2.2. Copper clad steel rod not less than 5/8 inch in diameter

86-1.02P Enclosures

86-1.02P(1) General

The enclosures must be rated NEMA 3R and include a dead front panel and a hasp with a 7/16-inch-diameter hole for a padlock.

The enclosure's machine screws and bolts must not protrude outside the cabinet wall.

The fasteners on the exterior of an enclosure must be vandal resistant and not be removable. The exterior screws, nuts, bolts, and washers must be stainless steel.

86-1.02P(2) Service Equipment Enclosures

A service equipment enclosure must be factory wired and manufactured from steel and galvanized or have factory-applied, rust-resistant prime and finish coats, except Types II and III.

Type II and III service equipment enclosures must:

1. Be made of 0.125-inch minimum thickness 5052-H32 aluminum sheet complying with ASTM B209.

2. Be manufactured using gas metal arc welding with bare aluminum welding electrodes. The electrodes must comply with AWS A5.10 Class ER5356.
3. Be manufactured using welding procedures, welders, and welding operators that comply with the requirements for welding procedures, welders, and welding operators in AWS B2.1, "Specification for Welding Procedure and Performance Qualification."
4. Have full-seal weld exterior seams.
5. Exterior welds must be ground smooth and edges filed to a radius of at least 0.03 inch.
6. Have a surface finish that complies with MIL-A-8625 for a Type II, Class I coating, except the anodic coating must have a minimum thickness of 0.0007 inch and a minimum coating weight of 0.001 oz/sq in.

If a Type III enclosure houses a transformer of more than 1 kVA, the enclosure must have effective screened ventilation louvers of no less than 50 sq. in for each louver. The framed screen must be stainless no. 304 with a no. 10 size mesh and secured with at least 4 bolts.

The dead front panel on a Type III service equipment enclosure must have a continuous stainless steel or aluminum piano hinge. The panel must be secured with a latch or captive screws. No live part must be mounted on the panel.

The enclosure must be watertight and marked as specified in NEC to warn of potential electric-arc flash hazards.

Internal conductors for the photoelectric control unit must be 600 V(ac), 14 AWG (THHN) stranded machine tool wire. Where subject to flexing, 19 stranded wire must be used.

The meter area must have a sealable, lockable, weather-tight cover that can be removed without the use of tools.

For Type III-A, III-B, and III-C enclosures, the meter socket must be a 5-clip type, and the landing lug must be suitable for multiple conductors.

For a Type III-D enclosure, the meter socket must be a 7-clip type, and the landing lug must be suitable for multiple conductors. The pedestal must comply with the Electric Utility Service Equipment Requirements Committee drawing no. 308 or 309.

Landing lugs must be (1) sized for the incoming service utility conductors, (2) compatible with either copper or aluminum conductors, and (3) made of copper or tin-plated aluminum. Live parts of the electrical equipment must be guarded against accidental contact.

The main and neutral busses of the enclosure must be made of tin-plated copper, be rated for 125 A, and be suitable for copper or aluminum conductors.

Each service equipment enclosure must have up to 2 main circuit breakers that will simultaneously disconnect ungrounded service-entrance conductors.

Circuit breaker for a service equipment enclosure must:

1. Be quick-break on either automatic or manual operation
2. Be trip indicating
3. Be internal-trip type
4. Be UL listed or NRTL certified and comply with UL 489 or equal
5. Be clearly marked with the frame size
6. Have an operating mechanism that is enclosed and trip-free from the operating handle on overload
7. Have the trip rating clearly marked on the operating handle
8. Have an interior made of copper

Circuit breakers used as disconnects must have a minimum interrupting capacity of 10,000 A, rms.

The interior of the enclosure must accept plug-in circuit breakers. A minimum of 6 standard single-pole circuit breakers, 3/4" nominal, must be provided for branch circuits.

Identify each circuit breaker and component by description using an engraved phenolic nameplate attached with stainless steel rivets or screws.

Nameplate must be installed:

1. Adjacent to the breaker on the dead front panel. The characters must be a minimum of 1/8 inch high.
2. Adjacent to the component on the back panel. The characters must be a minimum of 1/8 inch high.
3. At the top exterior of the door panel. The nameplate must include the system number, voltage, and number of phases engraved in minimum 3/16-inch-high characters.

A plastic-laminated wiring diagram must be attached inside the enclosure with brass eyelets by a UL-listed or NRTL-certified method.

86-1.02P(3) Lighting and Sign Illumination Enclosures

A lighting and sign illumination enclosure must be manufactured from steel and either galvanized, cadmium plated, or powder coated.

86-1.02Q Cabinets

86-1.02Q(1) General

Cabinets must be factory wired except for battery backup system cabinets.

The fasteners on the exterior of a cabinet, except for battery backup system cabinets, must be removable and vandal resistant. The exterior screws, nuts, bolts, and washers must be stainless steel.

Terminal blocks, circuit breakers, and a power supply must be UL approved.

86-1.02Q(2) Department-Furnished Controller Cabinets

A Department-furnished controller assembly consists of a Model 170E or 2070E controller unit, a wired controller cabinet, and all auxiliary equipment required to operate the system. The Department does not furnish anchor bolts.

86-1.02Q(3) Controller Cabinets

The controller cabinet must be a Model 334L, comply with TEES, and be on the Authorized Material List for traffic signal control equipment. The cabinet must have 3 drawer shelves. Each shelf must be attached to the tops of 2 supporting angles with 4 screws.

86-1.02Q(4) Telephone Demarcation Cabinets

86-1.02Q(4)(a) General

The doors of a telephone demarcation cabinet must be attached using continuous stainless steel piano hinges.

86-1.02Q(4)(b) Type A Telephone Demarcation Cabinets

Reserved

86-1.02Q(4)(c) Type B Telephone Demarcation Cabinets

A Type B telephone demarcation cabinet consists of a mounting panel, outlets, circuit breaker, fan, dead front plates, and fuse.

The mounting panel must be made of 3/4-inch-thick ACX-grade plywood.

The mounting panel must be fastened to the cabinet with nuts, lock washers, and flat washers to 10 welded studs.

The cabinet must be made of 0.125-inch-thick anodized aluminum.

The cabinet door must be hung and secured with drawn latches, lockable with a padlock. The padlock latches must each have a minimum 7/16-inch-diameter hole.

Ventilation louvers must be located on the door.

The fan must be located in a ventilator housing and be controlled thermostatically. The thermostat control must have a range from 80 to 130 degrees F.

The thermostat and fan circuit must be protected with a fuse rated for 175 percent of the motor capacity. The fan capacity must be a minimum 25 cfm.

86-1.02Q(4)(d) Type C Telephone Demarcation Cabinets

Reserved

86-1.02Q(5) Battery Backup System Cabinets

The cabinet for a battery backup system must comply with TEES and be on the Authorized Material List for traffic signal control equipment.

86-1.02R Signal Heads**86-1.02R(1) General**

A signal head consists of a signal mounting assembly, backplate, and signal face.

The head must have a terminal block attached to the back of one housing. The terminal block must have enough positions to accommodate all indications. Each position must be permanently labeled for the indications used.

The metal signal heads must not fracture or deflect more than half the lens diameter when tested under California Test 666.

The plastic signal heads must not fracture or deflect when tested under California Test 605.

The deflection must not be more than 10 degrees in either the vertical or horizontal plane after the wind load has been removed from the front of the signal face or more than 6 degrees in either the vertical or horizontal plane after the wind load has been removed from the back of the signal face.

86-1.02R(2) Signal Mounting Assemblies

Signal mounting assembly must include:

1. 1-1/2-inch-diameter steel pipe or galvanized conduit
2. Pipe fitting made of ductile iron, galvanized steel, bronze, or aluminum alloy, Type AC-84B, no. 380
3. Mast arm and post-top slip fitters and terminal compartments made of cast bronze or hot-dip galvanized ductile iron

The horizontal distance between the vertical centerlines of the terminal compartment or slip fitter and of each signal face must not exceed 11 inches except where required for proper signal face alignment or to allow programming of programmed visibility signal sections.

The mounting assembly must be watertight and free of sharp edges or protrusions that might damage conductor insulation. The assembly must have positive-locking serrated fittings that prevent signal faces from rotating when the fittings are mated with similar fittings on the faces.

Each terminal compartment must be fitted with a terminal block having a minimum of 12 positions, each with 2 screw-type terminals. Each terminal must accommodate at least five no. 14 conductors. The terminal compartment must have a cover for easy access to the terminal block.

86-1.02R(3) Backplates

The backplate material must be a homogeneous black color with a lusterless finish.

A metal backplate must be made of a minimum 1/16-inch-thick 3001-14 aluminum.

A plastic backplate must have a minimum thickness of 1/16 inch and be formed from sheet plastic or assembled from extruded, molded, or cast plastic sections. Sections must be factory joined using one of the following:

1. Appropriate solvent cement.
2. Aluminum rivets and washers painted or permanently colored to match the backplate.
3. No. 10 machine screws with flat washers, lock washers, and nuts painted to match the backplate.

Each plastic backplate must be secured to the plastic signal face such that it resists removal or permanent deformation.

86-1.02R(4) Signal Faces

Signal face consists of signal sections with signal housings, LED modules, and visors.

Signal face must:

1. Be adjustable and allow for 360-degree rotation about the vertical axis
2. Comply with ITE publications ST-052-E, *Vehicle Traffic Control Signal Heads: Light Emitting Diode (LED) Circular Signal Supplement* and ST-054, *Vehicle Traffic Control Signal Heads: Light Emitting Diode (LED) Vehicle Arrow Traffic Signal Supplement*
3. Be sealed with a neoprene gasket at the top opening

A metal signal face must have a metal backplate and visor.

A plastic signal face must have a plastic backplate and visor.

If a signal face is supported by a Type MAS slip fitter, spacers are required between the 2 sections. The spacers must be made of the same material as the housing. The vertical dimension of the spacers must allow proper seating of the serrations between the slip fitter and the 2 sections. The 2 sections must be joined with at least two no. 10 minimum machine screws through holes near the front of the housing and the spacers and matching holes in a reinforcing plate installed in the housing.

86-1.02R(4)(a) Signal Sections

86-1.02R(4)(a)(i) General

Signal section must have:

1. Opening at the top and bottom for a 1-1/2-inch pipe
2. Maximum height of 10-1/4 inches for an 8-inch section and 14-3/4 inches for a 12-inch section
3. Hinge pins, door-latching devices, and other exposed hardware manufactured of Type 304/304L or 305 stainless steel
4. Interior screws and fittings manufactured of stainless steel or steel with a corrosion-resistant plating or coating
5. Gaskets made of a material that is not degraded if installed in a section with metal or plastic housing

Sections must be capable of being joined together to form a signal face in any combination. This interchangeability is not required between metal and plastic sections.

Each section must be joined to an adjacent section by one of the following:

1. Minimum of 3 machine screws for 8-inch sections and 4 machine screws for 12-inch sections, installed through holes near the front and back of the housing. Each screw must be a no. 10 and have a nut, flat washer, and lock washer.
2. 2 machine screws, each with a nut, flat washer, and lock washer, installed through holes near the front of the housing and a fastener through the 1-1/2-inch pipe opening. The fastener must have 2 large, flat washers to distribute the load around the pipe's opening and 3 carriage bolts, each with a nut and lock washer. The minimum screw size must be no. 10, and the carriage bolt size must be 1/4 inch.

The holes for the machine screws must be either cast or drilled during signal section fabrication. Each hole must be surrounded by a minimum 1/8-inch-wide boss to allow contact between signal sections about the axis of the hole.

A serrated nylon washer must be inserted between each plastic signal section and the metal mounting assembly. Each serrated nylon washer must be from 3/16 to 1/4 inch thick. The serrations must match those on the signal section and the mounting assembly.

86-1.02R(4)(a)(ii) Programmed Visibility Signal Sections

Programmed visibility signal section must have:

1. Nominal 12-inch-diameter circular or arrow indication
2. Cap visor
3. Adjustable connection that:
 - 3.1. Provides incremental tilting from 0 to 10 degrees above or below the horizontal
 - 3.2. Maintains a common vertical axis through couplers and mountings

The terminal connection must allow external adjustment about the mounting axis in 5-degree increments.

The visibility of each signal section must be capable of adjustment or programming within the section.

The adjustment for the section must be preset at 4 degrees below the horizontal.

86-1.02R(4)(a)(iii) Signal Housings

The signal housing must:

1. Be die-cast aluminum, permanent mold-cast aluminum, or if specified, structural plastic
2. Comply with ITE publications ST-052-E, *Vehicle Traffic Control Signal Heads: Light Emitting Diode (LED) Circular Signal Supplement* and ST-054, *Vehicle Traffic Control Signal Heads: Light Emitting Diode (LED) Vehicle Arrow Traffic Signal Supplement* if made of die-cast or permanent mold-cast aluminum
3. Have a 1-piece, hinged, square-shaped door that is:
 - 3.1. Designed to allow access for replacement of modules without the use of tools
 - 3.2. Secured such that it remains closed during loading tests
4. Have a watertight module or lens mounted in the door
5. Have a terminal block attached to the back, with the terminals permanently labeled for conductors to facilitate field wiring

Each housing must have reinforcement plates. Reinforcement plates must be either sheet aluminum, galvanized steel, or cast aluminum. Each plate must have a minimum thickness of 0.11 inch and a hole concentric with a 1-1/2-inch pipe-mounting hole in the housing. Reinforcement plates must be placed as specified in the following table:

Reinforcement Plate Placement

Material	Placement
Sheet aluminum	Inside and outside of housing
Galvanized steel	Inside of housing
Cast aluminum	Outside of housing

Reinforcement plates placed outside of the housing must be finished to match the signal housing color and be designed to allow a proper serrated coupling between the signal face and the mounting hardware. A minimum of three no. 10 machine screws must be installed through holes in each plate and matching holes in the housing. Each screw must have a round or binder head, a nut, and a lock washer.

A metal housing must have a metal visor.

Plastic housing must:

1. Be molded in a single piece or fabricated from 2 or more pieces joined into a single piece
2. Be a black color throughout, including the door, matching color no. 17038, 27038, or 37038 of FED-STD-595
3. Have UV stability
4. Be self-extinguishing

If reinforcing webs are used to connect the back of the housing to the top, bottom, and sides of the adjacent housing, reinforcement plates are not required.

The exterior of the housing must be painted as specified in sections 78-4.08 and 59.

86-1.02R(4)(b) LED Signal Modules

An LED signal module must be on the Authorized Material List for LED traffic signal modules.

An LED signal module must comply with ITE publications ST-052-E, *Vehicle Traffic Control Signal Heads: Light Emitting Diode (LED) Circular Signal Supplement* and ST-054, *Vehicle Traffic Control Signal Heads: Light Emitting Diode (LED) Vehicle Arrow Traffic Signal Supplement*, except:

1. Maximum module weight must be 4 lb
2. Module must be a sealed unit with:

- 2.1. 2 color-coded conductors for the power connection except lane control modules must use 3 color-coded conductors
- 2.2. Printed circuit board that complies with TEES, chapter 1, section 6
- 2.3. Lens that is:
 - 2.3.1. Convex or flat with a smooth outer surface
 - 2.3.2. Made of UV-stabilized plastic or glass
- 2.4. 1-piece EPDM gasket
3. Module must include 3-foot-long conductors with attached quick-disconnect terminals
4. Identification must include:
 - 4.1. Month and year of manufacture
 - 4.2. 1-inch-diameter symbol of the module type with the module color written adjacent to the symbol in 0.50-inch-high letters
5. LED must be the ultra-bright type rated for 100,000 hours of continuous operation
6. Module must have an integral power supply

Individual LEDs must be wired such that a loss or failure of 1 LED will not result in a loss of more than 5 percent of the module's light output. Failure of an individual LED in a string must not result in a loss of an entire string or other indication.

The symbol for a 12-inch U-turn section must be a 15/16-inch-wide inverted *U* with an arrow on the left end.

A lane control section must be a combination module with a red *X* and green arrow. The conductor function and color code must be as shown in the following table:

Function	Color
Neutral	White
Red <i>X</i>	Red
Green arrow	Brown

The minimum power consumption for an LED signal module must be 5 W.

The maximum power consumption for an LED signal module must be as shown in the following table:

LED signal module type	Power consumption (W)					
	Red		Yellow		Green	
	25 °C	74 °C	25 °C	74 °C	25 °C	74 °C
8-inch circular	8	13	13	16	12	12
12-inch circular	11	17	22	25	15	15
12-inch arrow	9	12	10	12	11	11
12-inch U-turn	9	12	10	12	11	11
Bicycle	11	17	22	25	15	15
Programmed visibility	11	17	22	25	15	15
Lane control (<i>X</i>)	9	12	--	--	--	--
Lane control (<i>Arrow</i>)	--	--	--	--	11	11

Red and green LED signal modules operating over a temperature range from -40 to 74 degrees C and yellow LED signal modules operating at 25 degrees C must maintain the minimum illumination values for 48 months as shown in the following tables:

Minimum Maintained Intensities for Circular Indications

Angle (v,h)	Intensities (cd)					
	8-inch			12-inch		
	Red	Yellow	Green	Red	Yellow	Green
2.5, ±2.5	133	267	267	339	678	678
2.5, ±7.5	97	194	194	251	501	501
2.5, ±12.5	57	113	113	141	283	283
2.5, ±17.5	25	48	48	77	154	154
7.5, ±2.5	101	202	202	226	452	452
7.5, ±7.5	89	178	178	202	404	404
7.5, ±12.5	65	129	129	145	291	291
7.5, ±17.5	41	81	81	89	178	178
7.5, ±22.5	18	37	37	38	77	77
7.5, ±27.5	10	20	20	16	32	32
12.5, ±2.5	37	73	73	50	101	101
12.5, ±7.5	32	65	65	48	97	97
12.5, ±12.5	28	57	57	44	89	89
12.5, ±17.5	20	41	41	34	69	69
12.5, ±22.5	12	25	25	22	44	44
12.5, ±27.5	9	16	16	16	32	32
17.5, ±2.5	16	32	32	22	44	44
17.5, ±7.5	14	28	28	22	44	44
17.5, ±12.5	10	20	20	22	44	44
17.5, ±17.5	9	16	16	22	44	44
17.5, ±22.5	6	12	12	20	41	41
17.5, ±27.5	4	9	9	16	32	32

Minimum Maintained Luminance for Indications

Indication type	Luminance (fL)		
	Red	Yellow	Green
Arrow	1,610	3,210	3,210
U-turn	1,610	3,210	3,210
Bicycle	1,610	1,610	1,610
Lane control (X)	1,610	--	--
Lane control (Arrow)	--	--	1,610

Minimum Maintained Luminance for Programmed Visibility Indications

Indication type	Luminance (cd)		
	Red	Yellow	Green
PV at angle v=2.5, h=±2.5	314	314	314

Conductors must be prewired to the terminal block.

86-1.02R(4)(c) Visors and Directional Louvers

The visor must be a tunnel type.

The visor must have a downward tilt from 3 to 7 degrees with a minimum length of 9-1/2 inches for nominal 12-inch round lenses and 7 inches for nominal 8-inch round lenses.

A metal visor must be formed from minimum 0.050-inch-thick aluminum alloy sheet.

A plastic visor must be either formed from sheet plastic or blow-molded. The plastic must be a black homogeneous color with a lusterless finish. A visor must withstand a wind load applied to its side for 24

hours without permanent deformation or removal from its door when tested under California Test 605 for plastic visors and California Test 666 for metal visors.

If directional louvers are used, the louvers must fit into full-circular signal visors. Louvers must consist of one of the following:

1. Outside cylinder constructed of sheet steel with a minimum nominal thickness of 0.030 inch and vanes constructed of sheet steel with a minimum nominal thickness of 0.016 inch.
2. Outside cylinder and vanes constructed of 5052-H32 aluminum alloy of equal thickness.

86-1.02S Pedestrian Signal Heads

86-1.02S(1) General

A pedestrian signal head consists of a pedestrian signal mounting assembly and a pedestrian signal face comprising of a pedestrian signal housing, an LED countdown pedestrian signal face module, and a front screen.

86-1.02S(2) Pedestrian Signal Mounting Assemblies

A pedestrian signal mounting assembly must comply with the specifications for a signal mounting assembly in section 86-1.02R, except mast arm slip fitters are not required.

86-1.02S(3) Pedestrian Signal Faces

86-1.02S(3)(a) General

Each pedestrian signal face must include a light-duty terminal block rated at 5 A and have 12 positions with no. 6-by-1/8-inch binder head screws. Each position must have 1 screw-type terminal.

The wiring and terminal block must comply with ITE publication ST-055-E, *Pedestrian Traffic Control Signal Indicators: Light Emitting Diode (LED) Signal Modules*.

86-1.02S(3)(b) Pedestrian Signal Housings

Pedestrian signal housing must comply with the specifications for a signal housing in 86-1.02R(4)(a)(iii), except the maximum overall dimensions must be 18-1/2 inches wide, 19 inches high, and 11-1/2 inches deep and without:

1. Visor
2. Watertight module or lens mounted in the door
3. Reinforcement plates

The housing must have a terminal block attached to the back. The terminal block must have enough positions to accommodate all indications. Each position must be permanently labeled for the indications used.

86-1.02S(3)(c) LED Countdown Pedestrian Signal Face Modules

An LED countdown PSF module must comply with ITE publication ST-055-E, *Pedestrian Traffic Control Signal Indicators: Light Emitting Diode (LED) Signal Modules*, except the material must comply with ASTM D3935 and the module must have:

1. Ultra-bright-type LED rated for 100,000 hours of continuous operation.
2. Lot number and month and year of manufacture permanently marked on the back of the module
3. Prominent and permanent vertical markings for accurate indexing and orientation within the pedestrian signal housing if a specific mounting orientation is required. Markings must be a minimum of 1 inch in height and include an up arrow and the word *up* or *top*.
4. Circuit board complying with TEES, chapter 1, section 6.

Individual LEDs must be wired such that a loss or failure of 1 LED will not result in a loss of more than 5 percent of the module's light output. Failure of an individual LED in a string must not result in a loss of an entire string or other indication.

Each symbol must be at least 9 inches high and 5-1/4 inches wide. The 2-digit countdown timer, *Upraised Hand*, and *Walking Person* indications must be electronically isolated from each other. The 3 indications must not share a power supply or interconnect circuitry.

The module must operate over the specified ambient temperature and voltage range and be readable both day and night at distances up to the full width of the area to be crossed. Upon initial testing at 25 degrees C, the module must have at least the luminance values shown in the following table:

Luminance Values

PSF module symbol	Luminance
Upraised hand and 2-digit countdown timer (fL)	1,094
Walking person (fL)	1,547

The module must not exceed the power consumption requirements shown in the following table:

Maximum Power Consumption Requirements

PSF module display	At 24 °C	At 74 °C
<i>Upraised Hand</i>	10.0 W	12.0 W
<i>Walking Person</i>	9.0 W	12.0 W
2-digit countdown timer	6.0 W	8.0 W

86-1.02S(3)(d) Front Screen

Pedestrian signal face must have a front screen that is one of the following types:

1. 3/8-inch-thick aluminum honeycomb screen with 0.2-inch-wide cells or a 1/2-inch-thick plastic screen with 3/8-inch-wide squares with 1/16-inch wall thickness that:
 - 1.1. Is installed so it tilts downward at an angle of 15 ± 2 degrees from the top and completely covers the message plate.
 - 1.2. Includes a clear front cover made of either a minimum 1/8-inch-thick acrylic plastic sheet or a minimum 1/16-inch-thick polycarbonate plastic.
 - 1.3. Is held firmly in place, including the cover, with stainless steel or aluminum clips or stainless steel metal screws.
2. Polycarbonate screen that:
 - 2.1. Has a nominal thickness of 1/32 inch.
 - 2.2. Is a 1-1/2-inch-deep eggcrate or Z-crate type.
 - 2.3. Is mounted in a frame constructed of aluminum alloy or polycarbonate with a minimum thickness of 0.040 inch.
 - 2.4. Is held in place with stainless steel screws.

The screen and frame of a pedestrian signal face must be made of either (1) plastic that is a flat black color or (2) anodized aluminum that is a flat black color or finished with lusterless, black, exterior-grade latex paint formulated for application to metal surfaces.

86-1.02T Accessible Pedestrian Signals

Accessible pedestrian signal must comply with the *California MUTCD*, chapter 4E, and have:

1. Audible speech message that plays when the push button is actuated. The message must include the name of the street to be crossed. The accessible pedestrian signal must have at least 5 audible message options.
2. Push button locator tone that clicks or beeps.
3. Feature that activates the pedestrian phase during a failure of the audible message, locator tone, or vibrotactile device.

An accessible pedestrian signal must function with the Department-furnished Model 170E/2070E controller assembly.

No part of the accessible pedestrian signal must be installed inside the controller cabinet. Power for the accessible pedestrian signal must be from the pedestrian signal housing terminal block.

The housing for the signal assembly must be made of corrosion-resistant material. Theft-proof bolts used for mounting the housing to the standard must be stainless steel with a content of 17 percent chromium and 8 percent nickel. The housing must be shaped to fit the pole's curvature.

The color of a metallic housing must match color no. 33538 of FED-STD-595.

The color of a plastic housing must match color no. 17038, 27038, or 37038 of FED-STD-595.

Accessible pedestrian signal must:

1. Have electronic switches, a potentiometer, or an access port for a device for controlling and programming the volume level and messaging
2. Be weatherproof and shockproof

Enclosure for the accessible pedestrian signal must:

1. Weigh less than 7 lb
2. Measure less than 16 by 6 by 5 inches
3. Have a wiring hole with a diameter not exceeding 1-1/8 inches
5. Have a switch for a push button
6. Have a vibrotactile device on the push button or on the arrow
7. Have an internal weatherproof speaker and microphone that senses the ambient sound level

The separation between adjacent holes used for conductors and mounting must be at least twice the diameter of the larger hole.

The speaker grills must be located on the surface of the enclosure. The speakers must not interfere with the housing or its mounting hardware.

The conductor cable between the accessible pedestrian signal assembly and the pedestrian signal head must be a 9 no. 20 conductor cable complying with MIL-W-16878D.

86-1.02U Push Button Assemblies

The housing for a push button assembly must be made of die-cast aluminum, permanent mold-cast aluminum, or UV-stabilized self-extinguishing structural plastic. The plastic housing must have a color throughout that matches color no. 17038, 27038, or 37038 of FED-STD-595.

If the push button is to be attached to a pole, the housing must be shaped to fit the pole's curvature.

The assembly must be waterproof and shockproof.

The push button's switch must be a single-pole, double-throw switching unit with screw-type terminals rated 15 A at 125 V(ac).

Switch for the push button must have:

1. Plunger actuator and a U frame to allow recessed mounting in the push button housing
2. Operating force of 3.5 lb
3. Maximum pretravel of 5/64 inch
4. Minimum overtravel of 1/32 inch
5. Differential travel from 0.002 to 0.04 inch
6. Minimum 2-inch diameter actuator

86-1.02V Reserved

86-1.02W Loop Detector Sealants

86-1.02W(1) General

Sealant for filling loop detector slots must be one of the following:

1. Asphaltic emulsion
2. Elastomeric sealant
3. Epoxy sealant for inductive loops
4. Hot-melt rubberized asphalt

86-1.02W(2) Asphaltic Emulsion Sealant

Asphaltic emulsion sealant must comply with the State Specification 8040-41A-15.

86-1.02W(3) Elastomeric Sealant

Elastomeric sealant must be a polyurethane material that cures only in the presence of moisture if used within the stated shelf life. The sealant must be suitable for use in both asphalt concrete and concrete pavement.

The cured elastomeric sealant must comply with the requirements shown in the following table:

Cured Elastomeric Sealant Requirements

Quality characteristic	Test method	Requirement
Hardness	ASTM D2240 ^a	65–85
Tensile strength (min, MPa)	ASTM D412 ^b	3.45
Elongation (min, %)		400
Flex at -40 °C ^c	--	No cracks
Weathering resistance	ASTM D822 ^d	Slight chalking
Salt spray resistance:	ASTM B117 ^e	
Tensile strength (min, MPa)		3.45
Elongation (min, %)		400
Dielectric constant (%)	ASTM D150 ^f	<25

^aIndentation at 25 °C and 50% relative humidity (Rex. Type A, Model 1700 only)

^bDie C pulled at 508 mm/minute

^c0.6-mm free film bend (180°) over 13-mm mandrel

^dWeatherometer 350 h, cured 7 days at 25 °C and 50% relative humidity

^e28 days at 38 °C with 5% NaCl, Die C, and pulled at 508 mm/minute)

^fChange over a temperature range from -30 to 50 °C

86-1.02W(4) Hot-Melt Rubberized Asphalt Sealant

Hot-melt rubberized asphalt sealant must:

1. Be in solid form at room temperature and fluid at an application temperature range from 190 to 205 degrees C
2. Not produce toxic fumes
3. Be suitable for use in both asphalt concrete and concrete pavement
4. Be packaged in containers clearly marked *Detector Loop Sealant* with the manufacturer's batch and lot number.

The cured hot-melt rubberized asphalt sealant must comply with the requirements shown in the following table:

Cured Hot-Melt Rubberized Asphalt Sealant Requirements

Quality characteristic	Test method	Requirement
Cone penetration (max, 1/10 mm)	ASTM D5329, sec. 6 ^a	35
Flow (max, mm)	ASTM D5329, sec. 8 ^b	5
Resilience (min, %)	ASTM D5329, sec. 12 ^c	25
Softening point (min, °C)	ASTM D36	82
Ductility (min, cm)	ASTM D113 ^d	30
Flash point, Cleveland Open Cup (min, °C)	ASTM D92	288
Viscosity (Pa·s)	ASTM D4402 ^e	2.5–3.5

^aAt 25 °C, 150 g, 5 s

^bAt 60 °C

^cAt 25 °C

^dAt 25 °C, 5 cm/minute

^eBrookfield Thermosel, no. 27 spindle, 20 rpm, 190 °C

86-1.02X Reserved**86-1.02Y Transformers**

A transformer must be single-phase and may be a nonsubmersible or submersible type.

A transformer must be a dry type designed for operation on a 60 Hz supply. The transformer must have a decal showing a connection diagram. The diagram must show either color coding or wire tagging with primary (H1, H2) or secondary (X1, X2) markers and the primary and secondary voltage and volt-ampere rating. A transformer must comply with the electrical requirements shown in the following table:

Transformer Electrical Requirements

Quality characteristic	Requirement
Rating (V(ac))	120/480, 120/240, 240/480, or 480/120
Efficiency (%)	> 95
Secondary voltage regulation and tolerance from half load to full load (%)	±3

Secondary 240 and 480 V(ac) windings must be center tapped.

The transformer must withstand the application of 2,200 V(ac) from core to coils and from coil to coil for a 1-minute period when tested immediately after operation of the transformer at full load for 24 hours.

The external leads for the secondary connections must be no. 10 Type USE rated for 600 V(ac).

The transformer's leads must extend a minimum of 12 inches from the case.

The transformer's insulation must be NEMA 185 C or better.

Each transformer must:

1. Include metal half-shell coil protection.
2. Have moisture-resistant, synthetic-varnish-impregnated windings.
3. Be waterproof and suitable for outdoor operation.

Each submersible transformer must:

1. Include a handle and a hanger.
2. Be securely encased in a rugged, corrosion-resistant, watertight case.
3. Have leads that extend out through 1 or more sealed hubs.
4. Be manufactured to withstand a 5-day test with 12-hour on and off periods submerged in 2 feet of salt water that is 2 percent salt by weight. The operating periods must be at full load.

86-1.02Z Batteries

Battery must:

1. Be deep-cycle, sealed, prismatic, lead-calcium-based, absorbed-glass-mat, valve-regulated, lead-acid type
2. Be rated for 12 V
3. Be rated for a temperature range from -25 to 60 degrees C
4. Be group size 24
5. Be commercially available and stocked locally
6. Be marked with a date code, maximum recharge data, and recharge cycles
7. Be new and fully charged when furnished
8. Be free from damage or deformities
9. Have a carrying handle
10. Have 2 top-mounted, threaded-stud posts that include all washers and nuts
11. Include insulating rubber covers for protecting the lugs, posts, and wiring: red for the positive terminal and black for the negative terminal

If a battery is used for a battery backup system, it must accommodate 3/8-inch ring lugs of a Department-furnished battery harness.

86-1.03 CONSTRUCTION

Not Used

86-1.04 PAYMENT

Not Used

Replace section 87 with:

04-15-16

87 ELECTRICAL SYSTEMS

04-15-16

87-1 GENERAL**87-1.01 GENERAL****87-1.01A Summary**

Section 87 includes general specifications for constructing and installing electrical systems.

The Department deducts the cost for maintenance performed by the Department on new or portions of existing systems modified under the Contract.

87-1.01B Definitions

Reserved

87-1.01C Submittals

Reserved

87-1.01D Quality Assurance**87-1.01D(1) General**

Reserved

87-1.01D(2) Quality Control

Before shipping the material to the job site, submit to METS test samples of:

1. Accessible pedestrian signals
2. LED countdown pedestrian signal face modules
3. LED signal modules
4. LED luminaires

Submit a sample size as shown in the following table:

Electrical Material Sampling

Contract quantity	Test sample size
1–8	1
9–15	2
16–25	3
26–90	5
91–150	8
151–280	13
281–500	20
501–1200	32

Before starting operation of an electrical system, perform a conductor test in the presence of the Engineer.

Conductor test consists of testing each conductor and the conductors in cables for:

1. Continuity.
2. Grounds.
3. Insulation resistance at 500 V(dc) between the circuit and ground. The insulation resistance must be a minimum of 10 M Ω on circuits, except it must be a minimum of 100 M Ω for inductive loop detector circuits.

Start the operational test of the system on any day except Friday or the day before a holiday. The operational test for signals must start from 9:00 a.m. to 2:00 p.m. Notify the Engineer 48 hours before starting the test.

An operational test consists of a minimum of 5 business days of continuous, satisfactory operation of the system. If the system fails, correct the problem and retest the system. A shutdown of the system caused by traffic, a power interruption, or unsatisfactory performance of Department-furnished materials does not constitute discontinuity of the test.

87-1.02 MATERIALS

Not Used

87-1.03 CONSTRUCTION

87-1.03A General

The Engineer determines the final locations of electrical systems.

Verify the locations of electrical systems and the depths of existing detectors, conduits, and pull boxes.

Notify the Engineer before performing work on the existing system.

You may shut down the system for alteration or removal.

Where an existing Department underground facility is shown within 10 feet of any excavation, locate and field mark the facility before performing work that could damage or interfere with the existing facility.

If an existing facility is within 2 feet of an excavation, determine the exact location of the facility by excavating with hand tools before using any power-operated or power-driven excavating or boring equipment. A vacuum excavator may be used if authorized.

Notify the Engineer immediately if an existing facility is damaged by your activities.

If existing underground conduit is to be incorporated into a new system, clean it with a mandrel or cylindrical wire brush and blow it clean with compressed air.

Limit the shutdown of traffic signal systems to normal working hours. Notify the local traffic enforcement agency before shutting down the signal.

Place temporary W3-1 and R1-1 signs in each direction to direct traffic through the intersection during shutdown of the signal. Place two R1-1 signs for 2-lane approaches. The signs must comply with part 2 of the *California MUTCD*.

Cover signal faces when the system is shut down overnight. Cover temporary W3-1 and R1-1 signs when the system is turned on.

If you work on an existing lighting system and the roadway is to remain open to traffic, ensure the system is in operation by nightfall.

Replace detectors you damage within 72 hours, or the Department replaces them and deducts the cost.

Work performed on an existing system not described is change order work.

Do not use electrical power from existing highway facilities unless authorized.

Maintain a minimum 48-inch clearance for a pedestrian pathway when placing equipment.

Except for service installation or work on service equipment enclosures, do not work above ground until all materials are on hand to complete the electrical work at each location.

Bond all metal components to form a continuous grounded system as specified in NEC.

Ground metallic equipment mounted less than 8 feet above the ground surface on a wood pole.

If you damage any portion of a concrete curb, sidewalk, curb ramp, driveway, or gutter depression, replace the entire section between contraction or expansion joints under section 73.

Apply equipment identification characters.

Orient louvers, visors, and signal faces such that they are clearly visible to approaching traffic from the direction being controlled.

Test loops and the detector lead-in cable circuit for continuity, ground, and insulation resistance at the controller cabinet before connecting detector lead-in cable to the terminal block.

Perform an operational test of the systems.

Before starting the operational test for systems that impact traffic, the system must be ready for operation, and all signs, pavement delineation, and pavement markings must be in place at that location.

87-1.03B Conduit Installation

87-1.03B(1) General

The installation of conduit includes installing caps, bushings, and pull tape and terminating the conduit in pull boxes, foundations, poles, or a structure.

Limit the number of bends in a conduit run to no more than 360 degrees between pull points.

Use conduit to enclose conductors except where they are installed overhead or inside standards or posts.

You may use a larger size conduit than specified for the entire length between termination points. Do not use a reducing coupling.

Extend an existing conduit using the same material. Terminate conduits of different materials in a pull box.

Install 2 conduits between a controller cabinet and the adjacent pull box.

Use a minimum trade size of conduit of:

1. 1-1/2 inches from an electrolier to the adjacent pull box
2. 1 inch from a pedestrian push button post to the adjacent pull box
3. 2 inches from a signal standard to the adjacent pull box
4. 3 inches from a controller cabinet to the adjacent pull box
5. 2 inches from an overhead sign to the adjacent pull box
6. 2 inches from a service equipment enclosure to the adjacent pull box
7. 1-1/2 inches if unspecified

Use Type 1 conduit:

1. On all exposed surfaces
2. In concrete structures
3. Between a structure and the nearest pull box

Ream the ends of shop-cut and field-cut conduit to remove burrs and rough edges. Make the cuts square and true. Do not use slip joints and running threads to couple conduit. If a standard coupling cannot be used for metal-type conduit, use a threaded union coupling. Tighten the couplings for metal conduit to maintain a good electrical connection.

Cap the ends of conduit to prevent debris from entering before installing the conductors or cables. Use a plastic cap for Type 1, 2, and 5 conduits and a standard pipe cap for all other types of conduit.

For Type 1, 2, and 5 conduits, use threaded bushings and bond them using a jumper. For other types of conduit, use nonmetallic bushings.

Do not install new conduit through foundations.

Cut Type 2 conduit with pipe cutters; do not use hacksaws. Use standard conduit-threading dies for threading conduit. Tighten conduit into couplings or fittings using strap wrenches or approved groove joint pliers.

Cut Type 3 conduit with tools that do not deform the conduit. Use a solvent weld for connections.

Protect shop-cut threads from corrosion under the standards shown in the following table:

Conduit	Standard
Types 1 and 2	ANSI C80.1
Type 5	ANSI C80.6

Apply 2 coats of unthinned, organic zinc-rich primer to metal conduit before painting. Use a primer on the Authorized Material List for organic zinc-rich primers. Do not use aerosol cans. Do not remove shop-installed conduit couplings.

For conduits, paint:

1. All exposed threads
2. Field-cut threads, before installing conduit couplings to metal conduit
3. Damaged surfaces on metal conduit

If a Type 2 conduit or conduit coupling coating is damaged:

1. Clean the conduit or fitting and paint it with 1 coat of rubber-resin-based adhesive under the manufacturer's instructions
2. Wrap the damaged coating with at least 1 layer of 2-inch-wide, 20 mils-minimum-thickness, PVC tape under ASTM D1000 with a minimum tape overlap of 1/2 inch

You may repair damaged spots of 1/4 inch or less in diameter in the thermoplastic coating by painting with a brushing-type compound supplied by the conduit manufacturer.

If factory bends are not used, bend the conduit to a radius no less than 6 times its inside diameter without crimping or flattening it. Comply with the bending requirements shown in the following table:

Type	Requirement
1	Use equipment and methods under the conduit manufacturer's instructions.
2	Use a standard bending tool designed for use on thermoplastic-coated conduit. The conduit must be free of burrs and pits.
3	Use equipment and methods under the conduit manufacturer's instructions. Do not expose the conduit to a direct flame.
5	Use equipment and methods under the conduit manufacturer's instructions.

Install pull tape with at least 2 feet of slack in each end of the conduit that will remain empty. Attach the tape's ends to the conduit.

Install conduit terminating in a standard or pedestal from 2 to 3 inches above the foundation. Slope the conduit toward the handhole opening.

Terminate conduit installed through the bottom of a nonmetallic pull box 2 inches above the bottom and 2 inches from the wall closest to the direction of the run.

87-1.03B(2) Conduit Installation for Structures

87-1.03B(2)(a) General

Paint exposed Type 1 conduit the same color as the structure.

Install galvanized steel hangers, steel brackets, and other fittings to support conduit in or on a wall or bridge.

87-1.03B(2)(b) New Structures

Seal and make watertight the conduits which lead to soffits, wall-mounted luminaires, other lights, and fixtures located below the pull box grade.

If you place a conduit through the side of a nonmetallic pull box, terminate the conduit 2 inches from the wall and 2 inches above the bottom. Slope the conduit toward the top of the box to facilitate pulling conductors.

For ease of installation and if authorized, you may use Type 4 conduit instead of Type 1 conduit for the final 2 feet of conduit entering a pull box in a reinforced concrete structure.

Install an expansion fitting where a conduit crosses an expansion joint in a structure. Each expansion fitting for metal conduit must include a copper bonding jumper having the ampacity as specified in NEC.

Install an expansion-deflection fitting for an expansion joint with a 1-1/2-inch movement rating. The fitting must be watertight and include a molded neoprene sleeve, a bonding jumper, and 2 silicon bronze or zinc-plated iron hubs.

For an expansion joint with a movement rating greater than 1-1/2 inches, install the expansion-deflection fitting as shown.

For conduit installed inside of bridge structures, you must:

1. Install precast concrete cradles made of minor concrete and commercial-quality welded wire fabric. The minor concrete must contain a minimum of 590 lb of cementitious material per cubic yard. The cradles must be moist cured for a minimum of 3 days.
2. Bond precast concrete cradles to a wall or bridge superstructure with one of the following:
 - 2.1. Epoxy adhesive for bonding freshly-mixed concrete to hardened concrete.
 - 2.2. Rapid-set epoxy adhesive for pavement markers.
 - 2.3. Standard-set epoxy adhesive for pavement markers.
3. Use a pipe sleeve or form an opening for a conduit through a bridge superstructure. The sleeve or opening through a prestressed member or conventionally reinforced precast member must be:
 - 3.1. Oriented transverse to the member.
 - 3.2. Located through the web.
 - 3.3. No more than 4 inches in size.
4. Wrap the conduit with 2 layers of asphalt felt building paper and securely tape or wire the paper in place for a conduit passing through a bridge abutment wall. Fill the space around the conduit with mortar under section 51-1, except the proportion of cementitious material to sand must be 1 to 3. Fill the space around the conduits after prestressing is completed.

Thread and cap a conduit installed for future use in structures. Mark the location of the conduit's end in a structure, curb, or wall directly above the conduit with a Y that is 3 inches tall.

87-1.03B(2)(c) Existing Structures

Run surface-mounted conduit straight and true, horizontal or vertical on the wall, and parallel to walls on ceilings or similar surfaces. Support the conduit at a maximum of 5-foot intervals where needed to prevent vibration or deflection. Support the conduit using galvanized, malleable-iron, conduit clamps, and clamp backs secured with expansion anchorage devices complying with section 75-3.02C. Use the largest diameter of galvanized, threaded studs that will pass through the mounting hole in the conduit clamp.

87-1.03B(3) Conduit Installation Underground

87-1.03B(3)(a) General

Install conduit to a depth of:

1. 14 inches for the trench-in-pavement method
2. 18 inches, minimum, under sidewalk and curbed paved median areas
3. 42 inches, minimum, below the bottom of the rail of railroad tracks

4. 30 inches, minimum, everywhere else below grade

Place conduit couplings at a minimum of 6 inches from the face of a foundation.

Place a minimum of 2 inches of sand bedding in a trench before installing Type 2 or Type 3 conduit and 4 inches of sand bedding over the conduit before placing additional backfill material.

If installing conduit within the limits of hazardous locations as specified in NEC for Class I, division 1, install and seal Type 1 or Type 2 conduit with explosion-proof sealing fittings.

87-1.03B(3)(b) Conduit Installation under Paved Surfaces

You may lay conduit on existing pavement within a new curbed median constructed on top.

Install conduit under existing pavement by the jacking or drilling methods. You may use the trench-in-pavement method for either of the following conditions:

1. If conduit is to be installed behind the curb under the sidewalk
2. If the delay to vehicles will be less than 5 minutes

Do not use the trench-in-pavement method for conduit installations under freeway lanes or freeway-to-freeway connector ramps.

87-1.03B(3)(c) Reserved

87-1.03B(3)(d) Conduit Installation under Railroad Tracks

Install Type 1 or Type 2 conduit with a minimum diameter of 1-1/2 inches under railroad tracks. If you use the jacking or drilling method to install the conduit, construct the jacking pit a minimum of 13 feet from the tracks' centerline at the near side of the pit. Cover the jacking pit with planking if left overnight.

87-1.03B(4) Reserved

87-1.03B(5) Conduit Installation by the Jacking or Drilling Method

Keep the jacking or drilling pit 2 feet away from the pavement's edge. Do not weaken the pavement or soften the subgrade with excessive use of water.

If an obstruction is encountered, obtain authorization to cut small holes in the pavement to locate or remove the obstruction.

You may install Type 2 or Type 3 conduit under the pavement if a hole larger than the conduit's diameter is predrilled. The predrilled hole must be less than one and half the conduit's diameter.

Remove the conduit used for drilling or jacking and install new conduit for the completed work.

87-1.03B(6) Conduit Installation by the Trenching-In-Pavement Method

Install conduit by the trenching-in-pavement method using a trench approximately 2 inches wider than the conduit's outside diameter but not exceeding 6 inches in width.

Where additional pavement is to be placed, you must complete the trenching before the final pavement layer is applied.

If the conduit shown is to be installed under the sidewalk, you may install it in the street within 3 feet of and parallel to the face of the curb. Install pull boxes behind the curb.

Cut the trench using a rock-cutting excavator. Minimize the shatter outside the removal area of the trench.

Dig the trench by hand to the required depth at pull boxes.

Place conduit in the trench.

Backfill the trench with minor concrete to the pavement's surface by the end of each work day. If the trench is in asphalt concrete pavement and no additional pavement is to be placed, backfill the top 0.10 foot of the trench with minor HMA within 3 days after trenching.

87-1.03C Installation of Pull Boxes**87-1.03C(1) General**

Install pull boxes no more than 200 feet apart.

You may install larger pull boxes than specified or shown and additional pull boxes to facilitate the work except in structures.

Install a pull box on a bed of crushed rock and grout it before installing conductors. The grout must be from 0.5 to 1 inch thick and sloped toward the drain hole. Place a layer of roofing paper between the grout and the crushed rock sump. Make a 1-inch drain hole through the grout at the center of the pull box.

Set the pull box such that the top is 1-1/4 inches above the surrounding grade in unpaved areas and leveled with the finished grade in sidewalks and other paved areas.

Place the cover on the box when not working in it.

Grout around conduits that are installed through the sides of the pull box.

Bond and ground the metallic conduit before installing conductors and cables in the conduit.

Bond metallic conduits in a nonmetallic pull box using bonding bushings and bonding jumpers.

Do not install pull boxes in concrete pads, curb ramps, or driveways.

Reconstruct the sump of a pull box if disturbed by your activities. If the sump was grouted, remove and replace the grout.

87-1.03C(2) Nontraffic Pull Boxes

If you bury a nontraffic pull box, set the box such that the top is 6 to 8 inches below the surrounding grade. Place a 20-mil-thick plastic sheet made of HDPE or PVC virgin compounds to prevent water from entering the box.

Place mortar between a nontraffic pull box and a pull box extension.

Where a nontraffic pull box is in the vicinity of curb in an unpaved area, place the box adjacent to the back of the curb if practical.

Where a nontraffic pull box is adjacent to a post or standard, place the box within 5 feet upstream from traffic if practical.

If you replace the cover on a nontraffic pull box, anchor it to the box.

87-1.03C(3) Traffic Pull Boxes

Place minor concrete around and under a traffic pull box.

Bolt the steel cover to the box when not working in it.

Bond the steel cover to the conduit with a jumper and bolt it down after installing the conductors and cables.

87-1.03C(4) Structure Pull Boxes

Bond metallic conduit in a metal pull box in a structure using locknuts, inside and outside of the box, bonding bushings, and bonding jumpers connected to bonding wire running in the conduit system.

87-1.03D Reserved**87-1.03E Excavating and Backfilling for Electrical Systems****87-1.03E(1) General**

Notify the Engineer at least 72 hours before starting excavation activities.

Dispose of surplus excavated material.

Restrict closures for excavation on a street or highway to 1 lane at a time unless otherwise specified.

87-1.03E(2) Trenching

Dig a trench for the electrical conduits or direct burial cables. Do not excavate until the conduit or direct burial cable will be installed.

Place excavated material in a location that will not interfere with traffic or surface drainage.

After placing the conduit or direct burial cable, backfill the trench with the excavated material. Compact the backfill placed outside the hinge point of slopes and not under pavement to a minimum relative compaction of 90 percent.

Compact the backfill placed within the hinge points and in areas where pavement is to be constructed to a minimum relative compaction of 95 percent.

Restore the sidewalks, pavement, and landscaping at a location before starting excavation at another location.

87-1.03E(3) Concrete Pads, Foundations, and Pedestals

Construct foundations for standards, poles, metal pedestals, and posts under section 56-3.

Construct concrete pads, foundations, and pedestals for controller cabinets, telephone demarcation cabinets, and service equipment enclosures on firm ground.

Install anchor bolts using a template to provide proper spacing and alignment. Moisten the forms and ground before placing the concrete. Keep the forms in place until the concrete sets for at least 24 hours to prevent damage to the surface.

Use minor concrete for pads, foundations, and pedestals.

In unpaved areas, place the top of the foundation 6 inches above the surrounding grade, except place the top:

1. 1 foot 6 inches above the grade for Type M and 336L cabinets
2. 1 foot 8 inches above the grade for Type C telephone demarcation cabinets
3. 2 inches above the grade for Type G and Type A cabinets and Type III service equipment enclosures

The pad must be 2 inches above the surrounding grade.

In and adjacent to the sidewalk and other paved areas, place the top of the foundation 4 inches above the surrounding grade, except place the top:

1. 1 foot 6 inches above the grade for Type M and 336L cabinets
2. 1 foot 8 inches above the grade for Type C telephone demarcation cabinets
3. Level with the finished grade for Type G and Type A cabinets and Type III service equipment enclosures

The pad must be level with the finished grade.

Apply an ordinary surface finish under section 51-1.03F.

Allow the foundation to cure for at least 7 days before installing any equipment.

87-1.03F Conductors and Cable Installations**87-1.03F(1) General**

The installation of conductors and cables includes splicing conductors and attaching the terminals and connectors to the conductors.

Clean the conduit and pull all conductors and cables as a unit.

If new conductors or cables are to be added in an existing conduit:

1. Remove the content
2. Clean the conduit
3. Pull both old and new conductors and cables as a unit

Wrap conductors and secure cables to the end of the conduit in a pull box.

Seal the ends of conduits with a sealing compound after installing conductors or cables.

Neatly arrange conductors and cables inside pull boxes and cabinets. Tie the conductors and cables together with self-clinching nylon cable ties or enclose them in a plastic tubing or raceway.

Identify conductors and cables by direct labeling, tags, or bands fastened in such a way that they will not move. Use mechanical methods for labeling.

Provide band symbol identification on each conductor or each group of conductors comprising a signal phase in each pull box and near the end of terminated conductors.

Tape the ends of unused conductors and cables in pull boxes to form a watertight seal.

Do not connect the push-button or accessible pedestrian signal neutral conductor to the signal neutral conductor.

87-1.03F(2) Cables

87-1.03F(2)(a) General

Reserved

87-1.03F(2)(b) Reserved

87-1.03F(2)(c) Copper Cables

87-1.03F(2)(c)(i) General

Reserved

87-1.03F(2)(c)(ii) Detector Lead-in Cables

Install a Type B or C detector lead-in cable in conduit.

Waterproof the ends of the lead-in cable before installing it in the conduit to prevent moisture from entering the cable.

Splice loop conductors for each direction of travel for the same phase, terminating in the same pull box, to a separate lead-in cable running from the pull box adjacent to the loop detector to a sensor unit mounted in the controller cabinet. Install the lead-in cable without splices except at the pull box.

Verify in the presence of the Engineer that the loops are operational before making the final splices between loop conductors and the lead-in cable.

Identify and tag each lead-in cable with the detector designation at the cabinet and pull box adjacent to the loops.

87-1.03F(2)(c)(iii) Conductors Signal Cables

Do not splice signal cables except for a 28-conductor cable.

Provide identification at the ends of terminated conductors in a cable as shown.

Provide identification for each cable in each pull box showing the signal standard to which it is connected except for the 28-conductor cable.

Connect conductors in a 12-conductor cable as shown in the following table:

12CSC Color Code and Functional Connection

Color code	Termination	Phase
Red	Red signal	2, 4, 6, or 8
Yellow	Yellow signal	2, 4, 6, or 8
Brown	Green signal	2, 4, 6, or 8
Red/black stripe	Red signal	1, 3, 5, or 7
Yellow/black stripe	Yellow signal	1, 3, 5, or 7
Brown/black stripe	Green signal	1, 3, 5, or 7
Black/red stripe	Spare or as required for red or <i>DONT WALK</i>	--
Black/white stripe	Spare or as required for yellow	--
Black	Spare or as required for green or <i>WALK</i>	--
Red/white stripe	Pedestrian signal <i>DONT WALK</i>	--
Brown/white stripe	Pedestrian signal <i>WALK</i>	--
White	Terminal block	Neutral

Provide identification for each 28-conductor cable C1 or C2 in each pull box. The cable labeled C1 must be used for signal phases 1, 2, 3, and 4. The cable labeled C2 must be used for signal phases 5, 6, 7, and 8.

Connect conductors in a 28-conductor cable as shown in the following table:

28CSC Color Code and Functional Connection

Color code	Termination	Phase
Red/black stripe	Red signal	2 or 6
Yellow/black stripe	Yellow signal	2 or 6
Brown/black stripe	Green signal	2 or 6
Red/orange stripe	Red signal	4 or 8
Yellow/orange stripe	Yellow signal	4 or 8
Brown/orange stripe	Green signal	4 or 8
Red/silver stripe	Red signal	1 or 5
Yellow/silver stripe	Yellow signal	1 or 5
Brown/silver stripe	Green signal	1 or 5
Red/purple stripe	Red signal	3 or 7
Yellow/purple stripe	Yellow signal	3 or 7
Brown/purple stripe	Green signal	3 or 7
Red/2 black stripes	Pedestrian signal <i>DONT WALK</i>	2 or 6
Brown/2 black stripes	Pedestrian signal <i>WALK</i>	2 or 6
Red/2 orange stripes	Pedestrian signal <i>DONT WALK</i>	4 or 8
Brown/2 orange stripes	Pedestrian signal <i>WALK</i>	4 or 8
Red/2 silver stripes	Overlap A, C	OLA ^a , OLC ^a
Brown/2 silver stripes	Overlap A, C	OLA ^c , OLC ^c
Red/2 purple stripes	Overlap B, D	OLB ^a , OLD ^a
Brown/2 purple stripes	Overlap B, D	OLB ^c , OLD ^c
Blue/black stripe	Pedestrian push button	2 or 6
Blue/orange stripe	Pedestrian push button	4 or 8
Blue/silver stripe	Overlap A, C	OLA ^b , OLC ^b
Blue/purple stripe	Overlap B, D	OLB ^b , OLD ^b
White/black stripe	Pedestrian push button common	--
Black/red stripe	Railroad preemption	--
Black	Spare	--
White	Terminal block	Neutral

OL = Overlap; A, B, C, and D = Overlapping phase designation

^aFor red phase designation

^bFor yellow phase designation

^cFor green phase designation

Use the neutral conductor only with the phases associated with that cable. Do not intermix neutral conductors from different cables except at the signal controller.

87-1.03F(2)(c)(iv) Signal Interconnect Cable

For a signal interconnect cable, provide a minimum of 6 feet of slack inside each controller cabinet.

Do not splice the cable unless authorized.

If splices are authorized, insulate the conductor splices with heat-shrink tubing and overlap the insulation at least 0.6 inch. Cover the splice area of the cable with heat-shrink tubing and overlap the cable jacket at least 1-1/2 inches. Provide a minimum of 3 feet of slack at each splice.

87-1.03F(3) Conductors**87-1.03F(3)(a) General**

Do not run conductors to a terminal block on a standard unless they are to be connected to a signal head mounted on that standard.

Provide 3 spare conductors in all conduits containing ramp metering and traffic signal conductors.

Install a separate conductor for each terminal of a push button assembly and accessible pedestrian signal.

Provide conductor slack to comply with the requirements shown in the following table:

Conductor Slack Requirements	
Location	Slack (feet)
Signal standard	1
Lighting standard	1
Signal and lighting standard	1
Pull box	3
Splice	3
Standards with slip base	0

87-1.03F(3)(b) Reserved

87-1.03F(3)(c) Copper Conductors

87-1.03F(3)(c)(i) General

Install a minimum no. 8, insulated, grounding copper conductor in conduit and connect it to all-metal components.

Where conductors from different service points occupy the same conduit or standard, enclose the conductors from one of the services in flexible or rigid metal conduit.

87-1.03F(3)(c)(ii) Inductive Loop Conductors

Install a Type 1 or 2 inductive loop conductor except use Type 2 for Type E loop detectors.

Install the conductor without splices except at the pull box.

87-1.03F(4) Manual Installation Method

Use an inert lubricant for placing conductors and cables in conduit.

Pull the conductors and cables into the conduit by hand using pull tape.

87-1.03G Equipment Identification Characters

The Engineer provides you with a list of the equipment identification characters.

Stencil the characters or apply the reflective self-adhesive labels to a clean surface.

Treat the edges of self-adhesive characters with an edge sealant.

Place the characters on the side facing traffic on:

1. Front doors of cabinets and service equipment enclosures.
2. Wood poles, fastened with 1-1/4-inch aluminum nails, for pole mounted enclosures
3. Adjacent bent or abutment at approximately the same station as an illuminated sign or soffit luminaire
4. Underside of the structure adjacent to the illuminated sign or soffit luminaire if no bent or abutment exists nearby
5. Posts of overhead signs
6. Standards

Before placing new characters on existing or relocated equipment, remove the existing characters.

87-1.03H Conductor and Cables Splices

87-1.03H(1) General

You may splice:

1. Grounded conductors in a pull box
2. Accessible pedestrian signal and push bottom conductors in a pull box
3. Ungrounded signal conductors in a pull box if signals are modified

4. Ungrounded signal conductors to a terminal compartment or a signal head on a standard with conductors of the same phase in the pull box adjacent to the standard
5. Ungrounded lighting circuit conductors in a pull box if lighting circuits are modified

Solder all splices using the hot iron, pouring, or dipping method. Do not perform open-flame soldering.

87-1.03H(2) Splice Insulation Methods

Insulate splices in a multiconductor cable to form a watertight joint and to prevent moisture absorption by the cable.

Use heat-shrink tubing or Method B to insulate a splice.

Use heat-shrink tubing as follows:

1. Cover the splice area completely with an electrical insulating coating and allow it to dry.
2. Place mastic around each conductor before placing them inside the tubing. Use the type of mastic specified in the tubing manufacturer's instructions.
3. Heat the area under the manufacturer's instructions. Do not perform open-flame heating. After contraction, each end of the heat-shrink tubing or the open end of the tubing's end cap must overlap the conductor insulation at least 1-1/2 inches.
4. Cover the entire splice with an electrical insulating coating and allow it to dry.

Use Method B as follows:

1. Cover the splice area completely with an electrical insulating coating and allow it to dry.
2. Apply 3 layers of half-lapped, 80-mils, PVC tape.
3. Apply 2 layers of 120-mils, butyl-rubber, stretchable tape with liner.
4. Apply 3 layers of half-lapped, 6-mils, PVC, pressure-sensitive, adhesive tape.
5. Cover the entire splice with an electrical insulating coating and allow it to dry.

87-1.03I Connectors and Terminals

Apply connectors and terminals to cables and conductors using a crimping compression tool under the manufacturer's instructions. The tool must prevent opening of the handles until the crimp is completed.

Install crimp-style terminal lugs on stranded conductors smaller than no. 14.

Solder no. 8 and smaller conductors to connectors and terminal lugs.

87-1.03J Standards, Poles, Pedestals, and Posts

Install standards, poles, pedestals, and posts under section 56-3.

Ground standards with a handhole by attaching a bonding jumper from the bolt or lug inside the standard to a metal conduit or to the grounding wire in the adjacent pull box. The bonding jumper must be visible when the handhole cover is removed.

Ground standards without a handhole or standards with a slip base by attaching a bonding jumper to all anchor bolts using ground clamps and connecting it to a metal conduit or to the grounding wire in the adjacent pull box. The bonding jumper must be visible after mortar has been placed on the foundation.

87-1.03K Reserved

87-1.03L Utility Service

87-1.03L(1) General

Install the service equipment early enough to allow the utility to complete its work before completion of the electrical work.

At least 15 days before permanent electrical and telecommunication service is required, request the service connections for permanent installations. The Department arranges with the utilities for completion of the connections and pays all costs and fees required by the utilities.

87-1.03L(2) Electric Service**87-1.03L(2)(a) General**

If service equipment is to be installed on a utility-owned pole, furnish and install the conduit, conductors, pull boxes, and other necessary material to complete the service installation. The service utility decides the position of the riser and equipment on the pole.

87-1.03L(2)(b) Electric Service for Irrigation

Establishing electric service for irrigation includes installing conduit, conductors, and pull boxes and making connections from the service point to the irrigation controllers.

87-1.03L(2)(c) Electric Service for Booster Pumps

Establishing electric service for a booster pump includes installing conduit, conductors, and pull boxes and making connections from the service point to the booster pump enclosure.

87-1.03L(3) Telecommunications Service

Establishing telecommunication service includes installing conduit, conductors, and pull boxes and making connections from the service point to the telephone demarcation cabinet.

87-1.03M Photoelectric Controls

Mount the photoelectric unit on the top of the pole for Type I, II, and III photoelectric controls. Use mounting brackets where pole-top mounting is not possible. Orient the photoelectric unit to face north.

Mount the enclosure at a height of 6 feet above finished grade on the same standard as the photoelectric unit.

Install a minimum 100 VA, 480/120 V(ac) transformer in the contactor enclosure to provide 120 V(ac) for the photoelectric control unit when switching 480 V(ac), 60 Hz circuits.

87-1.03N Fused Splice Connectors

Install a fuse splice connector in each ungrounded conductor for luminaires mounted on standards. The connector must be located in the pull box adjacent to the standard.

Crimp the connector terminals onto the ungrounded conductors using a tool under the manufacturer's instructions. Insulate the terminals and make them watertight.

87-1.03O Grounding Electrodes

Install a grounding electrode for each cabinet, service equipment enclosure, and transformer.

Attach a grounding conductor from the electrode using either a ground clamp or exothermic weld. Connect the other end of the conductor to the cabinet, service equipment enclosure, and transformer.

87-1.03P Service Equipment Enclosures

Installing a service equipment enclosure includes constructing the foundation and pad and installing conduit, adjacent pull boxes, and grounding electrode.

Locate the foundation such that the minimum clearance around the front and back of the enclosure complies with NEC, article 110.26, "Spaces About Electrical Equipment, (600 V, nominal or less)."

Bond and ground metal conduit as specified in NEC and by the service utility except the grounding electrode conductor must be no. 6 or larger.

If circuit breakers and components do not have a description on engraved phenolic nameplates, install them using stainless steel rivets or screws under section 86-1.02P(2).

87-1.03Q Cabinets**87-1.03Q(1) General**

Installing a cabinet includes constructing the foundation and pad and installing conduit, adjacent pull boxes, and grounding electrode.

Apply a mastic or caulking compound before installing the cabinet on the foundation to seal the openings.

Connect the field wiring to the terminal blocks in the cabinet. Neatly arrange and lace or enclose the conductors in plastic tubing or raceway. Terminate the conductors with properly sized captive or spring spade terminals. Apply a crimp-style connector and solder them.

Install and solder a spade-type terminal on no. 12 and smaller field conductors and a spade-type or ring-type terminal on conductors larger than no. 12.

87-1.03Q(2) Department-Furnished Controller Cabinets

Arrange for the delivery of Department-furnished controller cabinets.

87-1.03Q(3) Reserved

87-1.03Q(4) Telephone Demarcation Cabinets

Installing a telephone demarcation cabinet includes installing conduit, cable, and pull boxes to the controller cabinet.

Install the cabinet with the back toward the nearest lane of traffic.

87-1.03R Signal Heads

87-1.03R(1) General

Installing a signal head includes mounting the heads on standards and mast arms, installing backplates and visors, and wiring conductors to the terminal blocks.

Keep the heads covered or direct them away from traffic until the system is ready for operation.

87-1.03R(2) Signal Faces

Use the same brand and material for the signal faces at each location.

Program the programmable visibility signal faces under the manufacturer's instructions. The indication must be visible only in those areas or lanes to be controlled.

87-1.03R(3) Backplates

Install backplates using at least six 10-24 or 10-32 self-tapping and locking stainless steel machine screws and flat washers.

If a plastic backplate requires field assembly, attach each joint using at least four no.10 machine screws. Each machine screw must have an integral or captive flat washer, a hexagonal head slotted for a standard screwdriver, and either a locking nut with an integral or captive flat washer or a nut, flat washer, and lock washer. Machine screws, nuts, and washers must be stainless steel or steel with a zinc or black oxide finish.

If a metal backplate has 2 or more sections, fasten the sections with rivets or aluminum bolts peened after assembly to avoid loosening.

Install the backplate such that the background light is not visible between the backplate and the signal face or between sections.

87-1.03R(4) Signal Mounting Assemblies

Install a signal mounting assembly such that its members are arranged symmetrically and plumb or level. Orient each mounting assembly to allow maximum horizontal clearance to the adjacent roadway.

For a bracket-mounted assembly, bolt the terminal compartment or pole plate to the pole or standard.

In addition to the terminal compartment mounting, attach the upper pipe fitting of Type SV-1-T with 5 sections or a SV-2-TD to the standard or pole using the mounting detail for signal heads without a terminal compartment.

Use a 4-1/2-inch slip fitter and set screws to mount an assembly on a post top.

After installing the assembly, clean and paint the exposed threads of the galvanized conduit brackets and bracket areas damaged by the wrench or vise jaws. Use a wire brush to clean and apply 2 coats of unthinned, organic zinc-rich primer. Do not use an aerosol can to apply the primer.

Install the conductors in the terminal compartment and secure the cover.

87-1.03S Pedestrian Signal Heads

Installing a pedestrian signal head includes mounting the heads on standards and wiring conductors to the terminal blocks.

Install the pedestrian signal mounting assembly under section 87-1.03R(4).

Use the same brand and material for the pedestrian signal faces at each location.

Install a pedestrian signal face such that its members are arranged symmetrically and plumb or level.

87-1.03T Accessible Pedestrian Signals

Use the same brand for the accessible pedestrian signals at each location.

Install an accessible pedestrian signal and the R10 series sign on the crosswalk side of the standard.

Attach the accessible pedestrian signal to the standard with self-tapping screws.

Attach the sign to the standard using 2 straps and saddle brackets.

Point the arrow on the accessible pedestrian signal in the same direction as the corresponding crosswalk.

Furnish the equipment and hardware to set up and calibrate the accessible pedestrian signal.

Arrange to have a manufacturer's representative at the job site to program the accessible pedestrian signal with an audible message or tone.

87-1.03U Push Button Assemblies

Install the push button assembly and the R10 series sign on the crosswalk side of the standard.

Attach the sign to the assembly for Type B assemblies.

Attach the sign to the standard using 2 straps and saddle brackets for Type C assemblies.

You may use straps and saddle brackets to secure the push button to the standard.

Use a slip fitter to secure the assembly on top of a 2-1/2-inch-diameter post.

87-1.03V Detectors

87-1.03V(1) General

Installing a detector includes installing inductive loop conductors, sealant, conduit, and pull boxes.

Center the detectors in the traffic lanes.

Do not splice the detector conductor.

87-1.03V(2) Inductive Loop Detectors

Mark the location of the inductive loop detectors such that the distance between the side of the loop and a lead-in saw cut from an adjacent detector is at least 2 feet. The distance between lead-in saw cuts must be at least 6 inches.

Saw cut the slots under section 13-4.03E(7). The bottoms of the slots must be smooth with no sharp edges. For Type E detector loops, saw the slots such that the sides are vertical.

Wash the slots clean using water and blow dry them with compressed air to remove all moisture and debris.

Identify the start of the conductor.

Waterproof the ends of a Type 2 loop conductor before installing it in the conduit to prevent moisture from entering the cable.

Install the loop conductor in the slots and lead-in saw cuts using a 3/16- to 1/4-inch-thick wood paddle. Hold the conductors in place at the bottom of the slot with wood paddles during placement of the sealant.

Wind adjacent loops on the same sensor unit channel in opposite directions.

Twist the conductors for each loop into a pair consisting of a minimum of 2 turns per foot before placing them in the lead-in saw cut and the conduit leading to the pull box. Do not install more than 2 twisted pairs of conductors per lead-in saw cut.

Provide 5 feet of slack in the pull box.

Test each loop for continuity, circuit resistance, and insulation resistance before filling the slots with sealant.

Remove excess sealant from the adjacent road surface before it sets. Do not use solvents to remove the excess.

Identify the loop conductor pair in the pull box, marking the start with the letter *S* and the end with the letter *F*. Band conductors in pairs by lane in the pull box adjacent to the loops and in the cabinet. Identify each pair with the detector designation and loop number.

Install the conductors in a compacted layer of HMA immediately below the uppermost layer if more than one layer will be placed. Install the loop conductors before placing the uppermost layer of HMA. Fill the slot with a sealant flush to the surface.

Install the conductors in the existing pavement if one layer of HMA is to be placed. Install the loop conductors before placing the layer of HMA. Fill the slot with a sealant flush to the surface.

87-1.03V(3) Preformed Inductive Loop Detectors

Construct a preformed inductive loop detector consisting of 4 turns in the loop and a lead-in conductor pair twisted at least 2 turns per foot all encased in conduit and sealed to prevent water penetration. The detector must be 6-foot square unless shown otherwise.

Construct the loop detector using a minimum 3/8-inch Schedule 40 or Schedule 80 PVC or polypropylene conduit and no. 16 or larger conductor with Type THWN or TFFN insulation.

In new roadways, place the detector in the base course with the top of the conduit flush with the top of the base. Cover with HMA or concrete pavement. Protect the detector from damage before and during pavement placement.

In new reinforced concrete bridge decks, secure the detector to the top of the uppermost layer of reinforcing steel using nylon wire ties. Hold the detector parallel to the bridge deck using PVC or polypropylene spacers where necessary. Place conduit for lead-in conductors between the uppermost 2 layers of reinforcing steel.

Do not install detectors in existing bridge decks unless authorized.

Install a detector in existing pavement before placement of concrete or HMA as follows:

1. Saw cut slots at least 1-1/4 inches wide into the existing pavement.
2. Place the detector in the slots. The top of the conduit must be at least 2 inches below the top of the pavement.
3. Test each loop circuit for continuity, circuit resistance, and insulation resistance.
4. Fill saw cuts with elastomeric or hot melt rubberized asphalt sealant for asphalt concrete pavement and with epoxy sealant or hot melt rubberized asphalt sealant for concrete pavement.

87-1.03W Sealants

87-1.03W(1) General

Reserved

87-1.03W(2) Elastomeric Sealant

Apply an elastomeric sealant with a pressure feed applicator.

87-1.03W(3) Asphaltic Emulsion Sealant

Asphaltic emulsion sealant must:

1. Be used for filling slots in asphalt concrete pavement of a maximum width of 5/8 inch
2. Not be used on concrete pavement or where the slope causes the material to run from the slot
3. Be thinned under the manufacturer's instructions
4. Be placed when the air temperature is at least 45 degrees F

87-1.03W(4) Hot-Melt Rubberized Asphalt Sealant

Melt the sealant in a jacketed, double-boiler-type, melting unit. The temperature of the heat transfer medium must not exceed 475 degrees F.

Apply the sealant with a pressure feed applicator or a pour pot when the surface temperature of the pavement is greater than 40 degrees F.

87-1.03X Reserved

87-1.03Y Transformers

Installing a transformer includes placing the transformer inside a pull box, a cabinet, or an enclosure.

Wire the transformer for the appropriate voltage.

Ground the secondary circuit of the transformer as specified in the NEC.

87-1.03Z Reserved

87-1.04 PAYMENT

Not Used

87-2 LIGHTING SYSTEMS

87-2.01 GENERAL

87-2.01A Summary

Section 87-2 includes specifications for constructing lighting systems.

Lighting system includes:

1. Foundations
2. Pull boxes
3. Conduit
4. Conductors
5. Standards
6. Luminaires
7. Service equipment enclosure
8. Photoelectric control
9. Fuse splice connectors
10. High mast lighting assemblies

The components of a lighting system are shown on the project plans.

87-2.01B Definitions

Reserved

87-2.01C Submittals

Submit a certificate of compliance and test data for the high mast lighting luminaires.

87-2.01D Quality Assurance

Reserved

87-2.02 MATERIALS

87-2.02A General

Reserved

87-2.02B High Mast Lighting Assemblies

A high mast lighting assembly includes the foundation, pole, lowering device system, luminaires, and control pedestal.

Each luminaire in a high mast lighting assembly must include a housing, an optical system, and a ballast.

The housing must be made of aluminum.

A painted or powder-coated housing for a high mast lighting luminaire must be able to withstand a 1,000-hour salt spray test as specified in ASTM B117.

The optical system, consisting of the reflector, refractor or lens, lamp socket, and lamp, must be in a sealed chamber. The chamber must be sealed by a gasket between the reflector and refractor or lens and a gasket between the reflector and lamp socket. The chamber must have a separate filter or filtering gasket for flow of air.

An asymmetrical luminaire must have a refractor or reflector that is rotatable 360 degrees around a vertical axis to orient the distribution of light.

The luminaire must have a slip fitter for mounting on a 2-inch horizontal pipe tenon and must be adjustable ± 3 degrees from the axis of the tenon.

The reflector must have a specular surface made of silvered glass or aluminum protected by either an anodized finish or a silicate film. The reflector must be shaped such that a minimum of light is reflected through the arc tube of the lamp.

The refractor and lens must be made of heat-resistant glass.

The lamp socket must be a porcelain-enclosed, mogul-multiple type. The shell must contain integral lamp grips to ensure electrical contact under conditions of normal vibrations. The socket must be rated for 1,500 W, 600 V(ac) and 4,000 V(ac) pulse for a 400 W lamp and 5,000 V(ac) pulse for a 1,000 W lamp.

The luminaire must have a dual fuse holder for 2 fuses rated at 5 A, 480 V(ac). The fuses must be 13/32 inch by 1-1/2 inches, standard midget ferrule type with a nontime-delay feature.

The lamps must be vertical burning, protected from undue vibration, and prevented from backing out of the socket by a stainless steel clamp attached to the luminaire.

A 1,000 W metal halide lamp must have an initial output of 100,000 lumens and an average rated life of 12,000 hours based on 10 hours per start.

A 400 W high-pressure sodium lamp must have an initial output of 50,000 lumens. A 1,000 W high-pressure sodium lamp must have an initial output of 140,000 lumens.

The ballast for the luminaire must be a regulator type and have a core and coils, capacitors, and starting aid.

Ballast must be:

1. Mounted within a weatherproof housing that integrally attaches to the top of a luminaire support bracket and lamp support assembly
2. Readily removable without removing the luminaire from the bracket arm
3. Electrically connected to the optical assembly by a prewired quick disconnect

The ballast for a metal halide luminaire must comply with luminaire manufacturer's specifications.

The wattage regulation spread at any lamp voltage, from nominal through the life of the lamp, must vary no more than 22 percent for a 1,000 W lamp and a ± 10 percent input voltage variation. The ballast's starting line current must be less than its operating current.

87-2.02C Soffit and Wall-Mounted Luminaires**87-2.02C(1) General**

Soffit and wall-mounted luminaires must be weatherproof and corrosion resistant.

Each luminaire must include a 70 W high-pressure sodium lamp with a minimum average rated life of 24,000 hours. The lamp socket must be positioned such that the light center of the lamp is located within 1/2 inch of the designed light center of the luminaire.

Luminaire wiring must be SFF-2.

Flush-mounted soffit luminaire must have:

1. Metal body with two 1-inch-minimum conduit hubs and a means of anchoring the body into the concrete
2. Prismatic refractor made of heat-resistant polycarbonate:
 - 2.1. Mounted in a door frame
 - 2.2. With the street side identified
3. Aluminum reflector with a specular anodized finish
4. Ballast located either within the housing or in a ceiling pull box if shown
5. Lamp socket

The door frame assembly must be hinged, gasketed, and secured to the luminaire body with at least 3 machine screws.

A pendant soffit luminaire must be enclosed and gasketed and have an aluminum finish. Luminaire must have:

1. Aluminum reflector with a specular anodized finish
2. Refractor made of heat-resistant polycarbonate
3. Optical assembly that is hinged and latched for lamp access and a device to prevent dropping
4. Ballast designed for operation in a raintight enclosure
5. Galvanized metal box with a gasketed cover, 2 captive screws, and 2 chains to prevent dropping and for luminaire mounting

Wall-mounted luminaire must have:

1. Cast metal body
2. Prismatic refractor:
 - 2.1. Made of glass
 - 2.2. Mounted in a door frame
3. Aluminum reflector with a specular anodized finish
4. Integral ballast
5. Lamp socket
6. Gasket between the refractor and the body
7. At least 2 mounting bolts of minimum 5/16-inch diameter

A cast aluminum body of a luminaire to be cast into or mounted against concrete must have a thick coat of alkali-resistant bituminous paint on all surfaces to be in contact with the concrete.

87-2.02C(2) High-Pressure Sodium Lamp Ballasts

87-2.02C(2)(a) General

A high-pressure sodium lamp ballast must operate the lamp for its rated wattage.

Starting aids for a ballast must be interchangeable between ballasts of the same wattage and manufacturer without adjustment.

The ballast must be provided with a heat-generating component to serve as a heat sink. The capacitor must be placed at the maximum practicable distance from the heat-generating components or thermally shielded to limit the case temperature to 75 degrees C.

The transformer and inductor must be resin impregnated for protection against moisture. Capacitors, except for those in starting aids, must be metal cased and hermetically sealed.

The ballast must have a power factor of 90 percent or greater.

For the nominal input voltage and lamp voltage, the ballast design center must not vary more than 7.5 percent from the rated lamp wattage.

87-2.02C(2)(b) Regulator-Type Ballasts

A regulator-type ballast must be designed such that a capacitance variance of ± 6 percent does not cause more than ± 8 percent variation in the lamp wattage regulation.

The ballast must have a current crest factor not exceeding 1.8 for an input voltage variation of ± 10 percent.

The lamp wattage regulation spread for a lag-type ballast must not vary by more than 18 percent for ± 10 percent input voltage variations. The primary and secondary windings must be electrically isolated.

The lamp wattage regulation spread for a constant-wattage, autoregulator, lead-type ballast must not vary by more than 30 percent for ± 10 percent input voltage variations.

87-2.02C(2)(c) Nonregulator-Type Ballasts

A nonregulator-type ballast must have a current crest factor not exceeding 1.8 for an input voltage variation of ± 5 percent.

The lamp wattage regulation spread for an autotransformer or high reactance type ballast must not vary by more than 25 percent for ± 5 percent input voltage variations.

87-2.03 CONSTRUCTION

87-2.03A General

Set the foundations for standards such that the mast arm is perpendicular to the centerline of the roadway.

Tighten the cap screws of the luminaire's clamping bracket to 10 ft-lb for LED and low-pressure luminaires.

Label the month and year of the installation inside the luminaire housing's door.

Perform the conductor and operational tests for the system.

87-2.03B High Mast Lighting Assemblies

Mount and connect the luminaires to the accessory support ring. Aim the asymmetrical luminaire to orient the distribution of light.

87-2.03C Soffit and Wall-Mounted Luminaires

For a flush-mounted soffit luminaire:

1. Prevent concrete from getting into the housing during pouring of the concrete for the structure
2. Install the luminaire with the axis vertical and the street side of the refractor oriented as indicated
3. Locate the luminaire to provide a minimum 2-foot clearance from the inside surface of the girders and 1-foot clearance from the near face of the diaphragm
4. Install the bridge soffit and ceiling pull box over the same lane

For a pendant soffit luminaire:

1. Cast in place the inserts for the no. 8 pull box during concrete placement for a new structure
2. Drill holes for expansion anchors to support the no. 8 pull box on existing structures
3. Bond the suspension conduit and luminaire to the pull box

For a wall-mounted luminaire, provide:

1. Extension junction box or ring on a new structure
2. 4 external mounting taps on an existing structure

Place the soffits or wall-mounted luminaires in operation as soon as practicable after the falsework has been removed from the structure.

If the Engineer orders soffit or wall-mounted luminaires to be activated before permanent power service is available, installing and removing the temporary power service is change order work.

87-2.04 PAYMENT

Not Used

87-3 SIGN ILLUMINATION SYSTEMS

87-3.01 GENERAL

87-3.01A Summary

Section 87-3 includes specifications for constructing sign illumination systems.

Sign illumination system includes:

1. Foundations
2. Pull boxes
3. Conduit
4. Conductors
5. Sign lighting fixtures
6. Enclosure for the disconnect circuit breaker
7. Service equipment enclosure
8. Photoelectric control

The components of a sign illumination system are shown on the project plans.

87-3.01B Definitions

Reserved

87-3.01C Submittals

Submit the manufacturer's test data for the induction sign-lighting fixtures.

87-3.01D Quality Assurance

Reserved

87-3.02 MATERIALS

An induction sign-lighting fixture must include a housing with a door, reflector, refractor or lens, lamp, socket assembly, power coupler, high-frequency generator, fuse block, and fuses.

The fixture must comply with the isofootcandle curves as shown.

Fixture must weigh no more than 44 lb, be rated for 87 W at 120/240 V(ac), and have a mounting assembly made of one of the following materials:

1. Cast aluminum
2. Hot-dip galvanized steel plate
3. Galvanized steel plate finished with one of the following:
 - 3.1. Polymeric coating
 - 3.2. Same finish used for the housing

Housing must:

1. Be corrosion resistant and suitable for wet locations
2. Be above the top of the mounting rails at a maximum height of 12 inches
3. Have weep holes

Door must:

1. Hold a refractor or lens
2. Open without the use of special tools
3. Have a locking position at 50 degrees minimum from the plane of the door opening
4. Be hinged to the housing on the side of the fixture away from the sign panel
5. Have 2 captive latch bolts or other latching device

When the door is opened, it must lock in the 50 degrees position when an 85 mph, 3-second wind-gust load strikes the door from either side.

The housing and door must be manufactured of sheet or cast aluminum and have a gray powder coat or polyester paint finish. The sheet aluminum must comply with ASTM B209 or B209M for 5052-H32 aluminum sheet. External bolts, screws, hinges, hinge pins, and door closure devices must be corrosion resistant.

The housing and door must be gasketed. The thickness of the gasket must be a minimum of 1/4 inch.

Reflector must not be attached to the outside of the housing and must be:

1. Made of a single piece of aluminum with a specular finish
2. Protected with an electrochemically applied anodized finish or a chemically applied silicate film
3. Designed to drain condensation away from it
4. Secured to the housing with a minimum of 2 screws
5. Removable without removing any fixture parts

Refractor or lens must have a smooth exterior and must be manufactured from the materials shown in the following table:

Refractor and Lens Material Requirements

Component	Material
Flat lens	Heat-resistant glass
Convex lens	Heat-resistant, high-impact-resistant tempered glass
Refractor	Borosilicate heat-resistant glass

The refractor and convex lens must be designed or shielded such that no luminance is visible if the fixture is approached directly from the rear and viewed from below. If a shield is used, it must be an integral part of the door casting.

Lamp must:

1. Be an 85 W induction type with a fluorescent, phosphor-coated, interior wall
2. Have a minimum 70 percent light output of its original lumen output after 60,000 hours of operation
3. Have a minimum color-rendering index of 80
4. Be rated at a color temperature of 4,000K
5. Be removable with common hand tools

The lamp socket must be rated for 1,500 W and 600 V(ac) and be a porcelain-enclosed mogul type with a shell that contains integral lamp grips to ensure electrical contact under normal vibration conditions. The shell and center contact must be made of nickel-plated brass. The center contact must be spring loaded.

The power coupler must be removable with common hand tools.

High-frequency generator must:

1. Start and operate lamps at an ambient temperature of -25 degrees C or greater for the rated life of the lamp
2. Operate continuously at ambient air temperatures from -25 to 55 degrees C without a reduction in the generator life
3. Have a design life of at least 100,000 hours at 55 degrees C
4. Have an output frequency of 2.65 MHz \pm 10 percent
5. Have radio frequency interference that complies with 47 CFR 18 regulations regarding harmful interference
6. Have a power factor greater than 90 percent and total harmonic distortion less than 10 percent

The high frequency generator must be mounted such that the fixture can be used as a heat sink and be replaceable with common hand tools.

Each fixture must include a barrier-type fuse block for terminating field connections. Fuse block must:

1. Be rated 600 V(ac)
2. Have box terminals
3. Be secured to the housing and accessible without removal of any fixture parts
4. Be mounted to leave a minimum of 1/2 inch of air space from the sidewalls of the housing
5. Be designed for easy removal of fuses with a fuse puller

The fixture's fuses must be 13/32-inch-diameter, 1-1/2-inch-long ferrule type and UL listed or NRTL certified. For a 120 V(ac) fixture, only the ungrounded conductor must be fused and a solid connection must be provided between the grounded conductor and the high frequency generator.

The fixture must be permanently marked with the manufacturer's brand name, trademark, model number, serial number, and date of manufacture on the inside and outside on the housing. The same information must be marked on the package.

If a wire guard is used, it must be made of a minimum 1/4-inch-diameter galvanized steel wire. The wires must be spaced to prevent rocks larger than 1-1/2-inch diameter from passing through the guard. The guard must be either hot-dip galvanized or electroplated zinc-coated as specified in ASTM B633, service condition SC4, with a clear chromate dip treatment.

87-3.03 CONSTRUCTION

Perform the conductor and operational tests for the system.

87-3.04 PAYMENT

Not Used

87-4 SIGNAL AND LIGHTING SYSTEMS

87-4.01 GENERAL

87-4.01A Summary

Section 87-4 includes specifications for constructing signal and lighting systems.

Signal and lighting system includes:

1. Foundations
2. Pull boxes
3. Conduit
4. Conductors
5. Cables
6. Standards
7. Signal heads
8. Internally illuminated street name signs
9. Service equipment enclosure
10. Department-furnished controller assembly
11. Detectors
12. Telephone demarcation cabinet
13. Accessible pedestrian signals
14. Push button assemblies
15. Pedestrian signal heads
16. Luminaires
17. Photoelectric control
18. Fuse splice connectors
19. Battery backup system
20. Flashing beacons
21. Flashing beacon control assembly

The components of a signal and lighting system are shown on the project plans.

87-4.01B Definitions

Reserved

87-4.01C Submittals

Submit shop drawings showing the message for each internally illuminated street sign, including the size of letters, symbols, and arrows.

87-4.01D Quality Assurance**87-4.01D(1) General**

Reserved

87-4.01D(2) Quality Control**87-4.01D(2)(a) General**

Reserved

87-4.01D(2)(b) Battery Backup System

Notify the Engineer 48 hours before testing the battery backup system.

Test the system in the presence of the Engineer by turning off the power to the signal system at the service equipment enclosure. The signal system must run continuously for 30 minutes. If the battery backup system fails, correct the problem and retest the system for another 30 minutes. After successful completion of the test, turn the power on for the signal system.

87-4.02 MATERIALS**87-4.02A General**

Reserved

87-4.02B Battery Backup System

A battery backup system includes the cabinet, batteries, and the Department-furnished electronics assembly.

The electronics assembly includes the inverter/charger unit, power transfer relay, and the battery harness.

87-4.02C Internally Illuminated Street Name Signs

An internally illuminated street name sign includes housing, brackets, sign panels, gaskets, ballast, lampholder, terminal blocks, conductors, and fuses.

An internally illuminated street sign must be designed and constructed to prevent deformation or failure when subjected to an 85 mph, 3-second wind-gust load as specified in the AASHTO publication, "Standard Specifications for Structural Supports of Highway Signs, Luminaires and Traffic Signals."

Sign must:

1. Be Types A or B
2. Have galvanized or cadmium-plated ferrous parts
3. Have screened weep holes
4. Have fasteners, screws, and hardware made of passive stainless steel, Type 302 or 304, or aluminum Type 6060-T6
5. Operate at a temperature from -20 to 74 degrees C

Photoelectric unit sockets are not allowed.

The housing must be constructed to resist torsional twist and warp. The housing must be designed such that opening or removing the panels provides access to the interior of the sign for lamp, ballast, and fuse replacement.

The top and bottom of the sign must be manufactured from formed or extruded aluminum and attached to formed or cast aluminum end fittings. The top, bottom, and end fittings must form a sealed housing.

For a Type A sign, both sides of the sign must be hinged at the top to allow installation or removal of the sign panel.

For a Type B sign, the sign panel must be slide mounted into the housing.

The top of the housing must have 2 free-swinging mounting brackets. Each bracket must be vertically adjustable for leveling the sign to either a straight or curved mast arm. The bracket assembly must allow the lighting fixture to swing perpendicular to the sign panel.

The reflectors must be formed aluminum and have an acrylic, baked-white-enamel surface with a minimum reflectance of 0.85.

Sign panel must be translucent, high-impact-resistant, and made of one of the following plastic materials:

1. Glass-fiber-reinforced, acrylated resin
2. Polycarbonate resin
3. Cellulose acetate butyrate

The sign panel must be designed not to crack or shatter if a 1-inch-diameter steel ball weighing 2.4 ounces is dropped from a height of 8.5 feet above the sign panel to any point on the panel. For this test, the sign panel must be lying in a horizontal position and supported within its frame.

The sign panel's surface must be evenly illuminated. The brightness measurements for the letters must be a minimum of 150 foot-lamberts, average. The letter-to-background brightness ratio must be from 10:1 to 20:1. The background luminance must not vary by more than 40 percent from the average background brightness measurement. The luminance of letters, symbols, and arrows must not vary by more than 20 percent from their average brightness measurement.

The sign panel's white or green color must not fade or darken if exposed to an accelerated test of UV light equivalent to 2 years of outdoor exposure.

The sign panel's legend, symbols, arrows, and border on each face must be white on a green background. The background must comply with color no. 14109 of FED-STD-595.

The message must appear on both sides of the sign and be protected from UV radiation. The letters must be 8-inch upper case and 6-inch lower case, series E.

A Type A sign must have a closed-cell, sponge-neoprene gasket installed between the sign panel frame to prevent the entry of water. The gasket must be uniform and even textured.

The sign ballast must be a high-power-factor type for outdoor operation from 110 to 125 V(ac) and 60 Hz and must comply with ANSI C82.1 and C82.2.

The ballast for a Type A sign must be rated at 200 mA. The ballast for a Type B sign must be rated at 430 mA.

Sign lampholder must:

1. Be the spring-loaded type
2. Have silver-coated contacts and waterproofed entrance leads
3. Have a heat-resistant, circular cross section with a partially recessed neoprene ring

Removal of the lamp from the socket must de-energize the primary of the ballast.

The springs for the lampholders must not be a part of the current-carrying circuit.

The sign's wiring connections must terminate on a molded, phenolic, barrier-type, terminal block rated at 15 A, 1,000 V(ac). The connections must have a white, integral, waterproof marking strip. The terminal screws must not be smaller than a no. 10.

The terminal block must be insulated from the fixture to provide protection from the line-to-ground flashover voltage.

A sectionalized terminal block must have an integral barrier on each side and must allow rigid mounting and alignment.

Fixture's conductors must:

1. Be stranded copper wire with a minimum thermoplastic insulation of 28 mils

2. Be rated at 1,000 V(ac) and for use up to 90 degrees C
3. Be a minimum of no. 16
4. Match the color coding of the ballast leads
5. Be secured with spring cross straps, installed 12 inches apart or less in the chassis or fixture

Stranded copper conductors connected to screw-type terminals must terminate in crimp-type ring connectors.

No splicing is allowed within the fixture.

The sign's fuse must be the Type 3AG, miniature, slow-blow type.

The fuse holder must be a panel-mounting type with a threaded or bayonet knob that grips the fuse tightly for extraction. Each ballast must have a separate fuse.

87-4.03 CONSTRUCTION

87-4.03A General

Set the foundations for standards such that the mast arm is perpendicular to the centerline of the roadway.

Tighten the cap screws of the luminaire's clamping bracket to 10 ft-lb for LED and low-pressure luminaires.

Label the month and year of the installation inside the luminaire housing's door.

Perform the conductor and operational tests for the system.

87-4.03B Battery Backup System Cabinets

Install the battery backup system cabinet to the right of the Model 332L cabinet.

If installation on the right side is not feasible, obtain authorization for installation on the left side.

Provide access for power conductors between the cabinets using:

1. 2" nylon-insulated, steel chase nipple
2. 2" steel sealing locknut
3. 2" nylon-insulated, steel bushing

Remove the jumper between the terminals labeled *BBS-1* and *BBS-2* in the 5 position terminal block in the controller cabinet before connecting the Department-furnished electronics assembly.

87-4.03C Internally Illuminated Street Name Signs

Mount the internally illuminated street name sign to the signal mast arm using the adjustable brackets. Connect the conductors to the terminal blocks in the signal head mounting terminal block.

87-4.04 PAYMENT

Not Used

87-5 RAMP METERING SYSTEMS

87-5.01 GENERAL

Section 87-5 includes specifications for constructing ramp metering systems.

Ramp metering system includes:

1. Foundations
2. Pull boxes
3. Conduit
4. Conductors
5. Standards
6. Signal heads
7. Service equipment enclosure
8. Department-furnished controller assembly

9. Detectors
10. Telephone demarcation cabinet

The components of a ramp metering system are shown on the project plans.

87-5.02 MATERIALS

Not Used

87-5.03 CONSTRUCTION

Connect the field wiring to the terminal blocks in the controller cabinet. The Engineer provides you a list of field conductor terminations for each controller cabinet.

Perform the conductor and operational tests for the system.

87-5.04 PAYMENT

Not Used

87-6 TRAFFIC MONITORING STATION SYSTEMS

87-6.01 GENERAL

Section 87-6 includes specifications for constructing traffic monitoring station systems.

Traffic monitoring station system includes:

1. Foundations
2. Pull boxes
3. Conduit
4. Cables
5. Conductors
6. Service equipment enclosure
7. Controller cabinet
8. Detectors
9. Telephone demarcation cabinet

The components of a traffic monitoring station system are shown on the project plans.

87-6.02 MATERIALS

Not Used

87-6.03 CONSTRUCTION

Connect the field wiring to the terminal blocks in the controller cabinet. The Engineer provides you a list of field conductor terminations for the controller cabinet.

Perform the conductor and operational tests for the system.

87-6.04 PAYMENT

Not Used

87-7 FLASHING BEACON SYSTEMS

87-7.01 GENERAL

Section 87-7 includes specifications for constructing flashing beacon systems.

Flashing beacon system includes:

1. Foundations
2. Pull boxes
3. Conduit
4. Conductors
5. Standards
6. Service equipment enclosure
7. Signal heads
8. Flashing beacon control assembly

The components of a flashing beacon system are shown on the project plans.

The flash rate for the flashing beacon must comply with chapter 4L, "Flashing Beacons," of the *California MUTCD*.

The flashing beacon must allow alternating flashing wig-wag operation.

The flashing beacon must have a separate flasher unit installed in the flashing beacon control assembly.

87-7.02 MATERIALS

Flashing beacon control assembly must:

1. Have a NEMA 3R enclosure with a dead front panel and a hasp with a 7/16-inch hole for a padlock. The enclosure must have one of the following finishes:
 - 1.1. Powder coating.
 - 1.2. Hot-dip galvanized coating.
 - 1.3. Factory-applied, rust-resistant prime coat and finish coat.
2. Have barrier-type terminal blocks rated for 25 A, 600 V(ac), made of molded phenolic or nylon material and have plated-brass screw terminals and integral marking strips.
3. Include a solid state flasher complying with section 8 of NEMA standards publication no. TS 1 for 10 A, dual circuits.

87-7.03 CONSTRUCTION

Perform the conductor and operational tests for the system.

87-7.04 PAYMENT

Not Used

87-8–87-11 RESERVED

87-12 CHANGEABLE MESSAGE SIGN SYSTEMS

87-12.01 GENERAL

Section 87-12 includes specifications for constructing changeable message sign systems.

Changeable message sign system includes:

1. Foundations
2. Pull boxes
3. Conduit
4. Conductors
5. Service equipment enclosure
6. Department-furnished controller cabinet
7. Department-furnished changeable message sign
8. Department-furnished wiring harness
9. Service equipment enclosure
10. Sign disconnect

The components of a changeable message sign system are shown on the project plans.

87-12.02 MATERIALS

Not Used

87-12.03 CONSTRUCTION

Install the changeable message sign.

Connect the field wiring to the terminal blocks in the sign assembly and controller cabinet.

The Engineer provides you a list of field conductor terminations for each sign cabinet and controller cabinet.

The Department maintains the sign assemblies.

87-12.04 PAYMENT

Not Used

87-13–87-17 RESERVED**87-18 INTERCONNECTION CONDUIT AND CABLE****87-18.01 GENERAL**

Section 87-18 includes specifications for constructing interconnection conduit and cable.

Interconnection conduit and cable includes:

1. Pull boxes
2. Conduit
3. Signal interconnect cables

The components of an interconnection conduit and cable are shown.

87-18.02 MATERIALS

Not Used

87-18.03 CONSTRUCTION

Test the signal interconnect cable.

Connect the signal interconnect cable to the terminal block in the controller cabinets. The Engineer provides you a list of terminations for each controller cabinet.

87-18.04 PAYMENT

Not Used

87-19 RESERVED**87-20 TEMPORARY ELECTRICAL SYSTEMS****87-20.01 GENERAL**

Section 87-20 includes specifications for providing temporary electrical systems.

Obtain the Department's authorization for the type of temporary electrical system and its installation method.

A temporary system must operate on a continuous, 24-hour basis.

87-20.02 MATERIALS**87-20.02A General**

Material and equipment may be new or used.

The components of a temporary system are shown on the project plans.

If you use Type UF-B cable, the minimum conductor size must be no. 12.

87-20.02B Temporary Flashing Beacon Systems

A temporary flashing beacon system consists of a flashing beacon system, wood post, generator, and photovoltaic system.

The system must comply with the specifications for a flashing beacon system in section 87-7, except it may be mounted on a wood post or a trailer.

87-20.02C Temporary Lighting Systems

A temporary lighting system consists of a lighting system, generator, and wood poles.

The system must comply with the specifications for a lighting system in section 87-2, except it may be mounted on a wood pole or a trailer.

87-20.02D Temporary Signal Systems

A temporary signal system consists of a signal and lighting system, wood poles and posts, and a generator.

System must comply with the specifications for a signal and lighting system in section 87-4, except:

1. Signal heads may be mounted on a wood pole, mast arm, tether wire, or a trailer
2. Flashing beacons may be mounted on a wood post, or a trailer

87-20.03 CONSTRUCTION**87-20.03A General**

Provide electrical and telecommunication services for temporary systems. Do not use existing services unless authorized.

Provide power for the temporary electrical systems under section 12-3.33, except you may use a photovoltaic system for the temporary flashing beacon system.

Install conductors and cables in a conduit, suspended from wood poles at least 25 feet above the roadway, or use direct burial conductors and cables.

You may saw slots across paved areas for burial conductors and cables.

Install conduit outside the paved area at a minimum of 12 inches below grade for Type 1 and 2 conduit and at a minimum of 18 inches below grade for Type 3 conduit.

Install direct burial conductors and cables outside the paved area at a minimum depth of 24 inches below grade.

Place the portions of the conductors installed on the face of wood poles in either Type 1, 2, or 3 conduit between the point 10 feet above grade at the pole and the pull box. The conduit between the pole and the pull box must be buried at a depth of at least 18 inches below grade.

Place conductors across structures in a Type 1, 2, or 3 conduit. Attach the conduit to the outside face of the railing.

Mount the photoelectric unit at the top of the standard or wood post.

You may abandon in place conductors and cables in sawed slots or in conduit installed below the ground surface.

87-20.03B Temporary Flashing Beacon Systems

Install a fused-splice connector in the pull box adjacent to each flashing beacon. Wherever conductors are run overhead, install the splice connector in the line side outside of the control assembly.

87-20.03C Temporary Lighting Systems

Wherever conductors are run overhead, install the fuse splice connectors in the line side before entering the mast arm.

87-20.03D Temporary Signal Systems

You may splice conductors that run to a terminal compartment or a signal head on a pole to the through conductors of the same phase in a pull box adjacent to the pole. Do not splice conductors or cables except in a pull box or in a NEMA 3R enclosure.

The Department provides the timing for the temporary signal.

Maintain the temporary signal except for the Department-furnished controller assembly.

87-20.04 PAYMENT

Not Used

87-21 EXISTING ELECTRICAL SYSTEMS

87-21.01 GENERAL

Section 87-21 includes general specifications for performing work on existing electrical systems.

87-21.02 MATERIALS

Not Used

87-21.03 CONSTRUCTION

87-21.03A General

You may abandon unused underground conduit after pulling out all conductors and removing conduit terminations from the pull boxes.

If standards are to be salvaged, remove:

1. All components
2. Mast arms from the standards
3. Luminaires, signal heads, and signal mounting assemblies from the standards and mast arms

If the existing material is unsatisfactory for reuse and the Engineer orders you to replace it with new material, replacing the existing material with new material is change order work.

If the removed electrical equipment is to be reinstalled, supply all materials and equipment, including signal mounting assemblies, anchor bolts, nuts, washers, and concrete, needed to complete the new installation.

87-21.03B Maintaining Existing Electrical Systems

87-21.03B(1) General

Maintain the existing electrical system in working order during the progress of the work. Conduct your operations to avoid damage to the elements of the systems.

87-21.03B(2) Maintaining Existing Traffic Management System Elements During Construction

Section 87-21.02B(2) applies if a bid item for maintaining existing traffic management system elements during construction is shown on the Bid Item List.

Traffic management system elements include:

1. Ramp metering system
2. Traffic monitoring stations
3. Microwave vehicle detection system
4. Changeable message sign system
5. Extinguishable message sign system
6. Highway advisory radio system
7. Closed circuit television camera system
8. Roadway weather information system

Obtain authorization at least 72 hours before interrupting communication between an existing system and the traffic management center.

If the Engineer notifies you that an existing system is not fully operational due to your activities, repair or replace the system within 72 hours. If the system cannot be fixed within 72 hours or it is located on a structure, provide a temporary system within 24 hours until the system can be fixed. Perform a functional test of the system in the presence of the Engineer. If you fail to perform the necessary repair or replacement work, the Department may perform the repair or replacement work and deduct the cost.

If you damage an existing fiber optic cable, install a new cable such that the length of cable slack is the same as before the damage, measured from an original splice point or termination. All splices must be made using the fusion method.

You may interrupt the operation of traffic monitoring stations:

1. For 60 days if another operational traffic monitoring station is located within 3 miles

For volumetric proportioning of RPC:

1. The volumetric container must be imprinted with manufacturer's name, model number, serial number, the as-calibrated volume and date of the last calibration. Cross sectional dimensions of the container must remain the same as those during its calibration.
2. The device must be re-calibrated monthly and at any time when the container shape has been deformed from its original condition or there is evidence of material build-up on the inside of the device.
3. The device must be held in a level condition during filling. Fill the device to the measure or strike-off line. Each measurement must be filled to within 1.0% of the device as-calibrated volume.
4. The device interior must be cleaned after each measurement to maintain a zero condition.

For weight proportioning, proportion RPC with a weigh hopper attached to the plant at a position which allows the addition of the RPC to the mixer truck with the conventional PCC ingredients. The plant process controller must control the proportioning of RPC to within 1.0% of its target weight.

90-9.02 MATERIALS

90-9.02A General

The quantity of RPC added to the concrete must not exceed 15 percent.

The cementitious material content of the RPC must be at least that specified for the concrete that allows the use of RPC.

Water must not be added to the RPC after batching, including in the truck mixer.

Use HSA for controlling and reducing the hydration rate of RPC.

Incorporate RPC by mixing into the concrete before arriving at the jobsite.

90-9.02B Returned Plastic Concrete

The RPC must not exceed 100 degrees F at any time.

If HSA is not used, RPC must be incorporated into the concrete before attaining initial set or within 4 hours after batching of RPC, whichever is earlier.

If HSA is used:

1. Add HSA to RPC within 4 hours after original batching.
2. Measure and record the time, dosage of HSA, and temperature of RPC when HSA is added.
3. Mix the RPC under the HSA manufacturer's instructions after adding HSA or at least 30 revolutions, whichever is greater.
4. Incorporate RPC into the concrete within 4 hours after adding HSA.

RPC must not contain:

1. Accelerating admixture
2. Fiber
3. Pigment
4. Lightweight aggregate
5. Previously returned RPC
6. Any ingredient incompatible with the resultant concrete

90-9.02C Hydration Stabilizing Admixture

HSA must comply with ASTM C494 admixture Type B or Type D.

HSA must have a proven history of specifically maintaining and extending both plasticity and set.

HSA dosage must comply with the manufacturer's instructions.

90-9.02D Production

Proportion concrete containing RPC under section 90-2.02E.

ATTACHMENT B

ENVIRONMENTAL PERMITS AND REPORTS

- **Environmental Commitment Record (ECR) (Dated December 2016)**
- **Section 404 of the Clean Water Act - Request for Agency Comments on Application for Letter of Permission, U.S. Army Corps of Engineers (Dated June 2017)**
- **Section 401 of the Clean Water Act - Water Quality Certification No. R9-2017-0057, San Diego Regional Water Quality Control Board (Dated April 2017)**
- **Streambed Alteration Agreement, Draft Streambed Alteration Agreement No. 1600-2017-0055-R5, California Department of Fish and Wildlife (Dated June 2017)**
- **Informal Section 7 Consultation - Informal Section 7 Consultation, United States Department of the Interior, Fish and Wildlife Service (Dated September 2016)**
- **Environmental Sensitive Area Action Plan (Dated June 2016)**

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
DESIGN KICK-OFF	Proj Mgmt & Proj Dev	Beginning of 1 phase							
ENVIRONMENTAL PS&E REVIEW	Proj Mgmt & Environmental	District PS&E Circ							
PRECONSTRUCTION MEETING	Proj Mgmt	Contract Award							
Transfer Resident Engineer Book	Proj Eng	Preconst Meeting							
PREJOB MEETING	Proj Mgmt & Const	Const							
ENVIRONMENTAL COMPLIANCE REVIEW	Proj Mgmt & Const	Safety Review							
DESIGN FEATURES MEMORANDUM	Proj Mgmt & Const	Post Const							
Biological Resources									
BIO-1 In order to minimize project impacts to natural communities, highly visible barriers (such as orange construction fencing) will be installed around the project disturbance limits to designate Environmentally Sensitive Areas (ESAs) to be avoided and preserved. No grading or fill activity of any type will be permitted in these ESAs. In addition, heavy equipment, including motor vehicles, will not be allowed to operate in the ESAs. All construction equipment will be operated in such a manner as to prevent accidental damage to nearby ESAs. No structure of any kind, or incidental storage of equipment or supplies, will be allowed in these protected zones. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where vegetation is immediately adjacent to planned grading activities.	City Resident Engineer Designated Contractor	Prior to and During Construction							
BIO-2 A biologist will monitor all vegetation clearing and any other construction activities associated with falsework installation and removal.	City's Designated Biologist	During and Post Construction							
BIO-3 To the extent feasible, native vegetation will be trimmed at the surface leaving roots intact. Following completion of project activities, all areas that supported natural communities will be recontoured to pre-project conditions and revegetated with native plant species found in the existing community.	City Resident Engineer Designated Contractor	Prior to and During Construction							
BIO-4 A qualified biologist will identify and ensure that the limits of alluvial scrub are fenced prior to the beginning of ground disturbing activities to protect it from disturbance.	City Resident Engineer Designated Contractor	Final Design and Prior to Construction							
BIO-5 All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities will occur in developed or designated non-sensitive upland habitat areas. The designated upland areas will be located so as to prevent runoff from any spills from entering waters of the United States.	City Resident Engineer Designated Contractor	During Construction							
BIO-6 A construction Storm Water Pollution Prevention Plan (SWPPP) and soil erosion and sedimentation plan will be developed to minimize erosion and identify specific pollution prevention measures that will eliminate or control potential point and nonpoint pollution sources on site during construction and operation. The SWPPP will identify specific Best Management Practices (BMPs) to be implemented during construction so as not to cause or contribute to an exceedance of any water quality standard. In addition, the SWPPP will contain provisions	City Resident Engineer Designated Contractor	Final Design, Prior to and during construction							

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
for changes to the plan, such as alternative mechanisms, if necessary, during project design and/or construction to achieve the stated goals and performance standards.									
BIO-7 Weed control will be implemented to minimize the importation of nonnative plant material during and after construction. Eradication strategies will be implemented should an invasion of nonnative plant species occur.	City Resident Engineer Designated Contractor	During and Post Construction							
BIO-8 While the removal of mature trees is not anticipated, if any trees larger than 6" diameter at breast height (dbh) within riparian/riverine areas are removed or damaged due to project activities, replacement trees will be planted in-kind within the temporarily disturbed areas at a ratio of 5:1 one-gallon trees or 3:1 five-gallon trees.	City Resident Engineer Designated Contractor	During and Post Construction							
BIO-9 Should construction be initiated during ARTO breeding season (March 15- July 1) clearance surveys will be conducted immediately prior to ground disturbance.	City Resident Engineer Designated Biologist	Final Design and Prior to Construction							
BIO-10 Should construction be initiated during CAGN breeding season (February 15- August 31) three pre-construction nesting surveys will be conducted within 7 days of construction. Should breeding CAGN be identified within 500 feet of the project, noise abatement measures will be implemented as needed to maintain noise levels of less than 60 dBA Leq at the nest location.	City Resident Engineer Designated Biologist	Prior to Construction							
BIO-11 Should construction be initiated during LBVI breeding season (March 15-September 15) three pre-construction nesting surveys will be conducted within 7 days of construction. Should breeding LBVI be identified within 500 feet of the project, noise abatement measures will be implemented as needed to maintain noise levels of less than 60 dBA Leq at the nest location.	City Resident Engineer Designated Biologist	Prior to Construction							
BIO-12 Should construction be initiated during SWFL breeding season (May 15- September 15) three pre-construction nesting surveys will be conducted within 7 days of construction. Should breeding SWFL be identified within 500 feet of the project, noise abatement measures will be implemented as needed to maintain noise levels of less than 60 dBA Leq at the nest location.	City Resident Engineer Designated Biologist	Prior to Construction							
BIO-13 Should construction be initiated during SWFL breeding season (May 15- September 15) three pre-construction nesting surveys will be conducted within 7 days of construction. Should breeding SWFL be identified within 500 feet of the project, noise abatement measures will be implemented as needed to maintain noise levels of less than 60 dBA Leq at the nest location.	City Resident Engineer Designated Biologist	Prior to Construction							
BIO-14 Any trenches shall be covered at night to prevent animals from falling into and being trapped in trenches.	City Resident Engineer Designated Contractor	During Construction							

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
BIO-15 To avoid direct mortality to bats roosting in portions of the SMP Bridge subject to project impacts, prior to the start of construction activities, the hinge will have temporary bat exclusion devices installed under the supervision of a qualified bat biologist. Exclusion will be conducted during the fall (September or October) to avoid trapping flightless young inside during the summer months or hibernating individuals during the winter. Exclusion efforts will be monitored and continued for the duration of project activities.	City Resident Engineer Designated Biologist	Prior to Construction							
BIO-16 An alternative roosting structure(s) shall be constructed and installed prior to installation of exclusion devices.	City Resident Engineer Designated Biologist	Prior to Construction							
BIO-17 All work conducted on bridges will take place during the day to the extent feasible. If this is not feasible, impacts will be minimized by directing lighting and noise away from night roosting areas as much as possible.	City Resident Engineer Designated Contractor	During Construction							
BIO-18 Riparian vegetation adjacent to bat roosting sites will be kept intact to the extent feasible. Removal of mature trees, if necessary, will be conducted outside of the maternity season (May 1 through August 31).	City Resident Engineer Designated Contractor	Prior to and During Construction							
BIO-19 All construction site BMPs from the Storm Water Pollution Prevention Plan (SWPPP) will be followed.	City Resident Engineer Designated Contractor	During Construction							
BIO-20 After construction, affected areas adjacent to native vegetation will be revegetated with plant species approved by the Caltrans District Biologist that are native to the vicinity.	City Resident Engineer Designated Contractor	Post Construction							
BIO-21 After construction, all revegetated areas will avoid the use of species listed in the Cal-IPC California Invasive Plant Inventory that have a high or moderate rating.	City Resident Engineer Designated Contractor	Post Construction							
BIO-22 A plant establishment period will be developed for revegetated areas during final design. A plant establishment period is a duration of time that allows newly installed plant material to reach a state of maturity, requiring minimal ongoing maintenance for survival. A plant establishment period typically includes the removal of litter and trash, weeding, water application, irrigation repair, replacement of plant material that dies, and other activities required to ensure the long-term survival of plant material.	City Resident Engineer	Final Design							
BIO-23 Any native or exotic vegetation removal or tree trimming activities will occur outside of the nesting season (February 15–August 31). In the event that vegetation clearing is necessary during the nesting season, a qualified biologist will conduct a preconstruction survey to identify the locations of nests. Should nesting birds be found, an exclusionary buffer will be established by the biologist. This buffer will be clearly marked in the field by construction personnel under the guidance of the biologist, and construction or clearing will not be conducted in this zone until the biologist determines that the young have fledged or the nest is no longer active.	City Resident Engineer Designated Contractor	Prior to Construction							

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
BIO-24 In order to avoid impacts to bridge- and crevice-nesting birds (i.e., swifts and swallows), all work on existing bridges with potential habitat that is conducted between February 15 and October 31 will include the removal of all bird nests prior to February 1 of that year to construction under the guidance and observation of a qualified biologist. Removal of swallow nests that are under construction will be repeated as frequently as necessary to prevent nest completion or until a nest exclusion device is installed (such as netting or a similar mechanism that keeps birds from building nests). Nest removal and exclusion device installation will be monitored by a qualified biologist. Such exclusion efforts must be continued to keep the structures free of swallows until September or the completion of construction. All nest exclusion techniques will be coordinated between the Caltrans District Biologist and the resource agencies.	City Resident Engineer Designated Biologist	Prior to Construction							
Water Quality									
WQ-1 Storm Drain Inlet Protection. During construction, the City of Rancho Santa Margarita will comply with Storm Drain Inlet Protection Best Management Practice (BMP) SE-10 that will require a sediment filter or an impounding area in, around or upstream of the catch basin at Santa Margarita Parkway and Alicia Parkway intersection. Storm drain inlet protection measures temporarily pond runoff prior to entering the storm drain, allowing sediment to settle.	City Resident Engineer Designated Contractor	During Construction							
WQ-2 Stabilized Construction Entrance/Exit. During construction, the City of Rancho Santa Margarita will comply with Stabilized Construction Entrance/Exit Best Management Practice (BMP) TC-1, which requires a point of entrance/exit to a construction site that is stabilized to reduce the tracking of mud and dirt onto public roads by construction vehicles. This BMP will be installed where the dirt access road intersects Santa Margarita Parkway.	City Resident Engineer Designated Contractor	During Construction							
WQ-3 Clear Water Diversion. During construction, the City of Rancho Santa Margarita will comply with the Clear Water Diversion Best Management Practice (BMP) NS-5 to reduce sediment pollution from construction activities occurring adjacent to waterways. BMP NS-5 requires that a system of structures and measures be installed to intercept clear surface water runoff upstream of a project, transport it around the work area, and discharge it downstream with minimal water quality degradation from either the project construction operations or the construction of the diversion.	City Resident Engineer Designated Contractor	During Construction							
WQ-4 Material Over Water. During to construction, the City of Rancho Santa Margarita will comply with the Material over Water Best Management Practice (BMP) NS-14. This BMP outlines procedures for the proper use, storage, and disposal of materials and equipment on bridges, temporary construction pads, or similar locations that minimize or eliminate the discharge of potential pollutants to a watercourse.	City Resident Engineer Designated Contractor	During Construction							

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
WQ-5 Spill Prevention and Control. During construction, the City of Rancho Santa Margarita will comply with the Spill Prevention and Control Best Management Practice (BMP) WM-4. This BMP will prevent or reduce the discharge of pollutants to drainage systems or watercourses from leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spill materials, and training employees.	City Resident Engineer Designated Contractor	During Construction							
WQ-6 Wind Erosion Control. Prior to construction, the City of Rancho Santa Margarita will comply with the Wind Erosion Control Best Management Practice (BMP) WE-1 to minimize wind erosion or dust. This BMP will require the application of water or other chemical dust suppressants as necessary to prevent or alleviate dust nuisance generated by construction activities and will include covering of small stockpiles or areas as an alternative to applying water or other dust palliatives.	City Resident Engineer Designated Contractor	Prior to Construction							
Hazardous Materials									
HAZ-1 The bridge structure should be evaluated for suspected ACM. A visual inspection and review of the as-built plans for ACM with the existing bridge structure should be performed prior to construction. The asbestos survey shall be conducted in conformance with the US EPA's National Emissions Standards for Hazardous Air Pollutants (NESHAPS) 40 Code of Federal Regulations (CFR).	City Resident Engineer	Prior to Construction							
HAZ-2 Prior to any structure renovations or demolition, the contractor shall comply with South Coast Air Quality Management District's (AQMD) Rule 1403(d)(1)(B). (AQMD, 2007) and provide at least a 10-day notification prior to asbestos testing or removal.	City Resident Engineer Designated Contractor	Prior to Construction							
HAZ-3 Unpaved soils adjacent to the existing roadway should be tested for ADL according to Caltrans ADL testing guidelines. The ADL study should include Title 22 testing of surface soils to evaluate the potential presence of other metals that may have been transported by storm water run-off. If ADL concentrations are detected in existing soils, such soils will be handled in accordance with Caltrans SSP 14-11.03.	City Resident Engineer Designated Contractor	Prior to Construction							
HAZ-4 Yellow thermoplastic striping materials should be handled in accordance with Caltrans SSP 14-11.07.	City Resident Engineer Designated Contractor	During and Post Construction							
HAZ-5 The Underground Service Alert (USA) must be notified at least 2 days prior to excavation by calling 811 to require that all utility owners with the project disturbance limits identify the locations of underground transmission lines and facilities.	City Resident Engineer Designated Contractor	Prior to Construction							
HAZ-6 If hazardous materials contamination or sources are suspected or identified during project construction activities, an environmental professional will evaluate the course of action required. This course of action will follow the unknown hazards procedures described in Chapter 7 of the Caltrans Construction Manual (Caltrans, 2014a). This procedure is presented in a figure attached in Appendix I.	City Resident Engineer Designated Contractor	During Construction							

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
Paleontology									
<p>PAL-1 Through the establishment of an ESA, in accordance with Section 106 Programmatic Agreement Stipulation VIII.C.3, there is a finding of "No Adverse Effect with Standard Conditions - ESA" for the Project.</p> <p>It is Caltrans' policy to avoid cultural resources whenever possible. Further investigations may be needed if the sites in the area cannot be avoided by the project. In the unlikely event that paleontological resources are discovered during ground-disturbing activities, the construction contractor will redirect work in the immediate area of the discovery until the find can be evaluated by a qualified paleontologist, and if necessary, collected from the field. If the find is determined to be significant and there is a potential to encounter sediments similar to those from which the fossil was recovered, the paleontologist will prepare a Paleontological Mitigation Plan (PMP) to guide paleontological mitigation for the remainder of the project.</p>	<p>City Resident Engineer Designated Contractor</p>	<p>During Construction</p>							
Cultural Resources (Historic)									
<p>CR-1 Caltrans archaeologist will ensure that Environmental Sensitive Areas (ESAs) are clearly described and illustrated in the Plans, Specifications, and Estimates (PS&E) package/ or equivalent documentation.</p>	<p>Caltrans Archaeologist Caltrans Project Manager City Resident Engineer Designated Contractor</p>	<p>Prior to Construction</p>							
<p>CR-2 All responsible parties, including the Caltrans Archaeologist, will review the PS&E package/ or equivalent documentation.</p>	<p>Caltrans Archaeologist Caltrans Project Manager City Resident Engineer Designated Contractor</p>	<p>Prior to Construction</p>							
<p>CR-3 Caltrans Archaeologist will ensure the ESA Action Plan is included in the Environmental Commitment Record (ECR) and the RE Pending File/ or equivalent documentation.</p>	<p>Environmental Branch Chief Caltrans Archaeologist Caltrans Project Manager City Resident Engineer Designated Contractor</p>	<p>Prior to Construction</p>							
<p>CR-4 ESAs will be discussed during the preconstruction meeting. The importance of ESAs will be discussed with construction personnel and it will be stressed that no construction activity (including storing or staging of equipment or materials) should occur within the ESAs and that workers must remain outside of the ESA at all times. Additionally, construction personnel will be informed of historic preservation laws that protect archaeological sites against any disturbance or removal of artifacts.</p>	<p>Caltrans Archaeologist Environmental Construction Liaison Caltrans Project Manager City Resident Engineer Designated Contractor</p>	<p>Prior to Construction</p>							
<p>CR-5 Designated Contractor or the City Resident Engineer will notify Caltrans Archaeologist and Environmental Branch Chief at least three weeks in advance of construction to ensure that a Caltrans archaeologist will be available to allow for field review of ESA locations.</p>	<p>Caltrans Archaeologist Environmental Construction Liaison Caltrans Project Manager City Resident Engineer Designated Contractor</p>	<p>During Construction</p>							

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
CR-6 District 12 Department of Transportation will require construction personnel to notify the Designated Contractor or the City Resident Engineer if the ESA is violated. Caltrans Archaeologist will notify the State Historic Preservation Officer within 48 hours of any ESA breach and consult immediately to determine how the breach will be addressed.	Caltrans Archaeologist Designated Contractor City Resident Engineer	During Construction							
CR-7 The City Resident Engineer, and or Caltrans Environmental Consultant Liaison will inform the Caltrans Archaeologist when construction is finished.	Caltrans Archaeologist	Post Construction							
Land Use									
LU-1 The City shall ensure that the vegetated areas temporarily disturbed within O'Neill Regional Park as part of the proposed project will be restored to the existing condition or better. Impacts to streambank stabilization and tributary flow shall be minimized through the construction of temporary beam spans and a pipe culvert. Additionally construction equipment will cross active channels at grade avoiding potential impacts to the existing channel.	City Resident Engineer Designated Contractor	Design and Construction							
LU-2 The City shall ensure that the vegetated areas temporarily disturbed within O'Neill Regional Park as part of the proposed project will be restored to the existing condition or better. Impacts to streambank stabilization and tributary flow shall be minimized through the construction of temporary beam spans and a pipe culvert. Additionally construction equipment will cross active channels at grade avoiding potential impacts to the existing channel.	City Resident Engineer and Designated Contractor	During Construction							
Noise									
N-1 Construction noise is regulated by Caltrans' Standard Specifications in Section 14-8.02, "Noise Control." The noise levels from the Contractor's operations, between the hours of 9:00 p.m. and 6:00 a.m., shall not exceed 86 dBA at a distance of 50 ft. In addition, the Contractor shall equip all internal combustion engines with the manufacturer-recommended muffler and shall not operate any internal combustion engine on the job site without the appropriate muffler.	City Resident Engineer Designated Contractor	During Construction							
Traffic									
T-1 The Traffic Management Plan (TMP) will address temporary impacts during construction. The goals and objectives of the TMP are to: minimize traffic delay or time spent in queue, maintain traffic flow throughout the corridor and the surrounding areas, and provide a safe environment for the work force and motoring public. The TMP will remain active throughout construction of the project and must be updated if substantial change to the project scope occurs affecting the function or adequacy of the TMP. Elements of the TMP are identified below: Public Awareness Campaign. Pamphlets and flyers containing construction information and traffic management	City Resident Engineer Designated Contractor	Prior to and During Construction							

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
<p>activities may be distributed by direct mail or handouts. The local commuters, employers, businesses, planners of special events, and community groups should be targeted for this information. These notices are sent to address their special circumstances, and to present alternative route maps, construction status, and information about the available TMP program. Fact sheets and construction bulletins may be created and available to hand out and/or mail or fax to the public along with the media project scope information, map of the project, and lane closure information may also be available. Information to the public of upcoming stages, project information, and construction events will be made through regularly issued press releases. The media will be used to disseminate project information to the motoring public such as information about the project prior to construction; project construction status and TMP program elements during construction. Project bulletins will be periodically given to the media. This can be done through radio and TV news broadcasts or newspaper columns. An emergency hot line will be available to the public with up to date information about the detours. Such information will include detour directions.</p> <p>Motorist Information Strategies. Portable Changeable Message Signs (PCMS) are truck or trailer mounted and may be controlled locally or remotely. These signs will be utilized to provide motorists real time information about expected delays and possible detours. PCMS will be part of the TMP for traffic control purposes. Roadway guide signs will augment changeable message signs by guiding motorists through various alternate routes. An adequate signing scheme will be developed by the Design Engineer for this project to warn motorists to slow down, and guide motorists through lane changes. The Contractor and the RE will responsible to ascertain that adequate signing shall be installed to guide motorists.</p> <p>Incident Management. During construction, incidents and/or vehicular breakdowns can compound an already congested roadway. In order to minimize the impacts of these events, this TMP has incorporated an incident management element. This element aims to reduce the effects of incidents or vehicular breakdowns on the flow of traffic. The close proximity of City Hall to the project site will be helpful in providing effective response with respect to emergency services and/or towing.</p> <p>Contractor Contingency Plans. The contractor will provide a Contingency Plan to the Resident Engineer. This plan should be submitted by the contractor and reviewed by the engineer. These plans shall identify key operational points with a timeline listing the expected completion time of each critical path</p>									

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
activity. Clearly defined trigger points shall be identified with each critical path activity to establish when the contingency plan will be activated. The plan should also include identification of back-up equipment and material that should be on site for any item of work in which a failure may cause a delay in construction.									
Air Quality									
<p>AQ-1 The following standard measures will be implemented to minimize potential air quality impacts during construction:</p> <ul style="list-style-type: none"> • The construction contractor must comply with the Department's Standard Specifications in Section 10-5, Dust Control (2015). <ul style="list-style-type: none"> ○ Section 10-5 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances. ○ Section 10-5 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are described in Section 18. ○ Section 10-5 specifically requires compliance of requirements by the contractor as directed under Section 13-5 for temporary soil stabilization. ○ Section 10-5 specifically requires compliance of requirements by the contractor as directed under Section 13-4.03C(3). • Water or dust palliative will be applied to the site and equipment as often as necessary to control fugitive dust emissions. Fugitive emissions generally must meet a "no visible dust" criterion either at the point of emissions or at the right-of-way line, depending on local regulations. • Soil binder will be spread on any unpaved roads used for construction purposes, and on all project construction parking areas. • Trucks will be washed as they leave the right-of-way as necessary to control fugitive dust emissions. • Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low sulfur fuel as required by CA Code of Regulations Title 17, Section 93114. • A dust control plan will be developed documenting sprinkling, temporary paving, speed limits, and timely revegetation of disturbed slopes as needed to minimize construction impacts to existing communities. • Equipment and materials storage sites will be located as far away from residential and park uses as practicable. Construction areas will be kept clean and orderly. • ESA (Environmentally Sensitive Area)-like areas or their 	<p>City Resident Engineer Designated Contractor</p>	<p>During Construction</p>							

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
equivalent will be established near sensitive air receptors. Within these areas construction activities involving the extended idling of diesel equipment or vehicles will be prohibited, to the extent feasible. <ul style="list-style-type: none"> Track-out reduction measures, such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic, will be used. All transported loads of soils and wet materials will be covered before transport, or adequate freeboard (space from the top of the material to the top of the truck) will be provided to minimize emission of dust (particulate matter) during transportation. Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be promptly and regularly removed to decrease particulate matter. To the extent feasible, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times. Mulch will be installed or vegetation planted as soon as practical after grading to reduce windblown particulate in the area. Be aware that certain methods of mulch placement, such as straw blowing, may themselves cause dust and visible emission issues, and may need to use controls such as dampened straw. 									
AQ-2 In addition to the Caltrans Standard Specifications, the SCAQMD has established Rule 403 for reducing fugitive dust emissions. The best available control measures (BACM), as specified in SCAQMD Rule 403, shall be incorporated into the project commitments.	City Resident Engineer Designated Contractor	During Construction							

Permits Required			
Agency	Issue Date	Permit Type	Expiration Date
ACOE		Section 404 Nationwide Permit	
RWQCB		Section 401 Clean Water Act Certification	
CDFW		1602 Streambed Alteration Agreement	

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

BUILDING STRONG®

REQUEST FOR AGENCY COMMENTS ON APPLICATION FOR LETTER OF PERMISSION WITHIN THE SAN JUAN CREEK / WESTERN SAN MATEO CREEK WATERSHED SAMP

Application No.: SPL-2017-00253
Comment Period:
6/5/17-6/26/17 (non-SHPO agencies)
6/5/17-7/5/17 (SHPO agencies)

Contact: Eric Sweeney
Telephone: 213-452-3002
Email: Eric.R.Sweeney@usace.army.mil

The U.S. Army Corps of Engineers (Corps), Los Angeles District, Regulatory Division, South Coast Branch, received an application for a Department of the Army permit on April 3, 2017. The Corps is reviewing the application under Section 404 of the Clean Water Act (33 U.S.C. §1344). Please review the Letter of Permission (LOP) notification materials and provide substantive, site-specific comments to the Corps Regulatory Division **on or before June 26, 2017 (CDFW, RWQCB, SWRCB, USFWS, and EPA) or July 5, 2017 (SHPO only)**. If no comments are received by this date, the Corps will assume compliance with 33 C.F.R. §325.2(e)(1).

<u>AGENCY</u>	<u>ATTENTION</u>	<u>EMAIL</u>
SWRCB	Bill Orme	Bill.Orme@waterboards.ca.gov
CDFW, South Coast Region (San Diego/Orange)	Marilyn Fluharty	Marilyn.Fluharty@wildlife.ca.gov
SHPO, California	Jessica Tudor	Jessica.Tudor@parks.ca.gov
U.S. EPA, Region IX	Elizabeth Goldmann	goldmann.elizabeth@epa.gov
RWQCB, San Diego	Darren Bradford	DBradford@waterboards.ca.gov
U.S. FWS, Carlsbad	Jonathan Snyder	jonathan_d_snyder@fws.gov
U.S. FWS, Carlsbad	Christine Medak	christine_medak@fws.gov

APPLICANT NAME: Max Maximous, City of Rancho Santa Margarita, 22112 El Paseo, Rancho Santa Margarita, California 92688

AGENT NAME: Ingrid Eich, HDR Inc.

WATERWAY NAME: Arroyo Trabuco

LOCATION: The proposed project is located in Arroyo Trabuco within the city of Rancho Santa Margarita, Orange County, CA at approximately 33.637659, -117.615272 (Exhibit 1). The proposed project would be located within O'Neill Regional Park near the intersection of Alicia Parkway and Santa Margarita Parkway.

BRIEF DESCRIPTION OF THE PROPOSED WORK: The proposed project would reconstruct and rehabilitate the Santa Margarita Parkway Bridge. Among other repair measures, the proposed work would include reconstruction of "hinges" (i.e., locations where bridge segments meet) by placing falsework (temporary supports) under the bridge within the Arroyo Trabuco waterway (Exhibit 2). The falsework would be supported by pilings that would be placed at a depth of 20 feet below the waterway. Once the bridge work is completed, the top portion of the pilings would be removed by cutting the pilings at least two feet below the surface of the waterway.

The lead federal agency for the action is Caltrans. The Corps sent an email to Caltrans designating them as the lead federal agency on June 2, 2017.

AREA OF WATERS SUBJECT TO LOSS AS A RESULT OF THE PROPOSED PROJECT:

The proposed project would result in temporary impacts to approximately 0.05 acre of non-wetland waters of the United States (Exhibit 3).

CWA SECTION 401 WATER QUALITY CERTIFICATION: Pending issuance of the Water Quality Certification (WQC) by the Santa Ana River Regional Water Quality Control Board (RWQCB).

ESSENTIAL FISH HABITAT:

There is no Essential Fish Habitat (EFH) present within the project area.

ENDANGERED SPECIES ACT:

Federally listed species potentially impacted by activities proposed within the Corps' extent of federal control and responsibility would include arroyo toad (*Anaxyrus californicus*), southwestern willow flycatcher (*Empidonax traillii extimus*) (flycatcher), least Bell's vireo (*Vireo bellii pusillus*) (vireo), and coastal California gnatcatcher (*Polioptila californica californica*) (gnatcatcher).

The Corps' extent of federal control and responsibility under NEPA is limited to the project's jurisdictional footprint inclusive of a 50-buffer containing activities occurring in adjacent uplands associated with impacts to waters of the United States.

Surveys conducted in 2015 did not report any gnatcatcher, vireo, flycatcher, or arroyo toad within the project area. The Corps does not anticipate that there would be any impacts to these species within the NEPA scope.

As lead federal agency, Caltrans made a "may affect, not likely to adversely affect" determination for gnatcatcher, vireo, flycatcher, and arroyo toad pursuant to section 7 of the Endangered Species Act. The U.S. Fish and Wildlife Service concurred with Caltrans' determination in a letter dated September 19, 2016 with the understanding that several conservation measures (e.g., revegetation of temporary impacts, protocol surveys within one year of vegetation clearing, monitoring my qualified biologists, etc.) would be incorporated into the project design.

NATIONAL HISTORIC PRESERVATION ACT:

The permit area is defined as the Corps' jurisdictional footprint within waters of the U.S. inclusive of a 50-foot upland buffer area surrounding the jurisdictional waters. There would be no disturbance to previously undisturbed soils within waters of the U.S. since soils disturbed by the placement of pilings are located within an active floodplain. There would also be no disturbance of previously undisturbed soils due to upland activities identified within the permit area.

No sites previously known to be listed in the National Register of Historic Places would be affected by the proposed project. In addition, no cultural resources eligible for inclusion in the NRHP were identified within the permit area. There would also be no effects on cultural resources due to activities outside the Corps' permit area.

Application of section 106 Criteria for Identification and Evaluation of Historic Properties (36 CFR 800.4[d]) indicates a finding of "no potential to cause effects" for the undertaking on resources listed on or eligible to be listed on the National Register of Historic Places pursuant to section 106 of the National Historic Preservation Act.



Regulatory Program Goals:

- To provide strong protection of the Nation's aquatic environment, including wetlands.
- To ensure that the Corps provides the regulated public with fair and reasonable decisions.
- To enhance the efficiency of the Corps' administration of its regulatory program.

Exhibit 1:

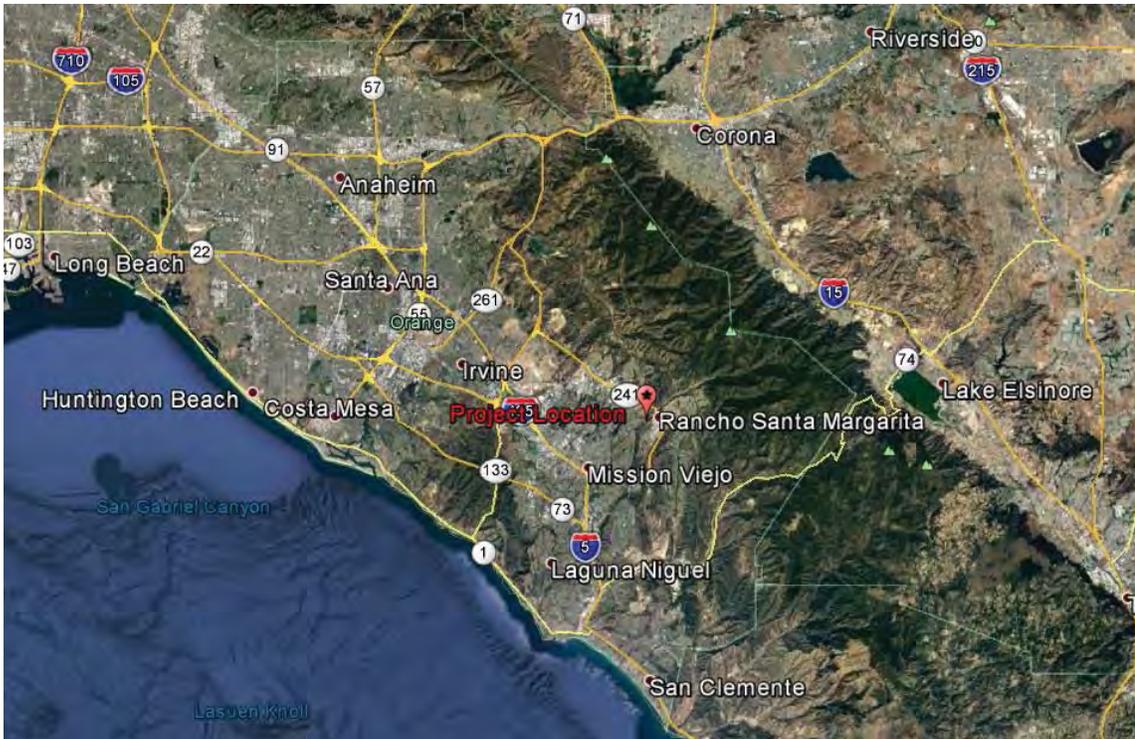


Figure 1: Regional vicinity for the proposed Santa Margarita Parkway Bridge Rehabilitation Project.

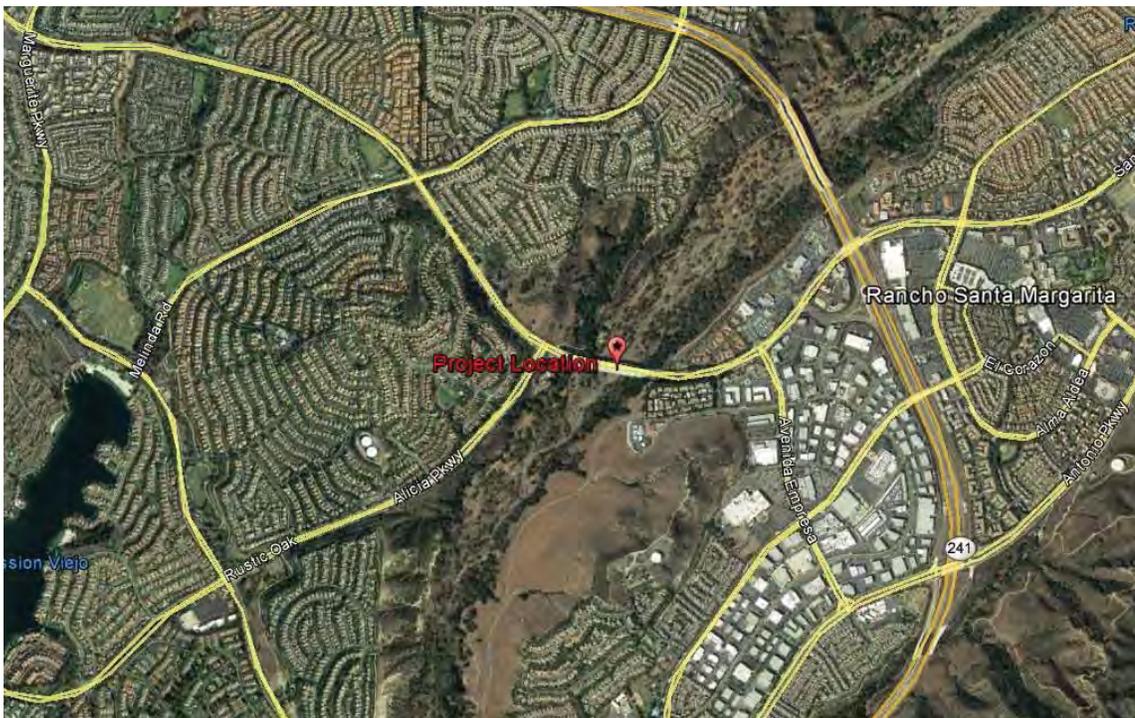


Figure 2: Local vicinity for the proposed Santa Margarita Parkway Bridge Rehabilitation Project.

Exhibit 2:

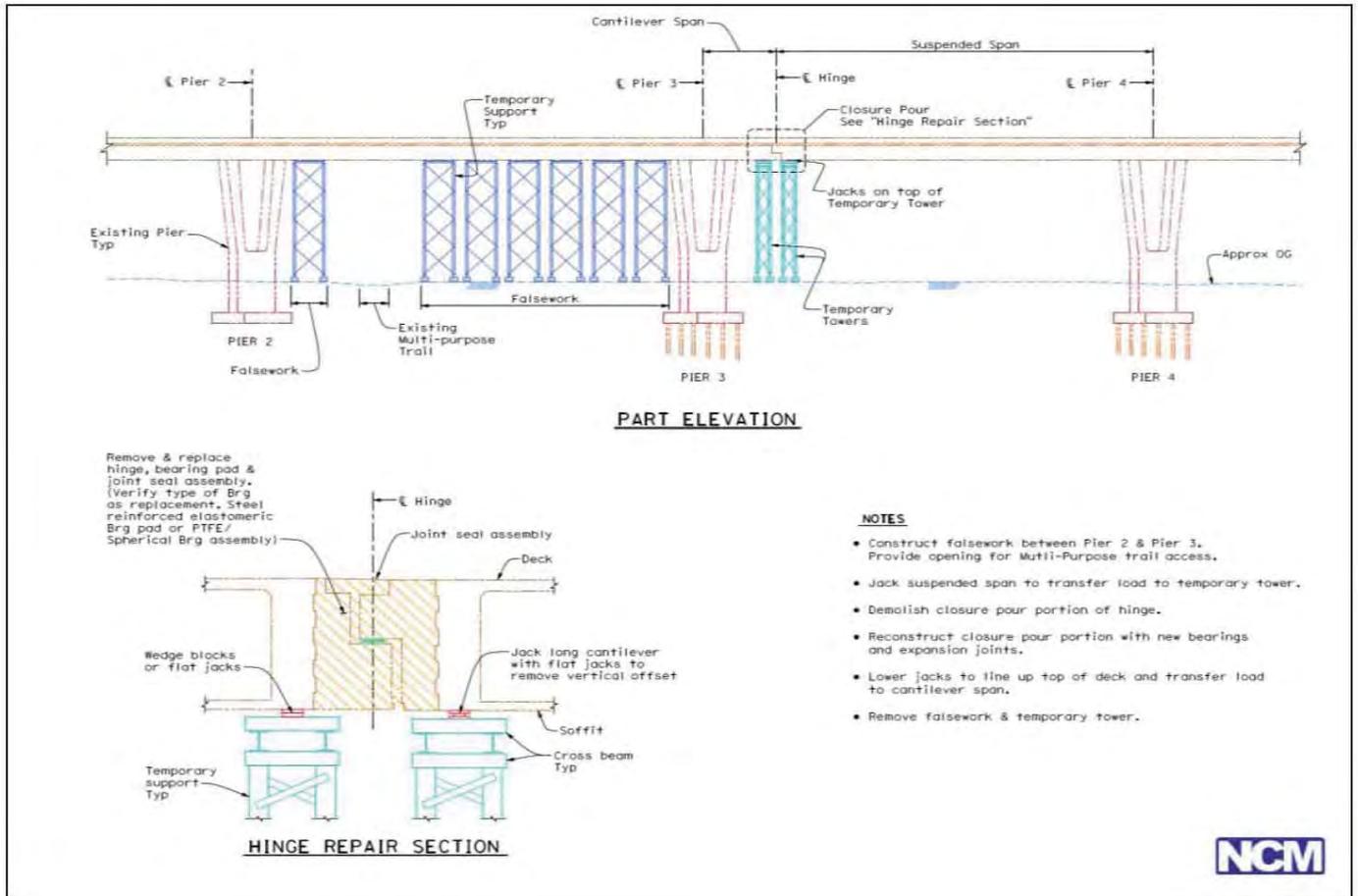


Exhibit 3:

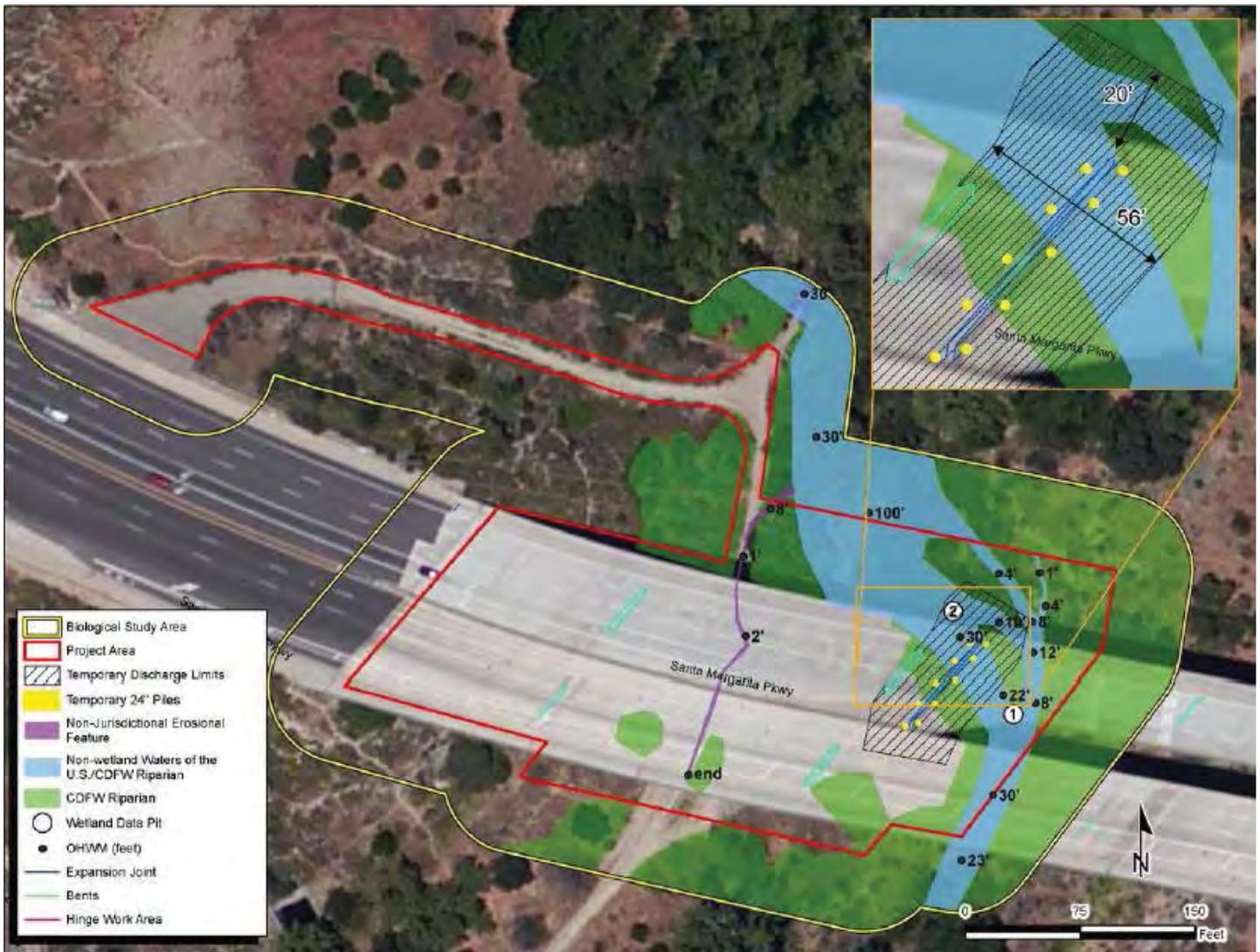


Figure 1: Work limits for the proposed project relative to the proposed area of jurisdictional impact within waters of the U.S.



San Diego Regional Water Quality Control Board

April 21, 2017

Certified Mail – Return Receipt Requested

Article Number: 7011 0470 0002 8952 6772

Mr. Ehab Maximous
City of Rancho Santa Margarita
22112 El Paseo
Rancho Santa Margarita, CA 92688

In reply/refer to:
R9-2017-0057: 833675:dbradford

**Subject: Clean Water Act Section 401 Water Quality Certification No. R9-2017-0057
for the Santa Margarita Parkway Bridge Rehabilitation Project**

Mr. Maximous:

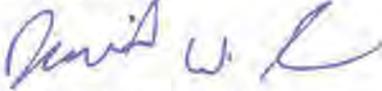
Enclosed find Clean Water Act Section 401 Water Quality Certification No. R9-2017-0057 (Certification) issued by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) in response to the application submitted by the City of Rancho Santa Margarita for the Santa Margarita Parkway Bridge Rehabilitation Project (Project). A description of the Project and Project location can be found in the Certification and site maps which are included as attachments to the Certification.

City of Rancho Santa Margarita is enrolled under State Water Resources Control Board Order No. 2003-017-DWQ as a condition of the Certification and is required to implement and comply with all terms and conditions of the Certification in order to ensure that water quality standards are met for the protection of wetlands and other aquatic resources. Failure to comply with this Certification may subject City of Rancho Santa Margarita to enforcement actions by the San Diego Water Board including administrative enforcement orders requiring City of Rancho Santa Margarita to cease and desist from violations or to clean up waste and abate existing or threatened conditions of pollution or nuisance; administrative civil liability in amounts of up to \$10,000 per day per violation; referral to the State Attorney General for injunctive relief; and, referral to the District Attorney for criminal prosecution.

Please submit all reports and information required under this Certification in electronic format via e-mail to SanDiego@waterboards.ca.gov. Documents over 50 megabytes will not be accepted via e-mail and must be placed on a disc and delivered to the San Diego Water Board, 2375 Northside Drive, San Diego, CA 92108. Each electronic document must be submitted as a single file, in Portable Document Format (PDF), and converted to text searchable format using Optical Character Recognition (OCR). All electronic documents must include scanned copies of all signature pages; electronic signatures will not be accepted. Electronic documents submitted to the San Diego Water Board must include the following identification numbers in the header or subject line: Certification No. R9-2017-0057: 833675:dbradford.

For questions or comments regarding the Certification, please contact Darren Bradford by telephone at (619) 521-3356 or by email at darren.bradford@waterboards.ca.gov.

Respectfully,



DAVID W. GIBSON
Executive Officer

Enclosure:

Clean Water Act Section 401 Water Quality Certification No. R9-2017-0057 for the Santa Margarita Parkway Bridge Rehabilitation Project

DWG:eb:dlb

CC:

U.S. Army Corps of Engineers
Regulatory Branch
Corice Farrar
Corice.J.Farrar@usace.army.mil

California Department of Fish and Game
South Coast Region
Habitat Conservation Planning – South
Kevin Hupf
kevin.hupf@wildlife.ca.gov

U.S. EPA, Region 9
OWOW, Wetlands Regulatory Office
Ms. Melissa Scianni
Scianni.Melissa@epa.gov

State Water Resources Control Board,
Division of Water Quality
401 Water Quality Certification and
Wetlands Unit
Stateboard401@waterboards.ca.gov

Mr. Eric Becker
San Diego Water Board
Eric.Becker@waterboards.ca.gov

Mr. David Barker
San Diego Water Board
David.Barker@waterboards.ca.gov

Ingrid Eich
HDR, Inc.
ingrid.eich@hdrinc.com

Tech Staff Information	
Certification No.	R9-2017-0057
Party ID	36783
Reg. Meas. ID	412192
Place ID	833675
Person ID	562916
WDID	9000003160

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

2375 Northside Drive, Suite.100, San Diego, CA 92108
Phone (619) 516-1990 • Fax (619) 516-1994
<http://www.waterboards.ca.gov/sandiego/>

Clean Water Act Section 401 Water Quality Certification
and Waste Discharge Requirements
for Discharge of Dredged and/or Fill Materials

PROJECT: Santa Margarita Parkway Bridge Rehabilitation
Certification Number R9-2017-0057
WDID: 9000003160

Reg. Meas. ID: 412192 Place ID: 833675 Party ID: 36783 Person ID: 562916

APPLICANT: City of Rancho Santa Margarita
22112 El Paseo
Rancho Santa Margarita, CA 92688

ACTION:

<input checked="" type="checkbox"/> Order for Low Impact Certification	<input type="checkbox"/> Order for Denial of Certification
<input type="checkbox"/> Order for Technically-conditioned Certification	<input type="checkbox"/> Waiver of Waste Discharge Requirements
<input checked="" type="checkbox"/> Enrollment in SWRCB GWDR Order No. 2003-017-DWQ	<input type="checkbox"/> Enrollment in Isolated Waters Order No. 2004-004-DWQ

PROJECT DESCRIPTION

An application dated March 10, 2017 was submitted by City of Rancho Santa Margarita (hereinafter Applicant), for Water Quality Certification pursuant to section 401 of the Clean Water Act (33 U.S.C. § 1341) for the proposed Santa Margarita Parkway Bridge Rehabilitation (Project). The Applicant has also applied for Clean Water Act section 404 Regional General Permit No. 74 (RGP 74), from the United States Army Corps of Engineers for the Project (USACE File No. SPL-2017-00253).

The Project is located within the City of Rancho Santa Margarita, Orange County, California at the Santa Margarita Parkway Bridge over Arroyo Trabuco Creek (Bridge No. 55C0520L). The Project center reading is located at latitude 33.63765 and longitude -117.61527. The Applicant has paid all required fees for this Certification in the amount of \$720.00. On March 10, 2017, the San Diego Water Board provided public notice of the Project application pursuant to California Code of Regulations, title 23, section 3858 by posting information describing the Project on the San Diego Water Board's web site and providing a period of twenty-one days for public review and comment. No comments were received.

Since its construction, the Santa Margarita Parkway Bridge was subject to internal damage that has resulted in a vertical offset and a horizontal shift across the hinge and visible damage to the internal shear keys, bridge bearings, and longitudinal restrainers. Bridge repairs are necessary to help prolong the service life of the bridge.

The Project consists of the following:

- Hinge reconstruction which involves placement of temporary supports (falsework) under the bridge within Arroyo Trabuco Creek in O'Neill Regional Park;
- Clean expansion joints;
- Reconstruct joint seals;
- Bridge deck methacrylate resin treatment;
- Polyester concrete deck overlay;
- Reconstruct sidewalk joint protection; and
- Spall repair.

The project will result in the temporary discharge of fill to up to 0.05 acre (66 linear feet) of non-wetland waters of the U.S. for construction of temporary crossings, falsework construction, and discharge of approximately 59 cubic yards of concrete for the construction of 20-foot-deep pilings. The pilings will be cut at least three feet below the surface and buried upon project completion.

Receiving waters potentially affected by the Project are protected in accordance with water quality standards in the *Water Quality Control Plan for the San Diego Basin (9)* (Basin Plan). This Certification authorizes temporary impacts to waters of the United States and/or State affected by the Project. Temporary impacts will be restored by the Applicant to pre-Project conditions and do not include physical loss of aquatic resource area or degradation of ecological conditions. Based on all of these considerations, the Applicant's compliance with the terms and conditions of this Certification will ensure that the water quality standards for all waters of the United States and/or State impacted by the Project are met.

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Attachments:

1. Definitions
2. Project Figures and Plans

The San Diego Water Board has independently reviewed the record of the Project to analyze the extent and nature of proposed Project impacts to the water quality and beneficial uses of waters of the United States and/or State and associated mitigation measures required to offset impacts attributed to the Project. In accordance with this Certification, the Applicant may proceed with the Project under the following terms and conditions:

I. STANDARD CONDITIONS

Pursuant to section 3860 of title 23 of the California Code of Regulations, the following three standard conditions apply to all water quality certification actions:

- A. This Certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to section 13330 of the Water Code and chapter 28, article 6 (commencing with title 23, section 3867), of the California Code of Regulations.
- B. This Certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility and requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent Certification application was filed pursuant to California Code of Regulations title 23, section 3855 subdivision (b), and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
- C. This Certification action is conditioned upon total payment of any fee required under title 23, chapter 28 (commencing with section 3830) of California Code of Regulations and owed by the applicant.

II. GENERAL CONDITIONS

- A. **Term of Certification.** Water Quality Certification No. R9-2017-0057 (Certification) shall expire upon a) the expiration or retraction of the Clean Water Act section 404 (33 U.S.C. §1344) permit issued by the U.S. Army Corps of Engineers for this Project, or b) five (5) years from the date of issuance of this Certification, whichever occurs first.
- B. **Duty to Comply.** The Applicant must comply with all conditions and requirements of this Certification. Any Certification noncompliance constitutes a violation of the Water Code and is grounds for enforcement action or Certification termination, revocation and reissuance, or modification.
- C. **General Waste Discharge Requirements.** The requirements of this Certification are enforceable through Water Quality Order No. 2003-0017-DWQ, *Statewide General Waste Discharge Requirements for Discharges of Dredged or Fill Material that have Received State Water Quality Certification* (Water Quality Order No. 2003-0017-DWQ). This provision shall apply irrespective of whether a) the federal permit for which the Certification was obtained is subsequently retracted or is expired, or b) the Certification is expired. Water Quality Order No. 2003-0017-DWQ is accessible at:

http://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/generalorders/gowdr401regulated_projects.pdf.

- D. **Project Conformance with Application.** All water quality protection measures and BMPs described in the application and supplemental information for water quality certification are incorporated by reference into this Certification as if fully stated herein. Notwithstanding any more specific conditions in this Certification, the Applicant shall construct, implement and comply with all water quality protection measures and BMPs described in the application and supplemental information. The conditions within this Certification shall supersede conflicting provisions within the application and supplemental information submitted as part of this Certification action.
- E. **Project Conformance with Water Quality Control Plans or Policies.** Notwithstanding any more specific conditions in this Certification, the Project shall be constructed in a manner consistent with the Basin Plan and any other applicable water quality control plans or policies adopted or approved pursuant to the Porter Cologne Water Quality Act (Division 7, commencing with Water Code Section 13000) or section 303 of the Clean Water Act (33 U.S.C §1313.). The Basin Plan is accessible on-line at:
- http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/index.shtml
!
- F. **Project Modification.** The Applicant must submit any changes to the Project, including Project operation, which would have a significant or material effect on the findings, conclusions, or conditions of this Certification, to the San Diego Water for prior review and written approval. If the San Diego Water Board is not notified of a significant change to the Project, it will be considered a violation of this Certification
- G. **Certification Distribution Posting.** During Project construction, the Applicant must maintain a copy of this Certification at the Project site. This Certification must be available at all times to site personnel and agencies. A copy of this Certification shall also be provided to any contractor or subcontractor performing construction work, and the copy shall remain in their possession at the Project site.
- H. **Inspection and Entry.** The Applicant must allow the San Diego Water Board or the State Water Resources Control Board, and/or their authorized representative(s) (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents as may be required under law, to:
1. Enter upon the Project or Compensatory Mitigation site(s) premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Certification;
 2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Certification;

3. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Certification; and
 4. Sample or monitor, at reasonable times, for the purposes of assuring Certification compliance, or as otherwise authorized by the Clean Water Act or Water Code, any substances or parameters at any location.
- I. **Enforcement Notification.** In the event of any violation or threatened violation of the conditions of this Certification, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under State law. For purposes of section 401(d) of the Clean Water Act, the applicability of any State law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this Certification.
- J. **Certification Actions.** This Certification may be modified, revoked and reissued, or terminated for cause including but not limited to the following:
1. Violation of any term or condition of this Certification;
 2. Monitoring results indicate that continued Project activities could violate water quality objectives or impair the beneficial uses of the unnamed tributary to Trabuco Creek, or their tributaries;
 3. Obtaining this Certification by misrepresentation or failure to disclose fully all relevant facts;
 4. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and
 5. Incorporation of any new or revised water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the Clean Water Act.

The filing of a request by the Applicant for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Certification condition.

- K. **Duty to Provide Information.** The Applicant shall furnish to the San Diego Water Board, within a reasonable time, any information which the San Diego Water Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Certification or to determine compliance with this Certification.
- L. **Property Rights.** This Certification does not convey any property rights of any sort, or any exclusive privilege.

M. **Petitions.** Any person aggrieved by this action of the San Diego Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with the California Code of Regulations, title 23, sections 3867 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Certification. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

III. CONSTRUCTION AND POST CONSTRUCTION BEST MANAGEMENT PRACTICES

A. **Construction Requirements.** Prior to start of Project construction, the Applicant must, as applicable, obtain coverage under, and comply with, the requirements of State Water Resources Control Board Water Quality Order No. 2009-0009-DWQ, the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activity (General Construction Storm Water Permit) and any reissuance. If Project construction activities do not require coverage under the General Construction Storm Water Permit, the Applicant must develop and implement a pollution control plan, construction BMP plan, and/or erosion and sediment control plan to prevent the discharge of sediment and other pollutants during construction activities.

IV. PROJECT IMPACTS AND COMPENSATORY MITIGATION

A. **Project Impacts and Compensatory Mitigation.** Unavoidable Project impacts to an Trabuco Creek and its unnamed tributaries within the San Juan Watershed must not exceed the type and magnitude of impacts described in the table below. At a minimum, compensatory mitigation required to offset unavoidable temporary and permanent Project impacts to waters of the United States and/or State must be achieved as described in the table below:

	Impacts (acres)	Impacts (linear ft.)	Mitigation for Impacts (acres)	Mitigation Ratio (area mitigated :area impacted)	Mitigation for Impacts (linear ft.)	Mitigation Ratio (linear feet mitigated :linear feet impacted)
Temporary Impacts¹						
Riparian	0.05	66	NA	NA	NA	NA

NA – Not applicable

1. All areas of temporary impacts must be restored to pre-project contours.

B. **Temporary Project Impact Areas.** The Applicant must restore all areas of temporary impacts and all other areas of temporary disturbance which could result in a discharge or a threatened discharge of pollutants to waters of the United States and/or State. Restoration must include grading of disturbed areas to pre-project contours and re-vegetation with native species. The Applicant must implement all necessary BMPs to control erosion and runoff from areas associated with the Project.

V. MONITORING AND REPORTING REQUIREMENTS

- A. **Annual Project Progress Reports.** The Applicant must submit annual Project progress reports describing compliance with all requirements of this Certification to the San Diego Water Board prior to **May 1** of each year following the issuance of this Certification, until the Project has reached completion. The report must include the following information:
1. The names, qualifications, and affiliations of the persons contributing to the report;
 2. The status, progress, and anticipated schedule for completion of Project construction activities;
 3. A description of Project construction delays encountered or anticipated that may affect the schedule for construction completion; and
 4. A description of each incident of noncompliance during the annual monitoring period and its cause, the period of the noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
- B. **Final Project Completion Report.** The Applicant must submit a Final Project Completion Report to the San Diego Water Board **within 30 days of completion of the Project**. The final report must include the following information:
1. Date of construction initiation;
 2. Date of construction completion;
 3. As-built drawings of the Project, no bigger than 11”X17”; and
 4. Photo documentation of all areas of impacts, prior to and after project construction. Photo documentation must be conducted in accordance with guidelines posted at http://www.waterboards.ca.gov/sandiego/water_issues/programs/401_certification/docs/401c/401PhotoDocRB9V713.pdf. In addition, photo documentation must include Global Positioning System (GPS) coordinates for each of the photo points referenced.
- C. **Reporting Authority.** The submittal of information required under this Certification, or in response to a suspected violation of any condition of this Certification, is required pursuant to Water Code section 13267 and 13383. Civil liability may be administratively imposed by the San Diego Water Board for failure to submit information pursuant to Water Code sections 13268 or 13385.
- D. **Electronic Document Submittal.** The Applicant must submit all reports and information required under this Certification in electronic format via e-mail to SanDiego@waterboards.ca.gov. Documents over 50 megabytes will not be accepted via e-mail and must be placed on a disc and delivered to:

California Regional Water Quality Control Board
San Diego Region
Attn: 401 Certification No. R9-2017-0057:833675:dbradford
2375 Northside Drive, Suite 100
San Diego, California 92108

Each electronic document must be submitted as a single file, in Portable Document Format (PDF), and converted to text searchable format using Optical Character Recognition (OCR). All electronic documents must include scanned copies of all signature pages; electronic signatures will not be accepted. Electronic documents submitted to the San Diego Water Board must include the following identification numbers in the header or subject line: Certification No. R9-2017-0057:833675:dbradford.

E. Document Signatory Requirements. All applications, reports, or information submitted to the San Diego Water Board must be signed as follows:

1. For a corporation, by a responsible corporate officer of at least the level of vice president.
2. For a partnership or sole proprietorship, by a general partner or proprietor, respectively.
3. For a municipality, or a state, federal, or other public agency, by either a principal executive officer or ranking elected official.
4. A duly authorized representative may sign applications, reports, or information if:
 - a. The authorization is made in writing by a person described above.
 - b. The authorization specifies either an individual or position having responsibility for the overall operation of the regulated activity.
 - c. The written authorization is submitted to the San Diego Water Board Executive Officer.

If such authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the Project, a new authorization satisfying the above requirements must be submitted to the San Diego Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative.

F. Document Certification Requirements. All applications, reports, or information submitted to the San Diego Water Board must be certified as follows:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are

significant penalties for submitting false information, including the possibility of fine and imprisonment."

VI. NOTIFICATION REQUIREMENTS

- A. **Twenty Four Hour Non-Compliance Reporting.** The Applicant shall report any noncompliance which may endanger health or the environment. Any such information shall be provided orally to the San Diego Water Board within **24 hours** from the time the Applicant becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Applicant becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The San Diego Water Board, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
- B. **Anticipated Noncompliance.** The Applicant shall give advance notice to the San Diego Water Board of any planned changes in the Project or the Compensatory Mitigation project which may result in noncompliance with Certification conditions or requirements.
- C. **Transfers.** This Certification is not transferable in its entirety or in part to any person or organization except after notice to the San Diego Water Board in accordance with the following terms:
1. **Transfer of Property Ownership:** The Applicant must notify the San Diego Water Board of any change in ownership of the Project area. Notification of change in ownership must include, but not be limited to, a statement that the Applicant has provided the purchaser with a copy of the Section 401 Water Quality Certification and that the purchaser understands and accepts the certification requirements and the obligation to implement them or be subject to liability for failure to do so; the seller and purchaser must sign and date the notification and provide such notification to the San Diego Water Board **within 10 days of the transfer of ownership.**

Upon properly noticed transfers of responsibility, the transferee assumes responsibility for compliance with this Certification and references in this Certification to the Applicant will be interpreted to refer to the transferee as appropriate. Transfer of responsibility does not necessarily relieve the Applicant of this Certification in the event that a transferee fails to comply.

- D. **Discharge Commencement.** The Applicant must notify the San Diego Water Board in writing **at least 5 days prior** to the start of Project construction.

VII. CALIFORNIA ENVIRONMENTAL QUALITY ACT COMPLIANCE

- A. The San Diego Water Board has determined that the Project is exempt from review under CEQA pursuant to California Code of Regulations, title 14, section 15301 and promulgated a Notice of Exemption on Date under CEQA Guidelines Title 14, California Code of Regulations.

VIII. SAN DIEGO WATER BOARD CONTACT PERSON

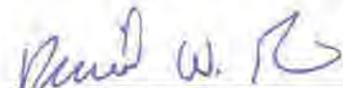
Darren Bradford, Environmental Scientist
California Regional Water Quality Control Board, San Diego Region
2375 Northside Drive, Suite 100
San Diego, California 92108
Telephone: 619-521-3356
Email: darren.bradford@waterboards.ca.gov

IX. WATER QUALITY CERTIFICATION

I hereby certify that the proposed discharge from the **Santa Margarita Parkway Bridge Rehabilitation Project** (Certification No. R9-2017-0057) will comply with the applicable provisions of sections 301 ("Effluent Limitations"), 302 ("Water Quality Related Effluent Limitations"), 303 ("Water Quality Standards and Implementation Plans"), 306 ("National Standards of Performance"), and 307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated under State Water Board Order No. 2003-0017-DWQ, "*Statewide General Waste Discharge Requirements for Dredged or Fill Discharges that have Received State Water Quality Certification (General WDRs)*," which requires compliance with all conditions of this Water Quality Certification. Please note that enrollment under Order No. 2003-017-DWQ is conditional and, should new information come to our attention that indicates a water quality problem, the San Diego Water Board may issue individual waste discharge requirements at that time.

Except insofar as may be modified by any preceding conditions, all Certification actions are contingent on (a) the discharge being limited to, and all proposed mitigation being completed in strict compliance with, the applicants' Project description and/or the description in this Certification, and (b) compliance with all applicable requirements of the Basin Plan.

I, David W. Gibson, Executive Officer, do hereby certify the forgoing is a full, true, and correct copy of Certification No. R9-2017-0057 issued on April 21, 2017.



DAVID W. GIBSON
Executive Officer
San Diego Water Board

21 April 2017

Date

DEFINITIONS

Activity - when used in reference to a permit means any action, undertaking, or project including, but not limited to, construction, operation, maintenance, repair, modification, and restoration which may result in any discharge to waters of the state.

Buffer - means an upland, wetland, and/or riparian area that protects and/or enhances aquatic resource functions associated with wetlands, rivers, streams, lakes, marine, and estuarine systems from disturbances associated with adjacent land uses.

California Rapid Assessment Method (CRAM) - is a wetland assessment method intended to provide a rapid, scientifically-defensible and repeatable assessment methodology to monitor status and trends in the conditions of wetlands for applications throughout the state. It can also be used to assess the performance of compensatory mitigation projects and restoration projects. CRAM provides an assessment of overall ecological condition in terms of four attributes: landscape context and buffer, hydrology, physical structure and biotic structure. CRAM also includes an assessment of key stressors that may be affecting wetland condition and a "field to PC" data management tool (eCRAM) to ensure consistency and quality of data produced with the method.

Compensatory Mitigation Project - means compensatory mitigation implemented by the Applicant as a requirement of this Certification (i.e., applicant -responsible mitigation), or by a mitigation bank or an in-lieu fee program.

Discharge of dredged material – means any addition of dredged material into, including redeposit of dredged material other than incidental fallback within, the waters of the United States and/or State.

Discharge of fill material – means the addition of fill material into waters of the United States and/or State.

Dredged material – means material that is excavated or dredged from waters of the United States and/or State.

Ecological Success Performance Standards – means observable or measurable physical (including hydrological), chemical, and/or biological attributes that are used to determine if a compensatory mitigation project meets its objectives.

Enhancement – means the manipulation of the physical, chemical, or biological characteristics of an aquatic resource to improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Establishment – means the manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist. Creation results in a gain in aquatic resource area.

Fill material – means any material used for the primary purpose of replacing an aquatic area with dry land or of changing the bottom elevation of a water body.

Isolated wetland – means a wetland with no surface water connection to other aquatic resources.

Mitigation Bank – means a site, or suite of sites, where resources (e.g., wetlands, streams, riparian areas) are restored, established, enhanced, and/or preserved for the purpose of providing mitigation for impacts authorized by this Certification.

Preservation - means the removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment - means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/ historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation - means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/ historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration - means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Start of Project Construction - For the purpose of this Certification, "start of Project construction" means to engage in a program of on-site construction, including site clearing, grading, dredging, landfilling, changing equipment, substituting equipment, or even moving the location of equipment specifically designed for a stationary source in preparation for the fabrication, erection or installation of the building components of the stationary source within waters of the United States and/or State.

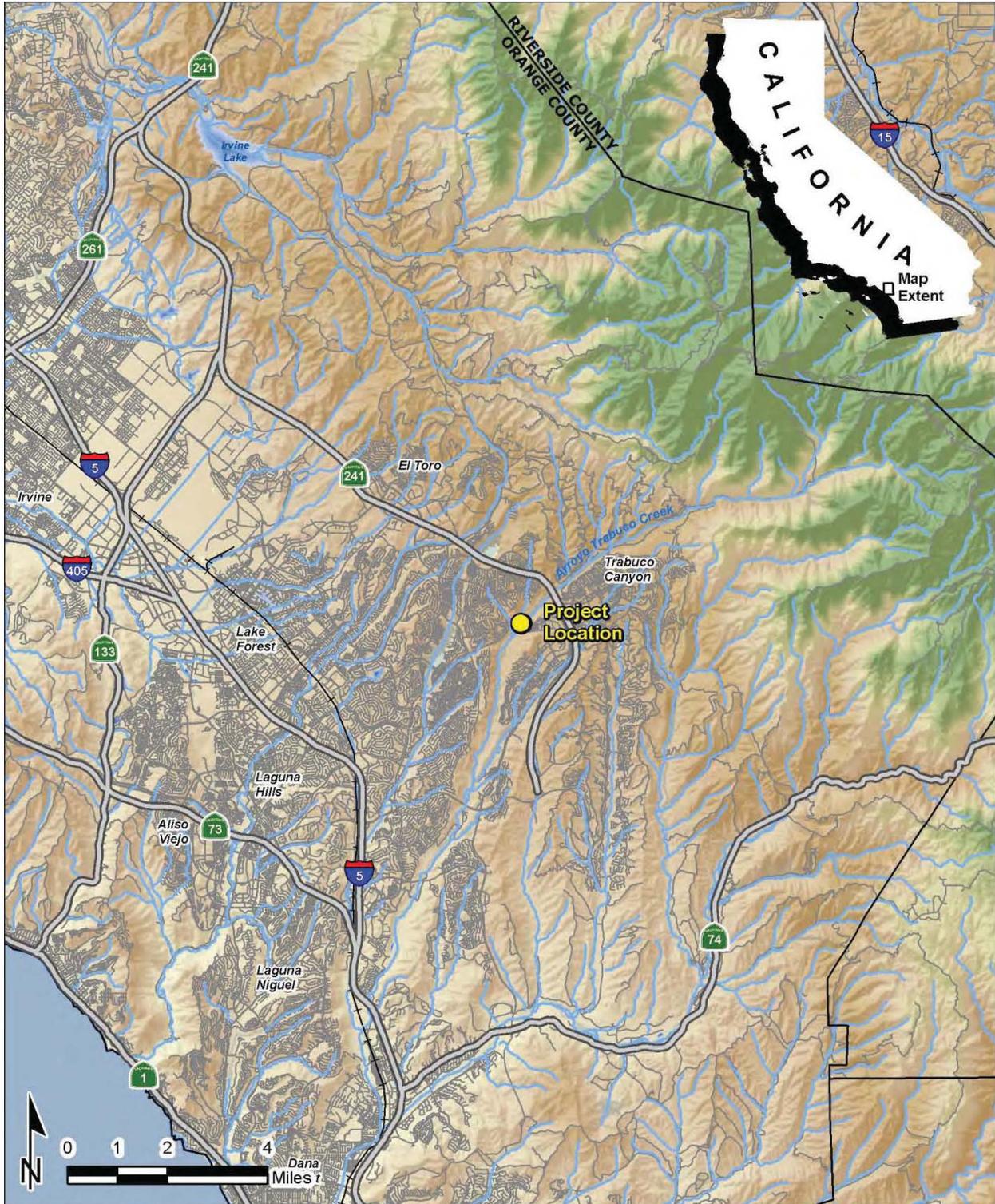
Uplands - means non-wetland areas that lack any field-based indicators of wetlands or other aquatic conditions. Uplands are generally well-drained and occur above (i.e., up-slope) from nearby aquatic areas. Wetlands can, however, be entirely surrounded by uplands. For example, some natural seeps and constructed stock ponds lack aboveground hydrological connection to other aquatic areas. In the watershed context, uplands comprise the landscape matrix in which aquatic areas form. They are the primary sources of sediment, surface runoff, and associated chemicals that are deposited in aquatic areas or transported through them.

Water quality objectives and other appropriate requirements of state law – means the water quality objectives and beneficial uses as specified in the appropriate water quality control plan(s); the applicable provisions of sections 301, 302, 303, 306, and 307 of the Clean Water Act; and any other appropriate requirement of state law.

City of Rancho Santa Margarita
Santa Margarita Parkway Bridge Rehabilitation Project
Certification No. R9-2017-0057

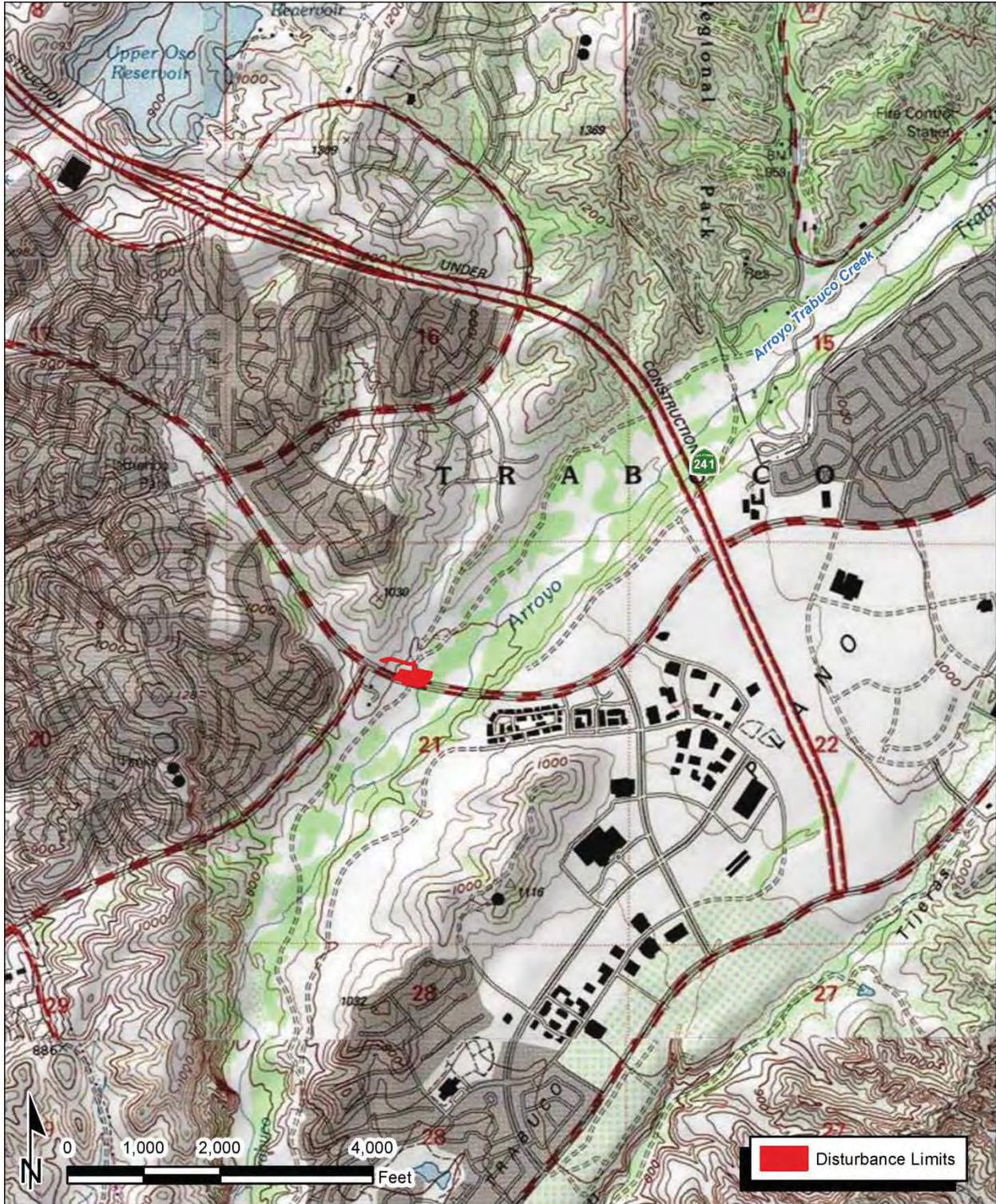
ATTACHMENT 2
PROJECT LOCATION MAPS

Figure 1 – Project Location
Figure 2 – USGS Topographic Map



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Figure 1
Project Location



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Figure 2
USGS Topographic Map

City of Rancho Santa Margarita
Santa Margarita Parkway Bridge Rehabilitation Project
Certification No. R9-2017-0057

**ATTACHMENT 3
PROJECT SITE PLANS**

Figure 6 – Potential Impacts to Jurisdictional Areas
Figure 5 – Temporary Falsework and Support Structures

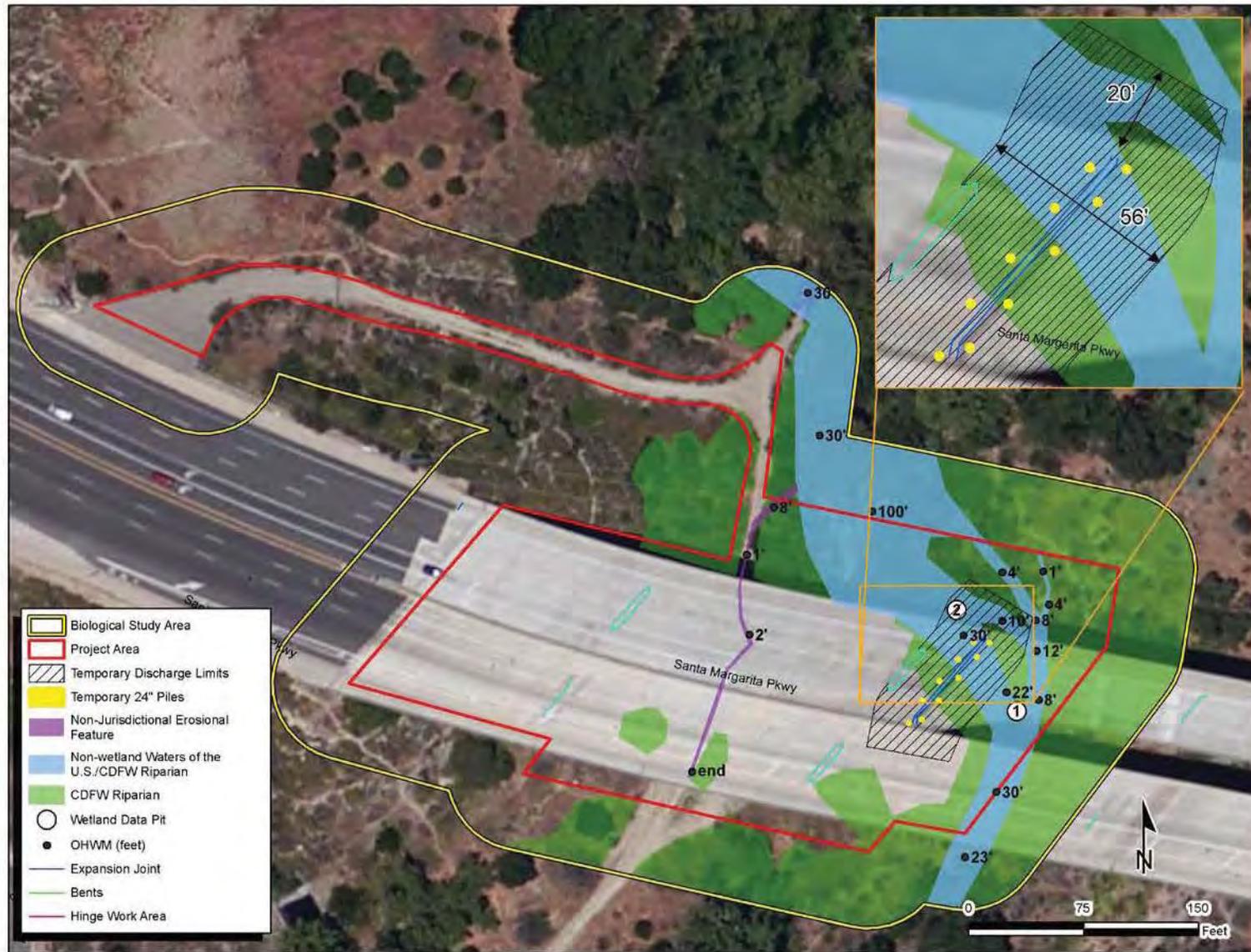
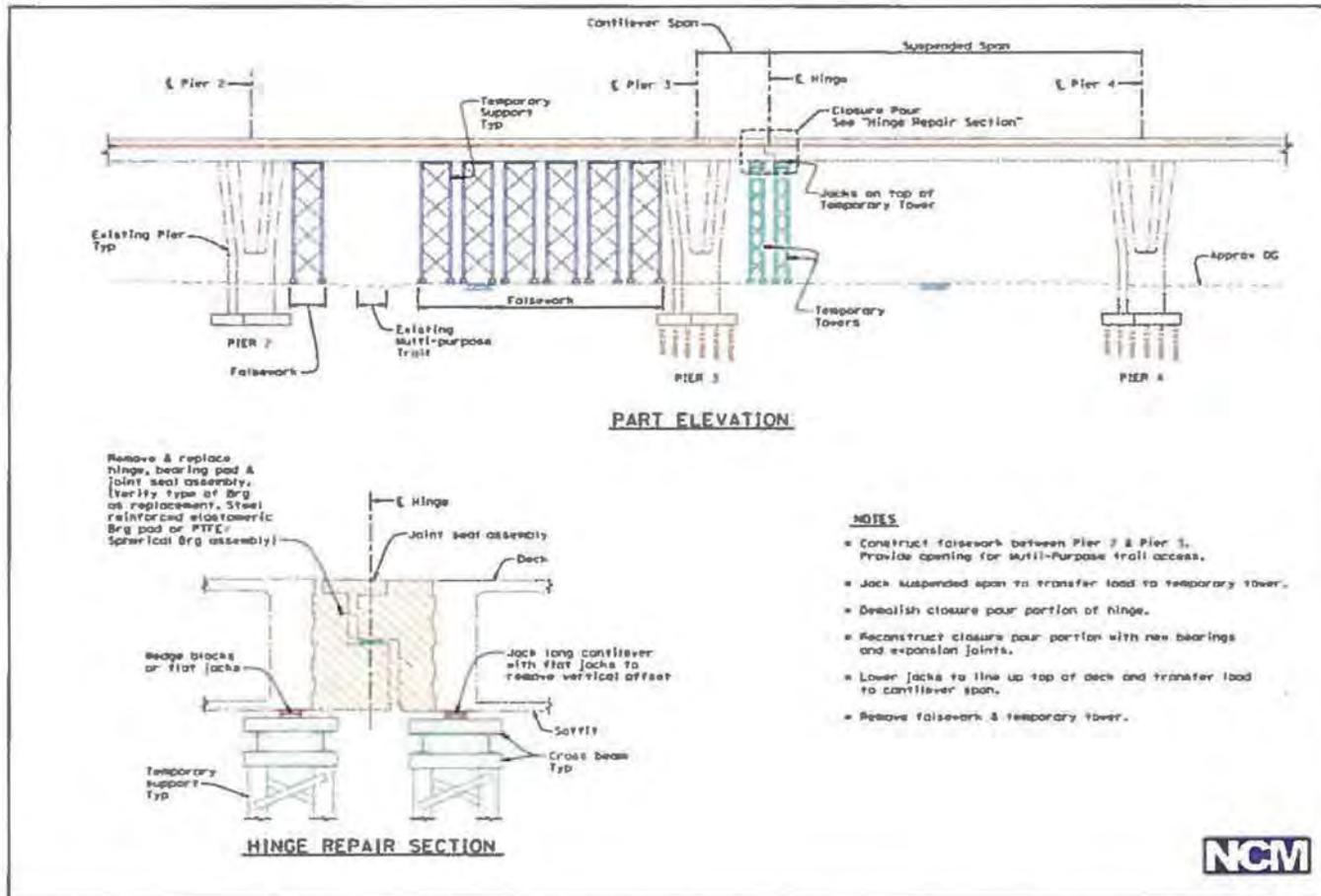


Figure 6
Potential Impacts to Jurisdictional Areas



NOTES

- Construct falsework between Pier 2 & Pier 3. Provide opening for Multi-Purpose trail access.
- Jack suspended span to transfer load to temporary tower.
- Demolish closure pour portion of hinge.
- Reconstruct closure pour portion with new bearings and expansion joints.
- Lower jacks to line up top of deck and transfer load to cantilever span.
- Remove falsework & temporary tower.

Figure 5
Temporary Falsework and Support Structures



State of California -The Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4201
www.wildlife.ca.gov

Page 437
EDMUND G. BROWN, JR, Governor
CHARLTON H. BONHAM, Director



June 1, 2017

Mr. E. Maximous
City of Rancho Santa Margarita
2212 El Paseo
Rancho Santa Margarita, CA 92688

Subject: Draft Lake or Streambed Alteration Agreement
Notification No. 1600-2017-0055-R5
Santa Margarita Parkway Bridge Rehabilitation Project

Dear Mr. Maximous:

The Department of Fish and Wildlife (Department) has determined that your project requires a Lake or Streambed Alteration Agreement (Agreement) because it could substantially adversely affect an existing fish or wildlife resource. Enclosed is a draft Agreement that includes measures the Department has determined are necessary to protect existing fish and wildlife resources.

Within 30 days of receipt of this draft Agreement, you must notify the Department in writing whether the measures to protect fish and wildlife resources are acceptable (Fish and Game Code section 1603). If you agree with the measures set forth in the draft Agreement, you or your authorized representative must return two copies of the draft Agreement with original signatures to the above address.

If you disagree with any measures in the draft Agreement, please contact the Department staff identified below. In the event that mutual agreement is not reached, you may follow the dispute resolution process described in Fish and Game Code section 1603(a), Part III of the "Notification Instructions and Process." If you fail to respond in writing within 90 days of receiving the draft Agreement, the Department may withdraw the draft Agreement.

Please be advised the Department may not execute the Agreement until it has complied with the California Environmental Quality Act (CEQA) (Public Resources Code section 21000 *et seq.*) as the lead or a responsible agency. Please note that the draft Agreement may be subject to change upon receipt and review of the environmental document for the project.

When acting as a CEQA responsible agency, the Department must first receive the following: 1) a certified or approved environmental document prepared in accordance with CEQA; 2) Notice of Determination, if one is filed; 3) CEQA

Findings; and 4) proof that the environmental filing fee required under Fish and Game Code section 711.4 has been paid. If the lead agency determined that the project is exempt under CEQA, please provide a copy of the Notice of Exemption or other information that indicates the basis for the exemption.

After you receive a final Agreement executed by the Department, you may begin the project the Agreement authorizes provided you have obtained all other necessary local, state, and federal permits or other authorizations.

For more information on the process described above, please refer to Part IV in the "Notification Instructions and Process" included with your notification materials, which is also available at <https://www.wildlife.ca.gov/Conservation/LSA/Forms>. If you have any questions regarding this letter, please contact Jennifer Turner at (858) 467-2717 or via email at jennifer.turner@wildlife.ca.gov.

Sincerely,



Eric Weiss
Senior Environmental Scientist

cc: Jennifer Turner

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
SOUTH COAST REGION
3883 RUFFIN ROAD
SAN DIEGO, CA 92103



STREAMBED ALTERATION AGREEMENT
NOTIFICATION NO. 1600-2017-0055-R5
ARROYO TRABUCO

CITY OF RANCHO SANTA MARGARITA
SANTA MARGARITA PARKWAY BRIDGE REHABILITATION PROJECT

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (CDFW) and the City of Rancho Santa Margarita (Permittee) as represented by Mr. Ehab (Max) Maximous.

RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, Permittee notified CDFW on March 9, 2017, that Permittee intends to complete the project described herein.

WHEREAS, pursuant to FGC section 1603, CDFW has determined that the project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, Permittee agrees to complete the project in accordance with the Agreement.

PROJECT LOCATION

The project is located in Arroyo Trabuco, a tributary of San Juan Creek, east of the intersection of Alicia Parkway and Santa Margarita Parkway, in O'Neill Regional Park, in the City of Rancho Santa Margarita, County of Orange, State of California; Latitude 33.637659, Longitude -117.615272; Township Trabuco Land Grant, U.S. Geological Survey (USGS) map Santiago Peak, San Bernardino base and meridian.

PROJECT DESCRIPTION

The project is limited to the repair of the Santa Margarita Parkway Bridge. Repair activities include hinge reconstruction, expansion joint cleaning, seal joint reconstruction, bridge deck treatment, polyester concrete deck overlay, sidewalk joint

protection reconstruction, and spall repair. In order to achieve these activities, temporary access roads and falsework will be constructed under the bridge. Temporary pilings and falsework will be constructed for 5 weeks leading up to repair activities and will require three weeks to disassemble and remove after repair activities are complete; after these structures are constructed, no work will occur within the channel as all activities will be executed from the top side of the bridge. Temporary pilings will be cut three feet below the surface and buried upon project completion. Tools and breakers are limited to one concrete mixer, one flatbed truck, hydraulic jacks, one crawler crane and/or rough terrain crane, one backhoe loader, one dump truck, and one small drill rig.

PROJECT IMPACTS

Existing fish or wildlife resources the project could potentially substantially adversely affect include: BIRDS - least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), coastal California gnatcatcher (*Polioptila californica californica*), yellow warbler (*Setophaga petechial*), long-eared owl (*Asio otus*), yellow-breasted chat (*Icteria virens*), Anna's hummingbird (*Calypte anna*), lesser goldfinch (*Carduelis psaltria*), house finch (*Carpodacus mexicanus*), wrenit (*Chamaea fasciata*), and common raven (*Corvus corax*); MAMMALS - Pallid bat (*Antrozous pallidus*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), western mastiff bat (*Eumops perotis californicus*), western yellow bat (*Lasiurus xanthinus*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), San Diego desert woodrat (*Neotoma lepida intermedia*), American badger (*Taxidea taxus*), coyote (*Canis latrans*), bobcat (*Lynx rufus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), desert cottontail (*Sylvilagus audubonii*), and Mexican free-tailed bat (*Tadarida brasiliensis*); REPTILES - orange-throated whiptail (*Aspidoscelis hyperythra*), coast horned lizard (*Phrynosoma coronatum*), coast patch-nosed snake (*Salvadora hexalepis virgulata*), two-striped garter snake (*Thamnophis hammondi*); AMPHIBIANS - arroyo toad (*Anaxyrus californicus*), coast range newt (*Taricha torosa*), western spadefoot toad (*Spea hammondi*); PLANTS - mugwort (*Artemisia douglasiana*), mule fat (*Baccharis salicifolia* subsp. *salicifolia*), willow herb (*Epilobium ciliatum*), Mexican rush (*Juncus mexicanus*), evening primrose (*Oenothera elata* subsp. *Hirsutissima*), California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), foothill needle grass (*Stipa pulchra*); and other vegetation which provides habitat for those species; and all other aquatic and wildlife resources in the project vicinity.

The adverse effects the project could have on the fish or wildlife resources identified above include: short-term release of contaminants (e.g., incidental from construction); disruption to nesting birds and other wildlife; soil and habitat disturbance from project activity; and loss or impediment of terrestrial animal species corridors due to temporary structures (e.g., survey tape, sandbags, erosion protection materials etc.).

Implementation of the project will result in 0.054 acre of temporary impacts to the channel bottom, which contains riparian habitat. Temporary impacts will result from

access road, falsework, and pilings construction.

MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

1. Administrative Measures

Permittee shall meet each administrative requirement described below.

- 1.1 Documentation at Project Site. Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times and shall be presented to CDFW personnel, or personnel from another state, federal, or local agency upon request.
- 1.2 Providing Agreement to Persons at Project Site. Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the project at the project site on behalf of Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.
- 1.3 Notification of Conflicting Provisions. Permittee shall notify CDFW if Permittee determines or learns that a provision in the Agreement might conflict with a provision imposed on the project by another local, state, or federal agency. In that event, CDFW shall contact Permittee to resolve any conflict.
- 1.4 Project Site Entry. Permittee agrees that CDFW personnel may enter the project site at any time to verify compliance with the Agreement.
- 1.5 Notification Prior to Work. The Permittee shall notify CDFW, in writing, at least 5 days prior to initiation of construction (project) activities and at least 5 days prior to completion of construction (project) activities, each time project activities occur. Notification shall be sent to CDFW's South Coast Office at the address above, ATTN: Streambed Alteration Program – SAA # 1600-2017-0055-R5 and to R5LSACompliance@wildlife.ca.gov.

2. Avoidance and Minimization Measures

To avoid or minimize adverse impacts to fish and wildlife resources identified above, Permittee shall implement each measure listed below.

- 2.1 Qualified Biologist. For the purposes of this Agreement, a qualified biologist is one who has met all of the following minimum qualifications: (a) bachelor's degree in biological sciences, zoology, botany, ecology, or a closely related field; (b) at least 3 years of experience in field biology or current certification of a nationally recognized biological society; and (c) at least 1 year of field experience with biological resources found in or near the project area. In lieu of the following qualifications, a resume shall demonstrate to the satisfaction of CDFW that the

proposed biologist(s) has the appropriate training and background to effectively implement the measures of this Agreement.

- 2.2 Nesting Birds. To avoid potential impact to tree nesting birds, trees and shrubs designated for removal should be cut down during the time period of September 16 to January 14. Trees/shrubs may be removed between January 15 and March 14 provided the Permittee has a qualified biologist survey the proposed work area to verify the absence of nesting birds within 3 days prior to clearing, grading, or grubbing. If avoidance of the avian breeding season is not feasible, a qualified biologist with experience in conducting breeding bird surveys will conduct a minimum of 3 weekly focused surveys for nesting birds before project activities, including a survey completed within 2 days prior to the work in the area, to ensure no nesting birds in the project area would be impacted by the project. If an active nest is identified, Permittee shall develop a project specific Nesting Bird Management Plan (NBMP). The site-specific nest protection plan shall be submitted to CDFW prior to commencement of project activities subject to this Agreement within the minimum avoidance buffers described above. The Plan should include detailed methodologies and definitions to enable a qualified avian biologist to monitor and implement nest-specific buffers based upon the life history of the individual species; species sensitivity to noise, vibration, and general disturbance; individual bird behavior; current site conditions (screening vegetation, topography, etcetera), ambient levels of human activity; the various project-related activities necessary to construct the project, and other features. This NBMP shall be supported by survey documentation including: dates of survey, total field time of survey efforts, map of survey routes, names of investigators, and if any active nests were found. The NBMP shall be submitted to CDFW prior to commencement of project activities subject to this Agreement. If this option is chosen, project activities may not commence until CDFW has acknowledged receipt of survey results and any established buffers. The NBMP shall also be supported by a Nest Log which tracks each nest and its outcome. Each nest identified in the NBMP nest shall be monitored until the nest becomes inactive, including nests that remain active beyond September 15. The Nest Log shall be submitted to CDFW at the end of each week during project activities subject to this Agreement and/or until all nests identified in the NBMP are no longer active. This Agreement does not allow Permittee, any employees, or agents to destroy or disturb any active bird nest (Section 3503 Fish and Game Code) or any raptor nest (Section 3503.5) at any time of the year.
- 2.3 Bat Protection - Bridges. Prior to project activities on, under, or adjacent to bridges the following shall occur. The site shall be surveyed for bats by a qualified biologist. Surveys should include visual inspections, outflight counts, and where appropriate, acoustic monitoring. If bats are found, there shall be no further disturbance to the culvert or bridge until CDFW has been consulted. CDFW reserves the right to provide additional provisions to this agreement designed to protect nesting/roosting bats.

- 2.4 Vegetation Removal. Disturbance or removal of vegetation shall be kept to the minimum necessary to complete project related activities. Except for trees marked for removal on plans submitted to and approved by CDFW, no native trees with a trunk diameter at breast height (DBH) in excess of 6 inches shall be removed or damaged without prior consultation and approval of a CDFW representative. Vegetation marked for protection may only be trimmed with hand tools to the extent necessary to gain access to the work sites.
- 2.5 Leave Wildlife Unharmd. If any wildlife is encountered during the course of construction, said wildlife shall be allowed to leave the construction area unharmed. If any listed wildlife is encountered, Permittee shall contact CDFW immediately.
- 2.6 Impairment of Water Flow. Installation of bridges, culverts, dip crossings, or other structures shall be such that water flow is not impaired. Bottoms of temporary culverts shall be placed at stream channel grade and bottoms of permanent culverts shall be placed at or below stream channel grade.
- 2.7 Return Low Flow Channel to Pre-project Conditions. If a stream channel has been altered during project activities, Permittee shall return its low flow channel, as nearly as possible, to pre-project conditions without creating a possible future bank erosion problem, flat wide channel or sluice like area.
- 2.8 Ephemeral Stream Diversion. Vehicles shall not be driven or equipment operated in water covered portions of the stream, or where wetland vegetation, riparian vegetation, or aquatic organisms may be impacted.
- 2.9 Stream Materials. Rock, gravel, and/or other materials shall not be imported to, taken from or moved within the bed or banks of the stream except as otherwise addressed in this Agreement.
- 2.10 Operating Equipment and Vehicle Leaks. Any equipment or vehicles driven and/or operated within or adjacent to the stream shall be checked and maintained daily to prevent leaks of materials that could be deleterious to aquatic and terrestrial life or riparian habitat.
- 2.11 Stationary Equipment Leaks. Stationary equipment such as motors, pumps, generators, and welders, located within or adjacent to the stream shall be positioned over drip pans. Stationary heavy equipment shall have suitable containment to handle a catastrophic spill/leak.
- 2.12 Equipment Maintenance and Fueling. No equipment maintenance or fueling shall be done within or near any stream channel or lake margin where petroleum products or other pollutants from the equipment may enter these areas.

- 2.13 Equipment Storage. Staging and storage areas for equipment, materials, fuels, lubricants and solvents, shall be located outside of the stream channel and banks.
- 2.14 Location of Spoil Sites. Spoil sites shall not be located within a stream or locations that may be subjected to high storm flows, where spoil may be washed back into a stream, or where it may impact streambed habitat, aquatic or riparian vegetation.
- 2.15 Protected Species. This Agreement does not authorize the take of any protected species. For the purpose of this Agreement, "protected species" means the following: a species fully protected under state law; a species listed under the California Endangered Species Act (CESA; Fish & G. Code § 2050 et seq.) and/or the Endangered Species Act (ESA; 16 U.S.C. § 1531 et seq.); a species identified by CDFW as a species of special concern; or any other species for which take is prohibited under state or federal law. If the proposed work could affect any candidate species, or threatened and endangered species, the Permittee is required, as prescribed in CESA or ESA, to consult with the appropriate agency prior to commencement of the project. Any unauthorized take of such listed species may result in prosecution.
- 2.16 Date of Completion. Permittee shall restore temporary impacts to the stream zone within 6 months following completion of project activity.

3. Compensatory Mitigation Measures

There are no compensatory mitigation measures associated with this agreement.

- 3.1 Mitigation for Unauthorized Impacts. The Permittee shall mitigate at a minimum 5:1 ratio for impacts beyond those authorized in this Agreement. In the event that additional mitigation is required, the type of mitigation shall be determined by the CDFW.

4. Reporting Measures

- 4.1 Reporting Sensitive Species to CNDDDB. The Permittee shall be responsible for reporting all observations of threatened /endangered species or of species of special concern to CDFW's Natural Diversity Data Base (CNDDDB) within thirty (30) days of sighting. The form and instructions for completing the form and submitting the information are available on-line at http://www.dfg.ca.gov/biogeodata/cnddb/submitting_data_to_cnddb.asp. In addition to sending the information to CNDDDB a copy should be sent to the CDFW's South Coast Office, ATTN: Streambed Alteration Program – SAA #1600-2017-0055-R5.

CONTACT INFORMATION

Any communication that Permittee or CDFW submits to the other shall be in writing and any communication or documentation shall be delivered to the address below by U.S. mail, fax, or email, or to such other address as Permittee or CDFW specifies by written notice to the other.

To Permittee:

Mr. Ehab (Max) Maximous
City of Rancho Santa Margarita
22112 El Paseo
Rancho Santa Margarita, CA 92688
emaximous@cityofrsm.org

To CDFW:

Department of Fish and Wildlife
South Coast Region
3883 Ruffin Road
San Diego, CA 92103
Attn: Lake and Streambed Alteration Program – Jennifer Turner
Notification #1600-2017-0055-R5
jennifer.turner@wildlife.ca.gov

LIABILITY

Permittee shall be solely liable for any violations of the Agreement, whether committed by Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents or contractors and subcontractors, to complete the project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute CDFW's endorsement of, or require Permittee to proceed with the project. The decision to proceed with the project is Permittee's alone.

SUSPENSION AND REVOCATION

CDFW may suspend or revoke in its entirety the Agreement if it determines that Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, is not in compliance with the Agreement.

Before CDFW suspends or revokes the Agreement, it shall provide Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide Permittee an opportunity to correct any deficiency before CDFW suspends or revokes the

Agreement, and include instructions to Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused CDFW to issue the notice.

ENFORCEMENT

Nothing in the Agreement precludes CDFW from pursuing an enforcement action against Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects CDFW's enforcement authority or that of its enforcement personnel.

OTHER LEGAL OBLIGATIONS

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from obtaining any other permits or authorizations that might be required under other federal, state, or local laws or regulations before beginning the project or an activity related to it.

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the FGC including, but not limited to, FGC sections 2050 *et seq.* (threatened and endangered species), 3503 (bird nests and eggs), 3503.5 (birds of prey), 5650 (water pollution), 5652 (refuse disposal into water), 5901 (fish passage), 5937 (sufficient water for fish), and 5948 (obstruction of stream).

Nothing in the Agreement authorizes Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

AMENDMENT

CDFW may amend the Agreement at any time during its term if CDFW determines the amendment is necessary to protect an existing fish or wildlife resource.

Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by CDFW and Permittee. To request an amendment, Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the corresponding amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

TRANSFER AND ASSIGNMENT

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by Permittee in writing, as specified below, and thereafter CDFW approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the minor amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

EXTENSIONS

In accordance with FGC section 1605(b), Permittee may request one extension of the Agreement, provided the request is made prior to the expiration of the Agreement's term. To request an extension, Permittee shall submit to CDFW a completed CDFW "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). CDFW shall process the extension request in accordance with FGC 1605(b) through (e).

If Permittee fails to submit a request to extend the Agreement prior to its expiration, Permittee must submit a new notification and notification fee before beginning or continuing the project the Agreement covers (FGC section 1605(f)).

EFFECTIVE DATE

The Agreement becomes effective on the date of CDFW's signature, which shall be: 1) after Permittee's signature; 2) after CDFW complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable FGC section 711.4 filing fee listed at <https://www.wildlife.ca.gov/Conservation/CEQA/Fees>.

TERM

This Agreement shall expire on June 1, 2022 unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as FGC section 1605(a)(2) requires.

AUTHORITY

If the person signing the Agreement (signatory) is doing so as a representative of Permittee, the signatory hereby acknowledges that he or she is doing so on Permittee's behalf and represents and warrants that he or she has the authority to legally bind Permittee to the provisions herein.

AUTHORIZATION

This Agreement authorizes only the project described herein. If Permittee begins or completes a project different from the project the Agreement authorizes, Permittee may be subject to civil or criminal prosecution for failing to notify CDFW in accordance with FGC section 1602.

CONCURRENCE

The undersigned accepts and agrees to comply with all provisions contained herein.

FOR ORANGE COUNTY TRANSPORTATION AUTHORITY

Mr. Ehab (Max) Maximous
Public Works Director/City Engineer

Date

FOR DEPARTMENT OF FISH AND WILDLIFE

Gail Sevrens
Environmental Program Manager

Date

Prepared by: Jennifer Turner
Environmental Scientist



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
 Carlsbad Fish and Wildlife Office
 2177 Salk Avenue, Suite 250
 Carlsbad, California 92008



In Reply Refer To:
 FWS-OR-16B0303-16I0745

September 19, 2016
Sent by Email

Mr. Charles Baker
 Branch Chief
 Environmental Planning
 Department of Transportation
 3347 Michelson Drive, Suite 100
 Irvine, California 92612-8894

Attention: Mr. Mohammed Shaikh, Senior Environmental Planner

Subject: Informal Section 7 Consultation for the Santa Margarita Parkway Bridge Rehabilitation Project over Arroyo Trabuco Creek, Orange County, California

Dear Mr. Baker:

This is in response to your correspondence, dated June 7, 2016, requesting our concurrence with your determination that the subject project is not likely to adversely affect the federally threatened coastal California gnatcatcher (*Polioptila californica californica*; gnatcatcher) and the federally endangered least Bell's vireo (*Vireo bellii pusillus*; vireo), southwestern willow flycatcher (*Empidonax traillii eximius*; flycatcher), and arroyo toad (a. southwestern t.) [*Anaxyrus californicus* (*Bufo microscaphus* c.)], in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*). The project is receiving Federal funding through the Federal Highway Administration (FHWA). The California Department of Transportation (Caltrans) has assumed FHWA's responsibilities under the Act for this consultation in accordance with 23 U.S.C. 327 and as described in the National Environmental Policy Act assignment Memorandum of Understanding between FHWA and Caltrans (effective October 1, 2012).

Caltrans, together with the City of Rancho Santa Margarita, proposes to rehabilitate the existing Santa Margarita Parkway Bridge over Arroyo Trabuco Creek in Orange County, California. Caltrans and the City of Rancho Santa Margarita are hereafter referred to as the project proponents. The project will reconstruct a critical hinge located near the west end of the bridge and perform various general preventive maintenance repairs, including cleaning expansion joints, reconstructing joint seals, treating the bridge deck with methacrylate resin, reconstructing sidewalk joint protection, and spall repair. Project construction is anticipated to take approximately 7 months, beginning in October of 2017 (Caltrans 2016).

Gnatcatcher, vireo, flycatcher, and arroyo toad surveys were conducted within the biological study area for the project in 2015 with negative results (Caltrans 2016). There are numerous records for the gnatcatcher in the vicinity of the proposed project. The CFWO database includes 3 records for the gnatcatcher within a mile of the project site (Bonterra Consulting 2001, Bloom 2003, Snibbe 2012). The project will result in temporary impacts to approximately 0.05 acre of coastal sage scrub habitat that is suitable for the gnatcatcher (Caltrans 2016). Vireos and flycatchers are also known to occur in

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the vicinity of the project. The CFWO database includes a record for vireos within 3 miles of the project site (LSA Associates, Inc. 2013), and three records for flycatchers within approximately 6 miles of the project site (Moore 2001, Bloom 2001a and b). The project will result in temporary impacts to 0.52 acre of habitat suitable for vireo and flycatcher breeding and foraging (Caltrans 2016). Due to drought conditions, negative survey results from 2015 are not strong evidence that arroyo toads are absent from the project footprint, and there are records for arroyo toads approximately 3 miles upstream (Holland 2005, pers. comm.). The project will result in temporary impacts to 0.52 acre of aestivation and foraging habitat, and 0.02 acre of suitable breeding habitat for the arroyo toad (Caltrans 2016). Due to negative surveys and the limited habitat in the project footprint, it is unlikely that these species will be affected by the project work, and repeat surveys will be conducted to ensure the species are absent from the project work area. In addition, measures will be implemented to avoid and minimize degradation of suitable habitat for these species. Caltrans has determined that the project may affect but is not likely to adversely affect these species.

The following conservation measures (CM) have been incorporated into the project design to avoid and minimize potential effects to the gnatcatcher, vireo, flycatcher, and arroyo toad, and their suitable habitat:

- CM 1. The 0.05 acre upland and 0.52 acre riparian temporary impact areas will be revegetated and restored with native species. These areas will be returned to original grade, as feasible. Prior to initiating project impacts, a restoration plan will be developed for the temporary impact areas. The plan will be submitted to the CFWO for review and approval. This plan will include a detailed description of restoration methods, slope stabilization, and erosion control, criteria for restoration to be considered successful, and monitoring protocol(s). Following the completion of construction activities within each area of impact, the restoration plan will be implemented for a minimum of 5 years, unless success criteria are met earlier and all artificial water has been off for at least 2 years. Temporary impact areas will be planted as soon as possible following re-grading after completion of construction to prevent encroachment by nonnative plants.
- CM 2. If maintenance of a coastal sage scrub restoration area is necessary between February 15 and August 31, a biologist with knowledge of the biology and ecology of gnatcatchers and approved by the CFWO will survey for gnatcatchers within the restoration area, access paths to it, and other areas susceptible to disturbances by site maintenance. Surveys will consist of three visits separated by 2 weeks, starting March 1 of each maintenance/monitoring year. Work will be allowed to continue on the site during the survey period. However, if gnatcatchers are found during any of the visits, Caltrans will notify and coordinate with the CFWO to identify measures to avoid and/or minimize effects to the gnatcatcher (e.g., nests and an appropriate buffer will be flagged by the biologist and avoided by the maintenance work).
- CM 3. If maintenance of a riparian restoration area potentially occupied by vireos or flycatchers is necessary between March 15 and September 15, a qualified biologist will survey for vireos and flycatchers within the creation/restoration/enhancement area, access paths to it, and other areas susceptible to disturbances by creation/restoration/enhancement site maintenance. Surveys will consist of three visits separated by 2 weeks starting April 10 of each maintenance/monitoring year. Restoration work will be allowed to

continue on the site during the survey period. However, if vireos or flycatchers are found during any of the visits, the Caltrans Project Biologist will notify and coordinate with the CFWO to identify measures to avoid and/or minimize effects to the vireo and/or flycatcher (e.g., nests and an appropriate buffer will be flagged by the biologist and avoided by the maintenance work).

- CM 4. Protocol surveys will be conducted for the gnatcatcher, vireo, flycatcher, and toad within 1 year prior to the commencement of vegetation clearing and construction activities for the project to ensure that survey information for the project remains up to date. If listed species are observed within or adjacent to the project impact area, consultation will be reinitiated with the CFWO to address potential direct and/or indirect effects that may occur to these species beyond those addressed in this consultation.
- CM 5. A biologist (Project Biologist)¹ approved by the CFWO will be on site during: 1) initial clearing and grubbing; and 2) weekly during project construction within 200 feet of gnatcatcher, vireo, flycatcher and arroyo toad habitat to ensure compliance with all CM. The Project Biologist will be familiar with the habitats, plants, and wildlife in the project area to ensure that issues relating to biological resources are appropriately and lawfully managed. Caltrans will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO prior to initiating project impacts. The biologist will be provided with a copy of this consultation.
- CM 6. Under the supervision of the Project Biologist, the limits of project impacts (including construction staging areas and access routes) will be clearly delineated with bright orange plastic fencing, stakes, flags, or markers that will be installed in a manner that does not impact habitats to be avoided and such that they are clearly visible to personnel on foot and operating heavy equipment. If work occurs beyond the fenced or demarcated limits of impact, all work will cease until the problem has been remedied to the satisfaction of the CFWO. Temporary construction fencing and markers will be maintained in good repair until the completion of project construction and removed upon project completion.
- CM 7. The Project Biologist will submit a final report to the CFWO within 120 days of project completion including photographs of impact areas and adjacent habitat, documentation that authorized impacts were not exceeded, and documentation that general compliance with all CM was achieved. Raw field notes should be available upon request by the CFWO.
- CM 8. An employee education program will be developed and implemented by the Project Biologist. Each employee (including temporary, contractors, and subcontractors) will receive a training/awareness program prior to working on the proposed project. They will be advised of the potential impact to the listed species and the potential penalties for taking such species. At a minimum, the program will include the following topics:

¹ The designated project biologist for this measure should be experienced in gnatcatcher, vireo, flycatcher, and arroyo toad biology and ecology.

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occurrence of the listed and sensitive species in the area (including photographs), their general ecology, sensitivity of the species to human activities, legal protection afforded these species, penalties for violations of Federal and State laws, reporting requirements, and project features designed to reduce the impacts to these species and promote continued successful occupation of the project area.

- CM 9. The clearing and grubbing of native habitats for the project will be conducted between September 1 and February 14 to avoid the gnatcatcher, vireo, and flycatcher breeding season (or sooner than September 1 if the Project Biologist demonstrates to the satisfaction of the CFWO that all nesting is complete). If vegetation clearing must be conducted during the breeding season, Caltrans will re-initiate consultation with the CFWO to address unanticipated effects to this species.
- CM 10. As feasible, native vegetation will be trimmed at the ground surface, and roots will be left intact to allow for regrowth following project work.
- CM 11. If invasive weed species are already growing within the project area, special care will be taken during transport, use, and disposal of soils containing invasive weed seeds to ensure that invasive weeds are not spread into new areas by the project. All heavy equipment will be washed and cleaned of debris prior to entering a new area to minimize the spread of invasive weeds. Eradication strategies will be implemented should an invasion of nonnative plant species be observed in the project work area by the Project Biologist.
- CM 12. If nighttime construction is necessary, all project lighting (e.g., staging areas, equipment storage sites, roadway) will be selectively placed and directed toward the construction site and away from adjacent habitats. Construction lighting will be of the lowest illumination necessary for safety, and light glare shields will be used to reduce the extent of illumination into adjacent habitats.
- CM 13. Permanent project lighting will be of the lowest illumination necessary for safety and will be directed toward the road and away from sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats. Caltrans will review the permanent lighting plans for the project and then submit them to the CFWO for review and approval.
- CM 14. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities will be restricted to designated disturbed/developed areas. They will be located such that runoff from the designated areas will not enter sensitive habitats.
- CM 15. Appropriate erosion and siltation controls will be installed prior to the onset of vegetation clearing and be maintained in good repair until the completion of project construction. Erosion and sediment control devices used for the proposed project, including fiber rolls and bonded fiber matrix, will be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.

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- CM 16. A construction Storm Water Pollution Prevention Plan (SWPPP) and soil erosion and sedimentation plan will be developed to minimize erosion and identify best management practices that will be implemented during construction to maintain water quality.
- CM 17. Impacts from fugitive dust will be avoided and minimized through watering and other appropriate measures.
- CM 18. The project site will be kept as clean of debris as possible. Food-related trash items will be kept in enclosed containers and regularly removed from the site.
- CM 19. If fill must be borrowed from, or disposed of offsite, the construction contractor will identify any necessary borrow and disposal sites and provide this information to Caltrans for review. Caltrans will review borrow and disposal site information and submit the information to the CFWO. If borrow or disposal activities may affect a listed species or critical habitat, Caltrans will reinitiate section 7 consultation.
- CM 20. Project personnel will be prohibited from bringing domestic pets to the construction site to ensure that domestic pets do not disturb or depredate wildlife in the adjacent native habitat.

Based on the information provided and the above measures that have been incorporated into the proposed project, we concur with your determination that the proposed project is not likely to adversely affect the gnatcatcher, vireo, flycatcher, and arroyo toad because surveys will be conducted to ensure that these species are not present in or adjacent to the project footprint during construction and because the project will maintain the amount and quality of breeding, feeding, and sheltering habitat for these species following restoration of temporary impacts.

Therefore, the interagency consultation requirements of section 7 of the Act have been satisfied. Although our concurrence ends informal consultation, obligations under section 7 of the Act will be reconsidered if new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not previously considered or this action is subsequently modified in a manner that was not considered in this assessment.

Thank you for your coordination on this project. If you have any questions regarding this letter, please contact Sally Brown of this office at 760-431-9440, extension 278.

Sincerely,

for Karen A. Goebel
Assistant Field Supervisor

Mr. Charles Baker (FWS-OR-16B0303-16I0745)

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LITERATURE CITED

- Bonterra Consulting. 2001. Results of Focused Surveys for the Coastal California Gnatcatcher at the Foothill Transportation Corridor – North Trabuco Creek Bridge Crossing Project Site, Orange County, California. 3+pp.
- Bloom, P.H. 2001a. Untitled 45 day report for a banding station in Rancho Mission Viejo, Orange County. 3pp.
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**Environmentally Sensitive Area Action Plan
Santa Margarita Parkway Bridge (55C0520L)
Hinge Rehabilitation Project
Federal Project Number: BPMPL-5478 (013)**

**CALTRANS DISTRICT 12
CITY OF RANCHO SANTA MARGARITA
ORANGE COUNTY, CALIFORNIA**

Submitted by:
CITY OF RANCHO SANTA MARGARITA
22112 El Paseo
Rancho Santa Margarita, CA 92688
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Prepared By:



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Reviewed for Approval by:



Jonathan Wright, (PQS)
Prehistoric Archaeologist

Reviewed for Approval by:



Charles Baker
Caltrans Environmental Branch Chief

June 2016

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**ENVIRONMENTALLY SENSITIVE AREA ACTION PLAN
SANTA MARGARITA PARKWAY BRIDGE (55C0520L) HINGE REHABILITATION PROJECT
RANCHO SANTA MARGARITA, CALIFORNIA**

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1. SUMMARY OF ESA ACTION PLAN

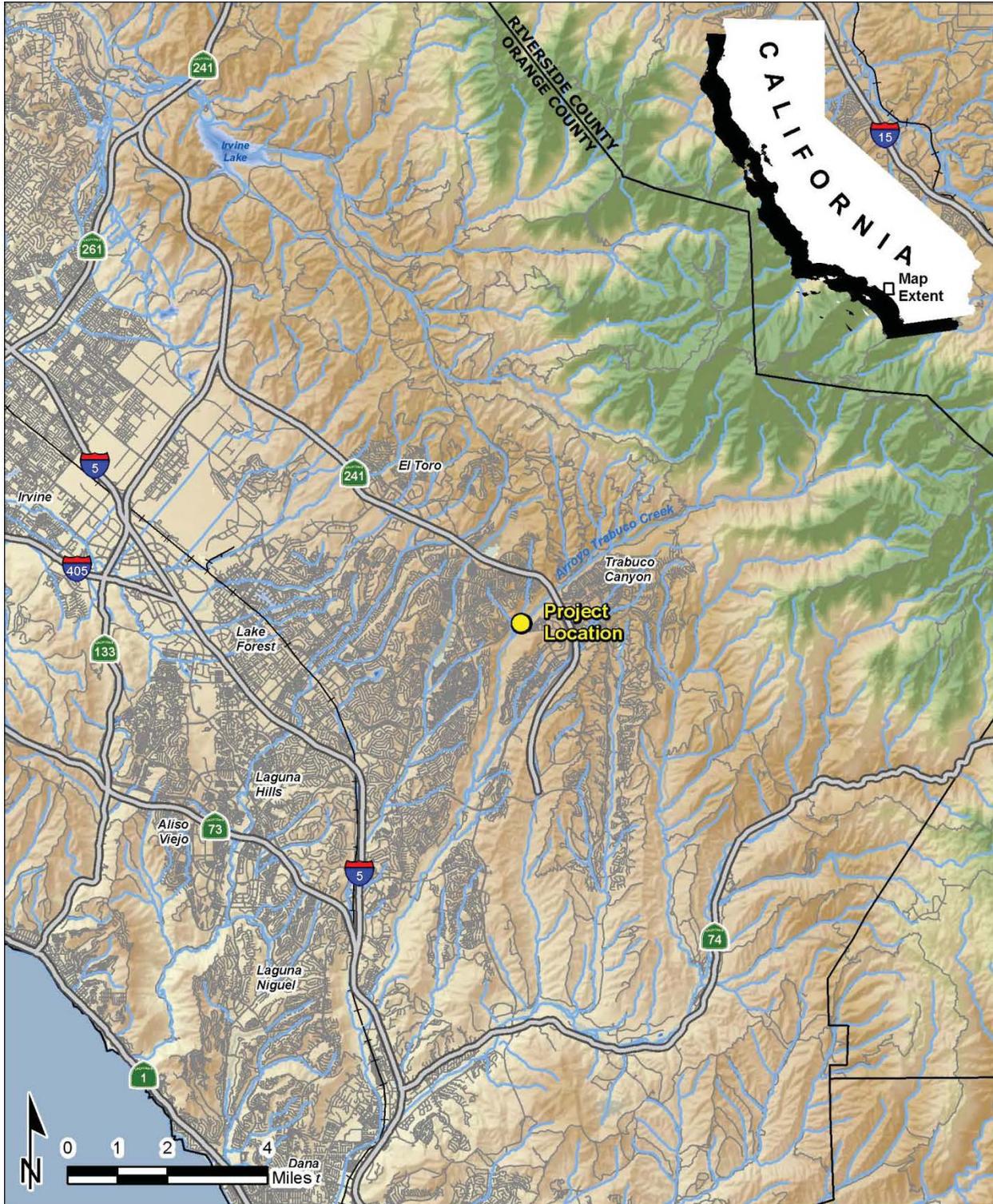
This Environmentally Sensitive Area (ESA) Action Plan was prepared for the Santa Margarita Parkway Bridge Hinge Rehabilitation Project (the Project) that proposes to rehabilitate the existing Santa Margarita Parkway (SMP) Bridge Over Arroyo Trabuco Creek (Bridge No. 55C0520L) located in the City of Rancho Santa Margarita, County of Orange, California (Figure 1). The project involves reconstruction of a critical hinge located near the west end of the bridge, and performing various general preventive maintenance repairs consistent with Caltrans approved Bridge Preventive Maintenance Program (BPMP) and Caltrans Structures Maintenance & Investigations (SM&I) bridge inspection recommendations (Figure 2). This ESA Action Plan is written in compliance with Section 14, Environmental Stewardship, of the Standard Specifications, 2010, and in accordance with the January 1, 2014, *First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, As it Pertains to the Federal-Aid Highway Program in California* (PA) as specified in Stipulations VIII.C.4 and X.B.1.a, and as outlined in Attachment 5. Implementation of the ESA Action Plan provides for a finding of No Adverse Effect with Standard Conditions - ESA. Two historic properties are discussed in this ESA Plan, consisting of prehistoric archaeological sites CA-ORA-863 (P-30-000863) (a prehistoric lithic scatter with an associated area of habitation debris) and CA-ORA-868 (P-30-000868) (a prehistoric lithic scatter). Both sites have been heavily impacted by modern development; CA-ORA-863 has been disturbed by an access road that leads to the Santa Margarita Water District (SMWD) Pump Station, a fenced structure completely within the previously recorded boundary of the site; and CA-ORA-868 is bisected by the SMP and building developments located on both sides of the SMP. Contractors will utilize the graded access road off of Santa Margarita Parkway leading down to the work area underneath the bridge structure within O'Neill Regional Park where no recorded archaeological sites are located. The archeological sites in the APE are recorded up on the bluff tops and not down in the area of Arroyo Trabuco Creek, as shown in Figures 3 and 4, in this ESA.

Table 1 provides descriptions of each archaeological site component to be protected by ESAs.

Table 1. Cultural Resources to be Protected by ESAs

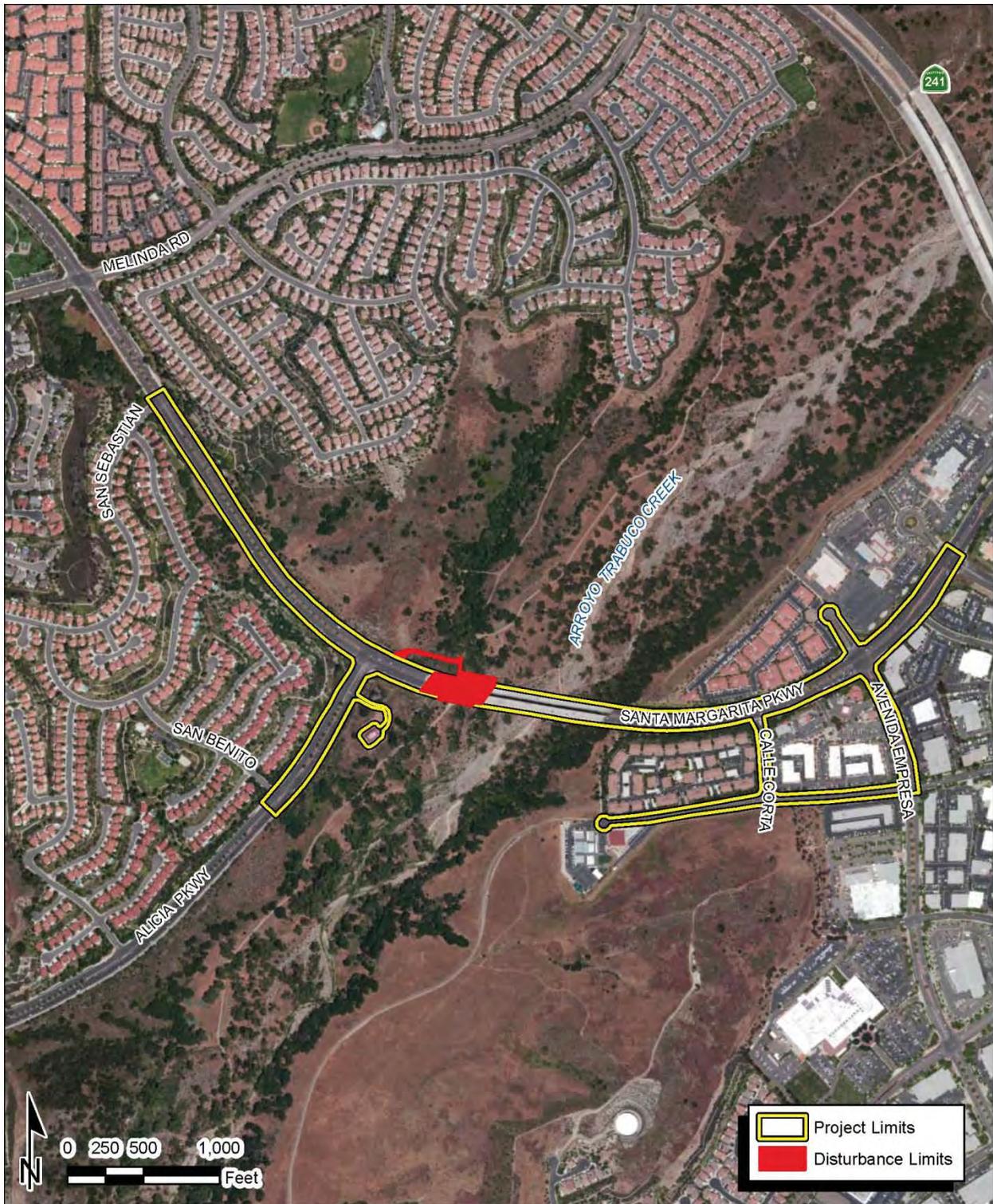
Cultural Resource	ESA Location
<p>CA-ORA-863 Site measures 7,220 m². The site has largely been reported as destroyed, although some cultural materials (a small lithic scatter, fire affected rock, and sparse shell midden material) were noted in the western portion of the site, less than 100 feet to the southeast from the edge of ROW. Since the SMWD Pump Station is fenced, the site will already be protected from any potential impacts from work done in that area.</p>	<p>The ESA boundary surrounds the existing portions of CA-ORA-863 that are located outside of the project limits but not within areas that have been previously paved/ developed (see Figure 3).</p>
<p>CA-ORA-868 Site limits extend over an area measuring 37,757 m². The site has been large reported as destroyed by the construction of SMP and adjacent developments, although some flaked stone artifacts and a hammerstone were identified in the northern and western portions of the site.</p>	<p>The ESA boundary surrounds the existing portions of CA-ORA-865 that are located outside of the southern SMP project limits but not within areas that have been previously paved/developed (see Figure 4).</p>

As specified in Table 1, above, and shown in Figures 3 and 4, ESA boundaries have been created to protect these two resources in place. Construction parking and staging must not be conducted in these areas. Prior to any construction or construction related activity, the ESA locations will be clearly described and illustrated in the Plans, Specifications, and Estimates (PS&E) package (or equivalent phase) (see provisions below). ESA limits and archaeological monitoring is not feasible considering the property is not owned by the Project proponent. Table 2 presents a list of tasks to be carried out and the parties responsible for ensuring that these tasks are completed.



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Figure 1 Project Location Map



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Figure 2 Project Limits



Figure 3 Proposed ESA Limits at CA-ORA-863



Figure 4 Proposed ESA Limits at CA-ORA-865

2. Project Description

The City of Rancho Santa Margarita in coordination with the Caltrans District 12 and the Federal Highway Administration (FHWA), proposes Federal Project Number BPMPL-5478 (013) to rehabilitate the existing SMP Bridge over Arroyo Trabuco Creek (Bridge No. 55C0520L) located in the City of Rancho Santa Margarita, County of Orange, California (see Figure 1). The SMP Bridge was built in 1991 and is a continuous 7-span cast-in-place pre-stressed concrete box girder with reinforced concrete two-column bents and reinforced concrete open end seat-type abutments, all supported on steel piles, except the most westerly bent which is supported on spread footings. The project involves reconstruction of a critical hinge located near the west end of the bridge, and performance of various general preventive maintenance repairs (Figure 2). Because of the critical importance of Santa Margarita Parkway as an access route within the City, innovative traffic staging through the use of adjacent bridge (Bridge No. 55C0520R) and construction phasing will be implemented. No partial or full acquisitions of right-of-way will be required as part of the proposed project.

Land uses immediately surrounding the proposed project area include open space (O'Neill Regional Park) to the north and south, and residential developments to the east and west. All houses are not on street level, and the residential developments adjacent to the Project limits include commercial spaces. Anticipated construction phasing will occur in an area surrounding the bridge (approximately 2.11 acres in size) and traffic staging, road signing and temporary road striping will occur in areas surrounding the bridge (approximately 31.13 acres in size). The repair measures proposed for the SMP Bridge include, but are not limited to, the following:

- Hinge reconstruction which involves placement of temporary supports under the bridge within Arroyo Trabuco Creek in O'Neill Park
- Cleaning expansion joints
- Reconstruction of joint seals

Construction activities associated with these proposed improvements are relevant to the components of the ESA Action Plan. This ESA Action Plan is written in compliance with Section 14, Environmental Stewardship, of the Standard Specifications, 2010, and is prepared in accordance with Caltrans Section 106 Programmatic Agreement (PA), as specified in Stipulations VIII.C.4 and X.B.1.a, and as outlined in Attachment 5. Portions of two cultural resources (CA-ORA-863 and -865) located outside the Project limits will be protected in place during Project construction through the establishment of an ESA (see Table 1). The location of

the cultural resources and ESA boundaries in relation to the Project footprint are depicted in Figures 3 and 4.

3. Methods

Prior to any project activities the ESA boundary will be delineated in the PS&E package. Figures 2 and 3 depict the portions of the sites to be protected by ESAs. No ESA exclusion area is required. Table 2 presents a list of tasks to be carried out and the parties responsible for ensuring that these tasks are completed.

The following Special Provisions are to be included in the Plans Specifications and Estimate (PS&E) package:

14-1.02 Environmentally Sensitive Area

14-1.02A General

Section 14-1.02 includes specifications for environmentally sensitive area requirements.

If an ESA is shown:

1. Do not enter the ESA unless authorized
3. If the ESA is breached, immediately:
 - 3.1. Secure the area and stop all operations within 60 feet of the ESA boundary
 - 3.2. Notify the Engineer
4. If the ESA is damaged, the Department determines what efforts are necessary to remedy the damage and who performs the remedy; you are responsible for remedies and charges

14-2.02 Archaeological Resources

14-2.02A General

Section 14-2.02 applies if archaeological resources are discovered at the job site. Do not disturb the resources and immediately:

1. Stop all work within a 60-foot radius of the discovery.
2. Protect the discovery area.
3. Notify the Engineer.

The Department investigates. Do not move archaeological resources or take them from the job site. Do not resume work within the discovery area until authorized.

If ordered, furnish resources to assist in the investigation or recovery of archaeological resources.
This work is change order work.

4. Responsible Parties

Table 2: Responsible Parties and Tasks

Stage	Responsible Parties	Task	Anticipated Completion Date
Pre-construction	Caltrans Archaeologist; Caltrans Project Manager/ Alternative To Be Determined (TBD); Project Engineer; District Local Assistance Engineer (DLAE)	Caltrans archaeologist will ensure that ESAs are clearly described and illustrated in the Plans, Specifications, and Estimates (PS&E) package/ or equivalent documentation.	December 2016
	Caltrans Archaeologist; Caltrans Project Manager/ Alternative TBD; Project Engineer; DLAE	All responsible parties, including the Caltrans Archaeologist, will review the PS&E package/ or equivalent documentation.	December 2016
	Environmental Branch Chief; Caltrans Archaeologist; Caltrans Project Manage/ Alternative TBD; Project Engineer; DLAE	Caltrans Archaeologist will ensure the ESA Action Plan is included in the Environmental Commitment Record (ECR) and the RE Pending File/ or equivalent documentation	December 2016
	Caltrans Archaeologist; Environmental Construction Liaison/ Alternative TBD; Resident Engineer/ Alternative TBD; Contractor; DLAE	ESAs will be discussed during the pre-construction meeting. The importance of ESAs will be discussed with construction personnel and it will be stressed that no construction activity (including storing or staging of equipment or materials) should occur within the ESAs and that workers must remain outside of the ESA at all times. Additionally, construction personnel will be informed of historic preservation laws that protect archaeological sites against any disturbance or removal of artifacts.	June 2017
During Construction	Caltrans Archaeologist; Environmental Construction Liaison; Resident Engineer; Contractor; DLAE	The DLAE, and RE/ Alternative TBD will notify Caltrans Archaeologist and Environmental Branch Chief at least three weeks in advance of construction to ensure that a Caltrans archaeologist will be available to allow for field review of ESA locations.	June 2017
	Caltrans Archaeologist; Contractor; TBD	District 12 Department of Transportation will require construction personnel to notify the DLAE, or RE/ Alternative TBD if the ESA is violated. Caltrans Archaeologist will notify the State Historic Preservation Officer within 48 hours of any ESA breach and consult immediately to determine how the breach will be addressed.	June 2017 – December 2017

Table 2: Responsible Parties and Tasks

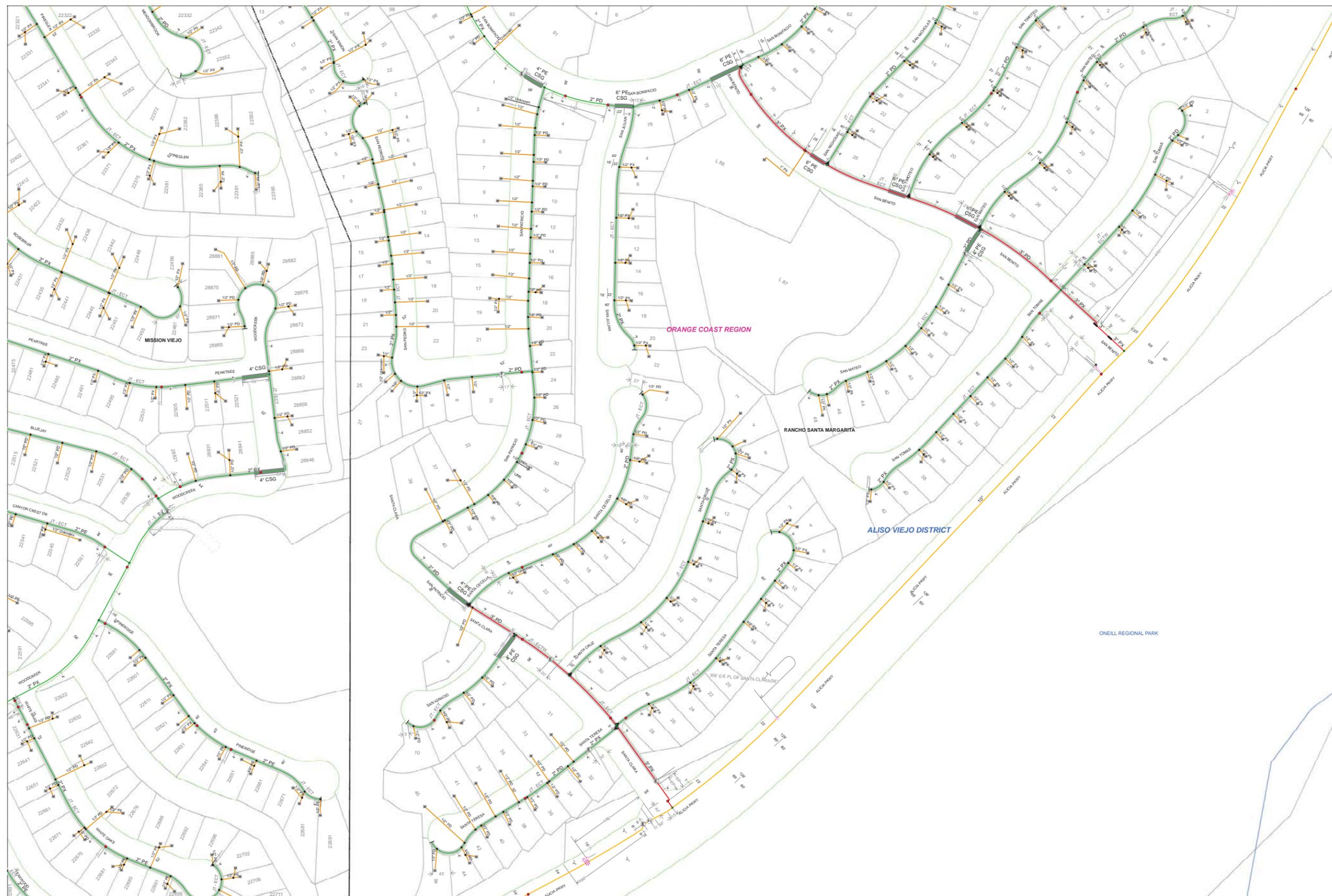
Stage	Responsible Parties	Task	Anticipated Completion Date
Post Construction	Caltrans Archaeologist; TBD	The DLAE, and or Caltrans Environmental Construction Liaison/ Alternative TBD will inform the Caltrans Archaeologist when construction is finished.	January 2018
Responsible Parties as of October 2015	City of RSM Project Manager: E. Maximous / emaximous@cityofrsm.org / (949) 635-1805 Caltrans Project Manager: Jim Kauffman / jim.kauffman@dot.ca.gov / (949) 724-7805 Caltrans Project Archaeologist: Jonathan Wright / jonathan.wright@dot.ca.gov / (949) 724-2880 Environmental Branch Chief: Charles Baker/ charles.baker@dot.ca.gov / (949) 724-2252 Environmental Construction-Liaison/Alternative TBD: Information not available at this time Resident Engineer/Alternative TBD: Information not available at this time Contractor Project Manager: Information not available at this time		

ATTACHMENT C

UTILITIES



1 inch = 100 feet



Map Number: 14490-122100
 Map Type: Gas Asset Map
 Printed By: htsan
 Printed Date: 4/6/2015

LIABILITY STATEMENT
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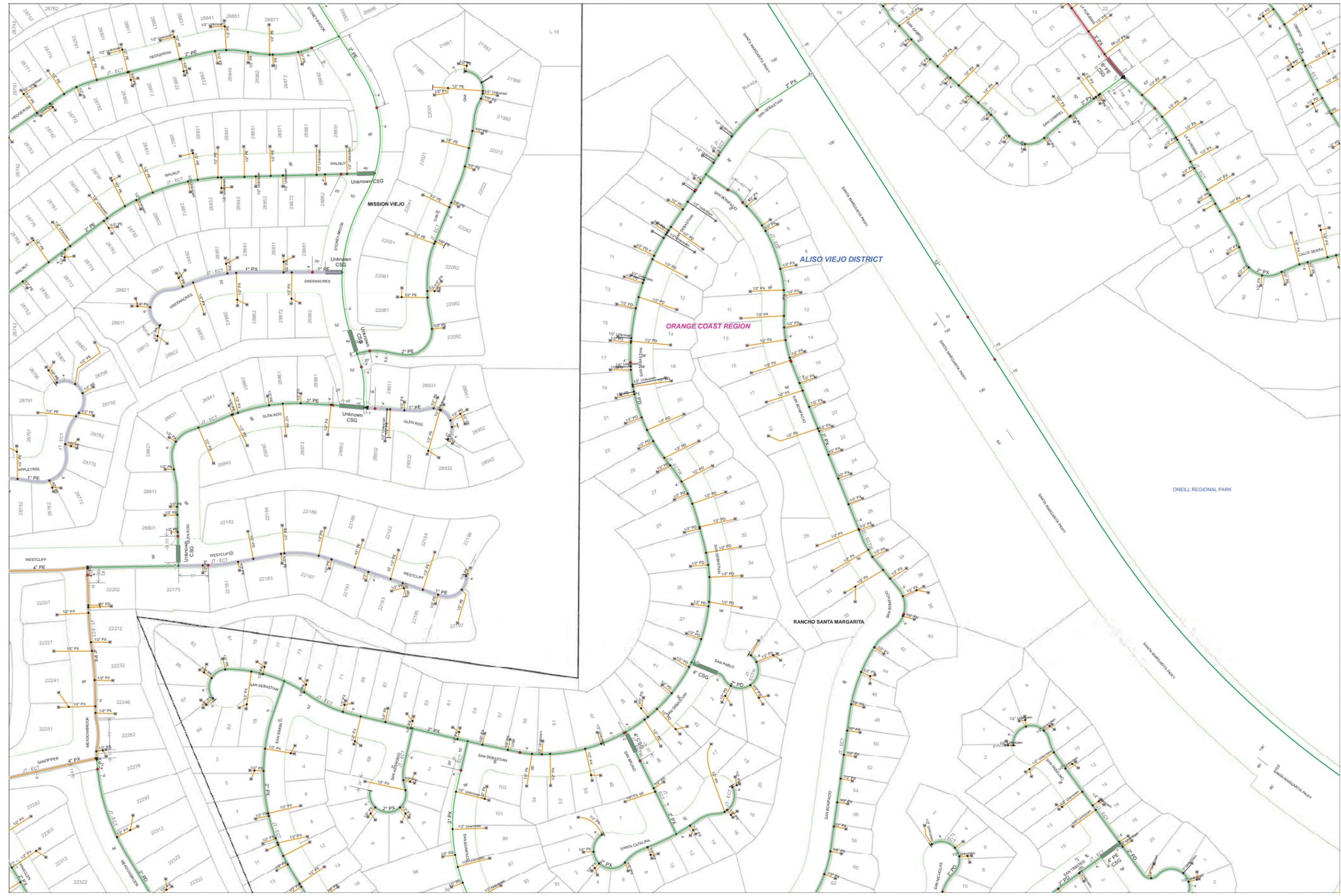
1 inch = 100 feet



Map Number: 14550-122120
 Map Type: Gas Asset Map
 Printed By: htsan
 Printed Date: 4/6/2015

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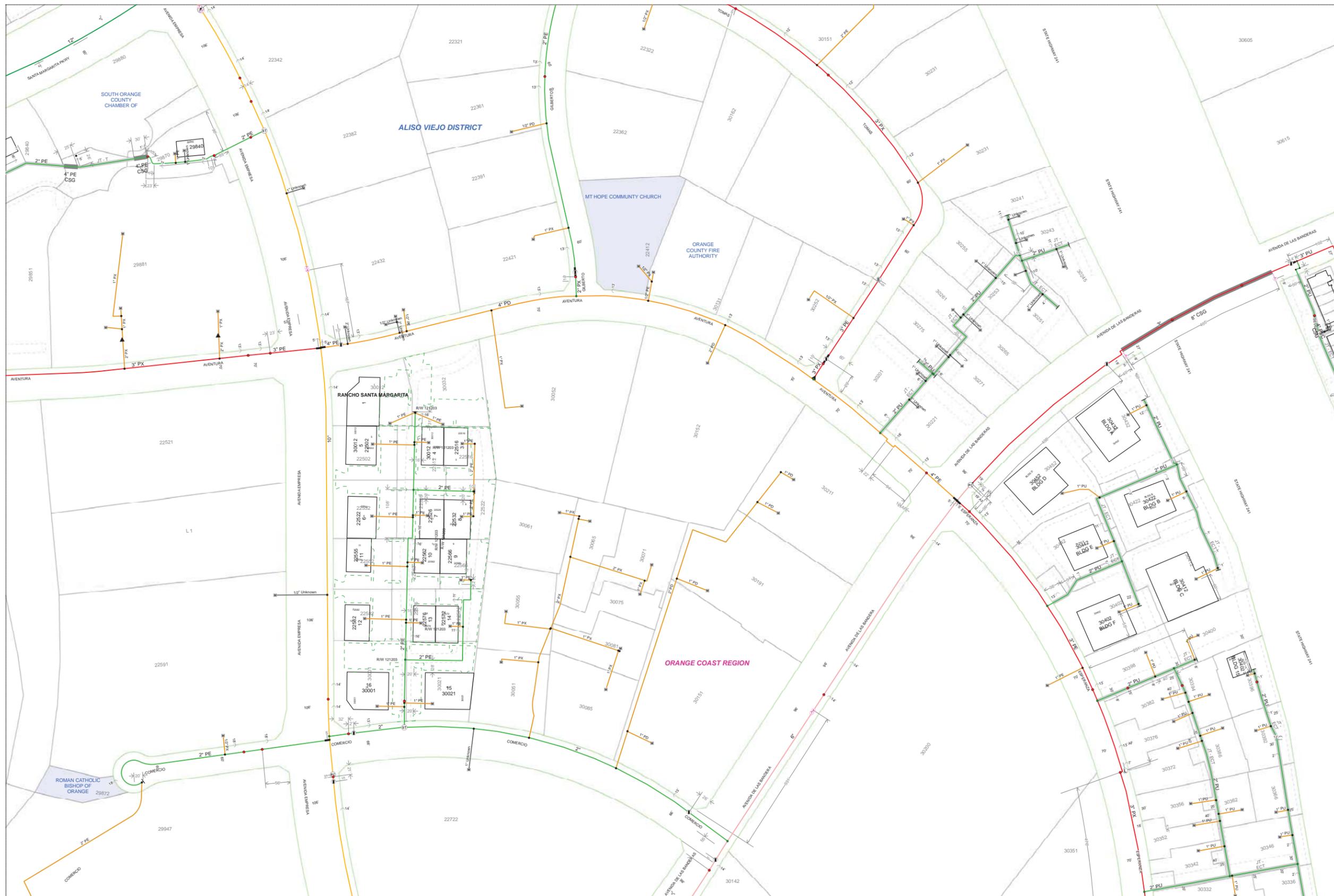
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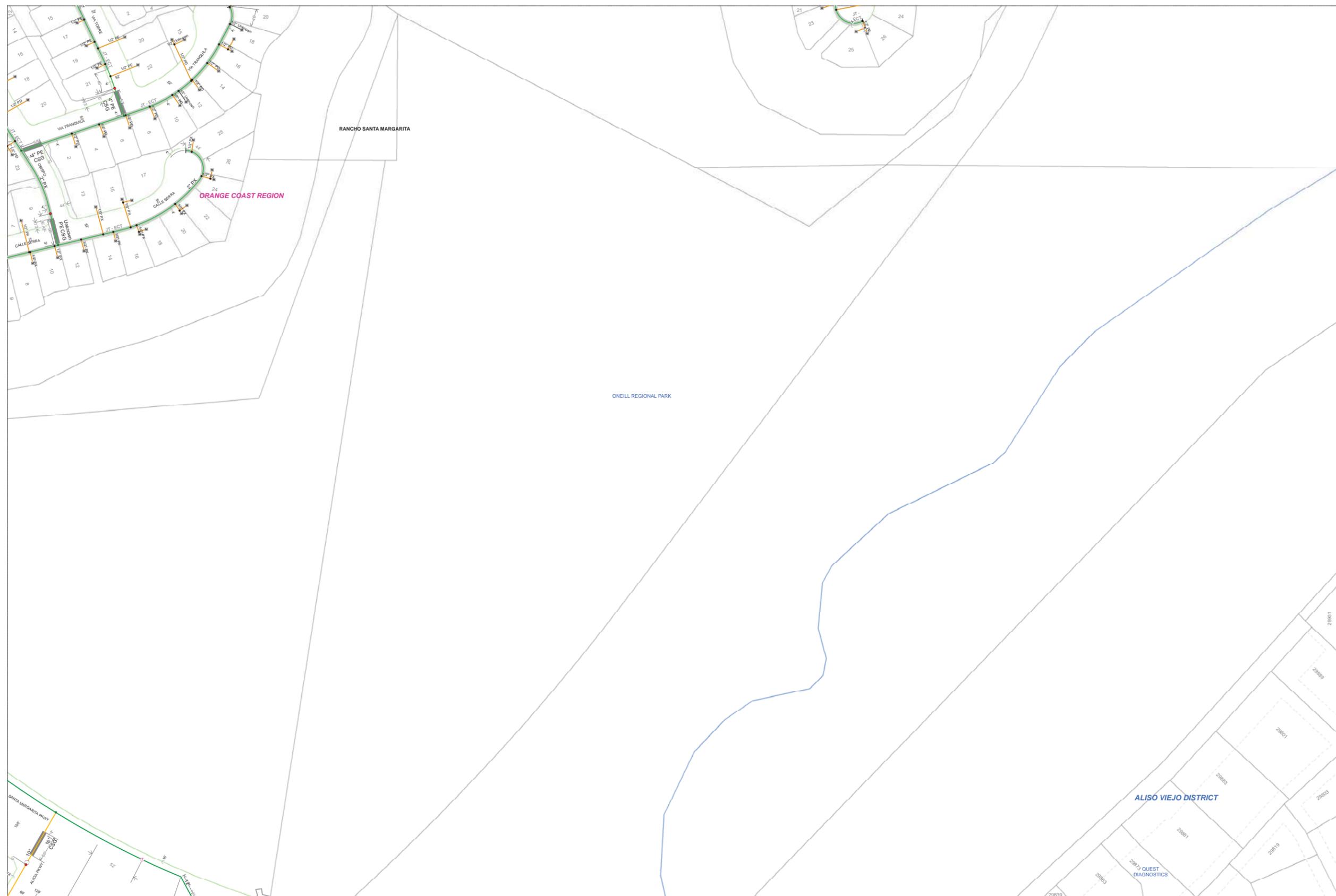
1 inch = 100 feet



Map Number: 14550-122100
Map Type: Gas Asset Map
Printed By: htsan
Printed Date: 4/6/2015

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1 inch = 100 feet

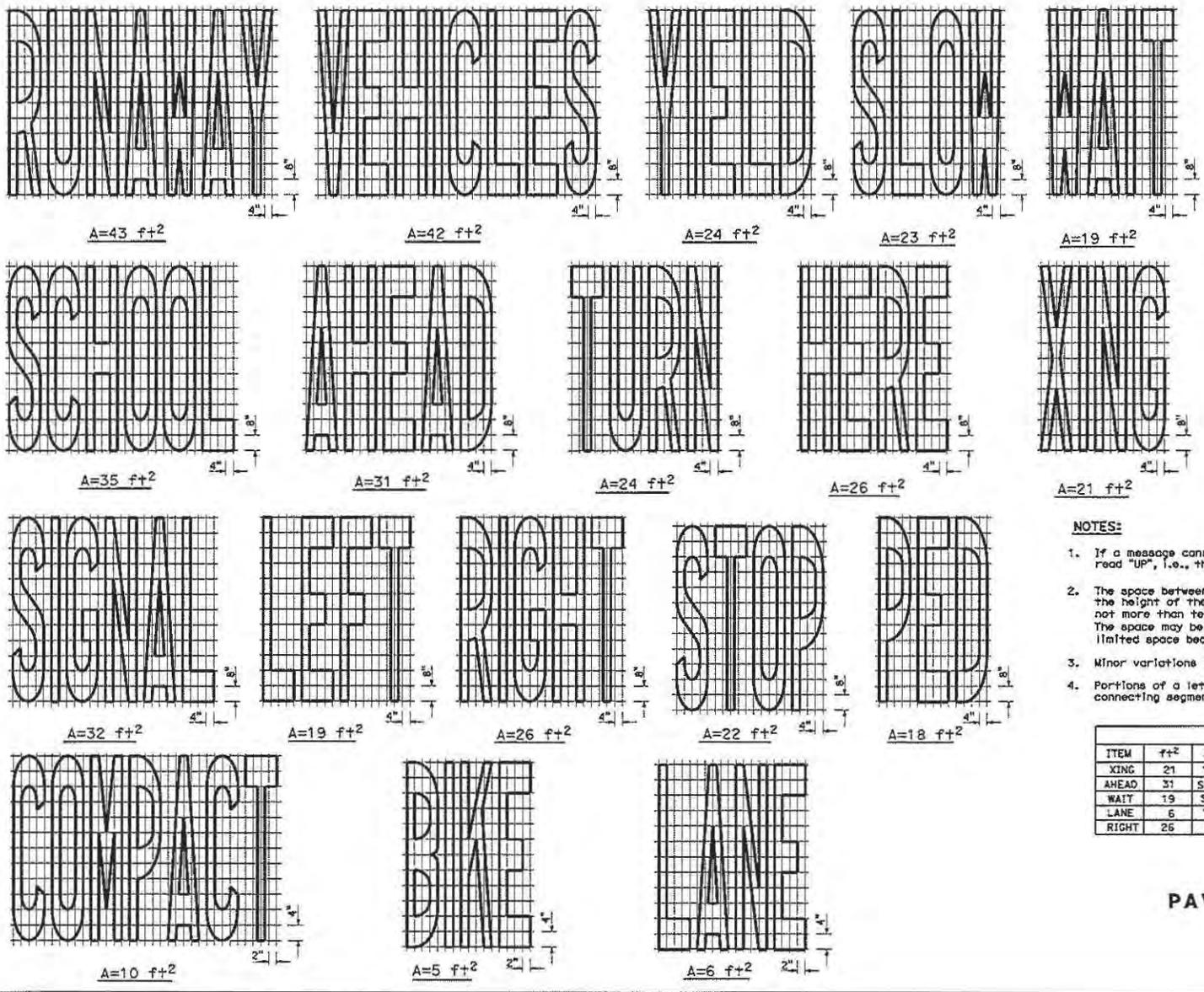
Map Number: 14520-122120
 Map Type: Gas Asset Map
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0 100 200 300 400 Feet

ATTACHMENT D
REFERENCED STANDARD PLANS



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
------	--------	-------	--------------------------	-----------	--------------

Atifa Feroze
 REGISTERED CIVIL ENGINEER
 October 30, 2015
 PLAN APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 Atifa Feroze
 C80402
 Exp. 2-28-17
 CIVIL
 STATE OF CALIFORNIA

NOTES:

1. If a message consists of more than one word, it must read "UP", i.e., the first word must be nearest the driver.
2. The space between words must be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be reduced appropriately where there is limited space because of local conditions.
3. Minor variations in dimensions may be accepted by the Engineer.
4. Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.

WORD MARKINGS							
ITEM	ft+2	ITEM	ft+2	ITEM	ft+2	ITEM	ft+2
XING	21	YIELD	24	BIKE	5	PED	18
AHEAD	31	SCHOOL	35	SLOW	23	COMPACT	10
WAIT	19	SIGNAL	32	STOP	22	RUNAWAY	43
LANE	6	TURN	24	LEFT	19	VEHICLES	42
RIGHT	26	HERE	26				

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
PAVEMENT MARKINGS WORDS
 NO SCALE

A24D

2015 STANDARD PLAN A24D

2015 STANDARD PLAN A3A

STATE	COUNTY	ROUTE	POST MILE TOTAL	SHEET NO.	TOTAL SHEETS

Haas P. Lindquist
REGISTERED CIVIL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

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GENERAL RULES:

1. Words are preferred over abbreviations and acronyms.
2. Use words in notes, except where space is limited on the plan sheet.
3. Do not use abbreviations or acronyms where the meaning may be in doubt.
4. Abbreviations and acronyms may be used in callouts, dimensions, and tables.
5. Use upper and lower case letters for abbreviation of a single word, e.g., Mlac = miscellaneous and Bit Ctd = bituminous coated
6. Use all upper case letters for acronyms, e.g., BCR = begin curb return

UNITS OF MEASUREMENT:

1. See Tables A, B and C on Standard Plan A3C.
2. Units of measurement are not part of abbreviations and acronyms. The above abbreviation and acronym general rules do not apply.

SYMBOLS:

1. See Table D on Standard Plan A3C.

SLOPES, FLARES, AND TAPERS:

1. Slope slopes:
X:Y = horizontal:vertical
2. Flares and tapers:
X:Y = longitudinal:lateral

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ABBREVIATIONS
(SHEET 1 OF 3)

A3A

E continued

E11 ELBOW
Emb EMBANKMENT
EMS EXTINGUISHABLE MESSAGE SIGN
Enc1 ENCLOSURE
Engr ENGINEER
EOD EDGE OF DECK
EP EDGE OF PAVEMENT
Eq EQUATION
ERS EARTH RETAINING STRUCTURE
ES EDGE OF SHOULDER
ESA ENVIRONMENTALLY SENSITIVE AREA
ESAL EQUIVALENT SINGLE AXLE LOADS
EST END STRIP
Estb ESTABLISHMENT
ETW EDGE OF TRAVELED WAY
EVC END VERTICAL CURVE
EVUC EMERGENCY VEHICLE UNIT CABLE
EVUD EMERGENCY VEHICLE UNIT DETECTOR
EW ENDWALL
Exc EXCAVATION
Exist EXISTING
Exp EXPANSION
Exp Jt EXPANSION JOINT
Ext EXTERIOR
Exwy EXPRESSWAY

F

F FILL
F & C FULL CIRCLE
F & G FRAME AND COVER
FB FRAME AND GRATE
FB FLOOR BEAM
FB FLASHING BEACON
FBCA FLASHING BEACON CONTROL ASSEMBLY
FBS FLASHING BEACON WITH SLIP BASE
FCV FLOW CONTROL VALVE
Fdn FOUNDATION
FEBT FACING EASTBOUND TRAFFIC
Fert FERTILIZER
FES FLARED END SECTION
FF FILTER FABRIC
FG FINISH GRADE
FH FIRE HYDRANT
FH FLEXIBLE HOSE
Fhg FIGURE
FIPT FEMALE IRON PIPE THREAD
FIS FERTILIZER INJECTOR SYSTEM
FL FLOW LINE
FNBT FACING NORTHBOUND TRAFFIC
FO FIBER OPTIC
FOB FREE ON BOARD
FOC FACE OF CONCRETE
F/P FULL/PART CIRCLE
FR FIBER ROLL
FR Rd FRONTAGE ROAD
FS FAR SIDE
FS FINISHED SURFACE
FS FLOW SENSOR
FSC FACING SOUTHBOUND TRAFFIC
Fsg FLOW SENSOR CABLE
Ftg FOOTING
FV FLUSH VALVE
FWBT FACING WESTBOUND TRAFFIC
Fwy FREEWAY

C continued

Cr CREEK
CRCP CONTINUOUSLY REINFORCED CONCRETE PAVEMENT
CRSP CONCRETED ROCK SLOPE PROTECTION
CS COMPOST SOCK
CSP CORRUGATED STEEL PIPE
CSPA CORRUGATED STEEL PIPE ARCH
CST CENTER STRIP
Ct COURT
CTB CEMENT TREATED BASE
CTID CALTRANS IDENTIFICATION
CTPB CEMENT TREATED PERMEABLE BASE
CTPM CEMENT TREATED PERMEABLE MATERIAL
Ctrs CENTERS
Culv CULVERT
CV CHECK VALVE

D

D DEPTH
D Direction (IN PERCENT) OF HEAVIER TRAFFIC FLOW
Db1 DOUBLE
DD DOWNDRAIN
Deg DEGREE
Del DELINEATOR
Det DETAIL
DETOUR
DF DOUGLAS FIR
DG DECOMPOSED GRANITE
DHV DESIGN HOURLY VOLUME
DI DRAINAGE INLET
DI DROP INLET
Dga DIAMETER
Dgph DIAPHRAGM
Dip DUCTILE IRON PIPE
Dist DISTANCE
DIT DISTRICT
DLC DRIP IRRIGATION TUBING
DMS LOOP DETECTOR LEAD-IN CABLE
DMBB DOUBLE METAL BEAM BARRIER
DN DIAMETER NOMINAL
Dr DRIVE
DTBB DOUBLE THRIE BEAM BARRIER
DVA DRIP VALVE ASSEMBLY
Dwy DRIVEWAY

E

E EAST
Ease EASEMENT
EB END OF BRIDGE
EB EASTBOUND
EC END HORIZONTAL CURVE
EC EROSION CONTROL
ECR END CURB RETURN
ECTC EROSION CONTROL TECHNOLOGY COUNCIL
ED EDGE DRAIN
EDC EDGE DRAIN CLEANOUT
EDO EDGE DRAIN OUTLET
EDV EDGE DRAIN VENT
Elec ELECTROLIER
Elec ELECTRICAL
Elev ELEVATION

B continued

BP BOOSTER PUMP,
BYPASS
BPA BACKFLOW PREVENTER ASSEMBLY
BPB BICYCLE PUSH BUTTON
BPE BACKFLOW PREVENTER ENCLOSURE
B/P1 BRASS/PLASTIC
Br BRIDGE
Brq BEARING
BTU BRITISH THERMAL UNIT
BV BALL VALVE
BVC BEGIN VERTICAL CURVE
BW BARBED WIRE

C

C CONDUIT,
CHANNEL (STRUCTURAL STEEL SHAPE)
CAA CABLE ANCHOR ASSEMBLY
CAP CORRUGATED ALUMINUM PIPE
CAPA CORRUGATED ALUMINUM PIPE ARCH
CARY COMBINATION AIR RELEASE VALVE
CAS CONSTRUCTION AREA SIGN
CB CONCRETE BARRIER,
CIRCUIT BREAKER,
COUPLING BAND,
COMPOST BERM
CBW CONCRETE BLOCK WALL
C-C CENTER TO CENTER
CCA CAM DOUPLER ASSEMBLY
CCTV CLOSED CIRCUIT TELEVISION
CEC CONTROLLER ENCLOSURE CABINET
CG CENTER OF GRAVITY
CNDPE CORRUGATED HIGH DENSITY POLYETHYLENE
Chnl CHANNEL
CI CAST IRON
CIDH CAST-IN-DRILLED-HOLE
CIP CAST-IN-PLACE,
CAST IRON PIPE
CIPCP CAST IN PLACE CONCRETE PIPE
CISS CAST-IN-STEEL-SHELL
CJP COMPLETE JOINT PENETRATION
Ckt CIRCUIT
CL CHAIN LINK
CL-6 CHAIN LINK FENCE (6 FT)
CI CLASS
CIR CLEARANCE
CM CENTER MARGIN LIGHT
CMP CORRUGATED METAL PIPE
CMS CHANGEABLE MESSAGE SIGN
CNC CONTROL AND NEUTRAL CONDUCTORS
Cntrl CONTROL
Co COUNTY
Col COLUMN
Comm COMMUNICATION
Conc CONCRETE
Conn CONNECTOR
Constr CONSTRUCT,
CONSTRUCTION
Cont CONTINUOUS
Coord COORDINATE
CP CANDLEPOWER,
CATCH POINT,
COPPER PIPE

A

AB AGGREGATE BASE
ABBC ASBESTOS BONDED BITUMINOUS COATED
ABM AIR-BLOWN MORTAR
Abn ABANDON
ABS ACRYLONITRILE-BUTADIENE-STYRENE
Abut ABUTMENT
AC ASPHALT CONCRETE
AC+ UNGROUNDED CONDUCTOR
ACB ASPHALT CONCRETE BASE
ACC ARMOR-CLAD CONDUCTORS
ACP ASBESTOS CEMENT PIPE
Adj ADJUST,
ADJUSTABLE,
ADJACENT
ADL ADDED DEAD LOAD
ADT AVERAGE DAILY TRAFFIC
AFES ALTERNATIVE FLARED END SECTION
Ahd AHEAD
AIC AUXILIARY IRRIGATION CONTROLLER
Alt ALTERNATE,
ALTERNATIVE
AM TIME FROM MIDNIGHT TO NOON
Amend AMENDMENT
AP ALTERNATIVE PIPE
APC ALTERNATIVE PIPE CULVERT
Approx APPROXIMATE
APS ACCESSIBLE PEDESTRIAN SIGNAL
APU ALTERNATIVE PIPE UNDERDRAIN
ARS ACCELERATION RESPONSE SPECTRUM
ARV AIR RELEASE VALVE
AS AGGREGATE SUBBASE
ASP ALTERNATIVE SLOTTED PIPE
ASRP ALUMINUM SPIRAL RIB PIPE
Asy ASSEMBLY
ATPB ASPHALT TREATED PERMEABLE BASE
ATPM ASPHALT TREATED PERMEABLE MATERIAL
Auto AUTOMATIC
Aux AUXILIARY
AVB ATMOSPHERIC VACUUM BREAKER
Ave AVENUE
Avg AVERAGE

B

B & B BALLED AND BURLAPPED
BAGR BRIDGE APPROACH GUARD RAILING
Batt BATTERY
BB BEGINNING OF BRIDGE
B/B BRASS/BRONZE
B/B/P1 BRASS/BRONZE/PLASTIC
B-B BACK-TO-BACK
BBS BATTERY BACKUP SYSTEM
BC BEGIN HORIZONTAL CURVE,
BOLT CIRCLE
BCR BEGIN CURB RETURN
Beg BEGIN
BFM BONDED FIBER MATRIX
Blt Bit BITUMINOUS COATED
BK BACK
Bkf BACKFILL
Bldg BUILDING
Blk BLACK
BLM BRIDGE-LOG MILE
Bvd BOULEVARD
BM BENCH MARK
BMP BEST MANAGEMENT PRACTICE
Bot BOTTOM

2015 STANDARD PLAN A3B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	DRAWING NO.	TOTAL SHEETS

James B. Tushina
REGISTERED CIVIL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

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G

G GROOVE,
EQUIPMENT GROUNDING CONDUCTOR
g ACCELERATION DUE TO GRAVITY
Ga GAUGE
Galv GALVANIZED
GARV GARDEN VALVE
GARVA GARDEN VALVE ASSEMBLY
GB GROUND BUS
GFCI GROUND FAULT CIRCUIT INTERRUPTER
GM GRAVEL MULCH
GP GRADING PLANE
GPH GALLONS PER HOUR
GPM GALLONS PER MINUTE
GR GUARD RAILING
Grn GREEN
GSP GALVANIZED STEEL PIPE
Gtr CUTTER
GV GATE VALVE

H

H HEIGHT,
HALF CIRCLE
HAR HIGHWAY ADVISORY RADIO
h, hr HOUR
HD HORIZONTAL DRAIN
HDPE HIGH DENSITY POLYETHYLENE
hdw HEADWALL
Hex HEXAGONAL
Hex Hd HEXAGONAL HEAD
HMA HOT MIX ASPHALT
HorIz HORIZONTAL
HOV HIGH OCCUPANCY VEHICLE
HP HINGE POINT,
HORSEPOWER
HPL HIGH PRESSURE LINE
HPS HIGH PERFORMANCE STEEL,
HIGH PRESSURE STEEL
HS HIGH STRENGTH
HSS HOLLOW STRUCTURAL SECTION
HW HEADWALL,
HIGH WATER
HWM HIGH WATER MARK
Hwy HIGHWAY

I

IB IMPORTED BORROW
IC IRRIGATION CONTROLLER
ICC IRRIGATION CONTROLLER(S) IN
CONTROLLER ENCLOSURE CABINET
ID INSIDE DIAMETER
IF INSIDE FACE
IFS IRRIGATION FILTRATION SYSTEM
IISNS INTERNALLY ILLUMINATED STREET NAME SIGN
Int INTERIOR
Inv INVERT
IPS IRON PIPE SIZE
IPT IRON PIPE THREAD
Irr IRRIGATION
ISL INDUCTION SIGN LIGHTING

J

Jct JUNCTION
JP JOINT POLE
JPCP JOINTED PLAIN CONCRETE PAVEMENT
JS JUNCTION STRUCTURE
Jt JOINT

K

L LENGTH,
ANGLE (STRUCTURAL STEEL SHAPE)
Lot LATITUDE
LCB LEAN CONCRETE BASE
LED LIGHT EMITTING DIODE
LMA LUMINAIRE MAST ARM
Ln LANE
Loc LOCATION
LoL LAYOUT LINE
LoG LONGITUDE
LongIt LONGITUDINAL
LPS LOW PRESSURE SODIUM
LS LUMP SUM
Lr LEFT
Ltg LIGHTING
Lum LUMINAIRE

M

M METERED
MaInt MAINTENANCE
MAS MAST ARM MOUNTING SIDE ATTACHMENT
MAT MAST ARM MOUNTING TOP ATTACHMENT
Max MAXIMUM
MB METAL BEAM
MBB METAL BEAM BARRIER
MBGR METAL BEAM GUARD RAILING
MBPS MANUAL BYPASS SWITCH
MCV MANUAL CONTROL VALVE
Med MEDIAN
MGS MIDWEST GUARDRAIL SYSTEM
MH MANHOLE
MIC MASTER IRRIGATION CONTROLLER
Min MINIMUM
MIPT MALE IRON PIPE THREAD
Misc MISCELLANEOUS
Misc I & S MISCELLANEOUS IRON AND STEEL
Mkr MARKER
M/M MULTIPLE TO MULTIPLE TRANSFORMER
Mod MODIFIED,
MODIFY
Mon MONUMENT
MP METAL PLATE
MPGR METAL PLATE GUARD RAILING
MR MOVEMENT RATING
MSE MECHANICALLY STABILIZED EMBANKMENT
Mt MOUNTAIN,
MOUNT
Mtg MOUNTING
Mtl MATERIAL
Mv MERCURY VAPOR LIGHTING FIXTURE
MvDS MICROWAVE VEHICLE DETECTION SYSTEM
MVP MAINTENANCE VEHICLE PULLOUT

N

N NORTH,
NEUTRAL (GROUNDED CONDUCTOR)
NB NORTHBOUND,
NEUTRAL BUS
NC NORMALLY CLOSE

N continued

NCN NO COMMON NAME
NL NOZZLE LINE
NO NORMALLY OPEN
No. NUMBER (MUST HAVE PERIOD)
Noe. NUMBERS (MUST HAVE PERIOD)
NPS NOMINAL PIPE SIZE
NPT NATIONAL PIPE THREAD
NS NEAR SIDE
NTS NOT TO SCALE

O

Oblt OBLITERATE
OC OVERCROSSING
O/C ON CENTER
OD OUTSIDE DIAMETER
OF OUTSIDE FACE
OG ORIGINAL GROUND
OGAC OPEN GRADED ASPHALT CONCRETE
OGFC OPEN GRADED FRICTION COURSE
OH OVERHEAD
OHWM ORDINARY HIGH WATER MARK
OL OVERLAP
O-O OUT TO OUT
Opp OPPOSITE
OSO OVERSIDE DRAIN

P

P PAGE,
PITCH,
PART CIRCLE,
NUMBER OF POLES FOR A CIRCUIT BREAKER
PAP PERFORATED ALUMINUM PIPE
PB PULL BOX
PBA PUSH BUTTON ASSEMBLY
PC POINT OF CURVATURE,
PRECAST
PCC POINT OF COMPOUND CURVE,
PORTLAND CEMENT CONCRETE
PCMS PORTABLE CHANGEABLE MESSAGE SIGN
PCP PERFORATED CONCRETE PIPE,
PRESTRESSED CONCRETE PIPE
PCVC POINT OF COMPOUND VERTICAL CURVE
PE POLYETHYLENE
PEC PERMIT TO ENTER AND CONSTRUCT,
PHOTOELECTRIC CONTROL
PEDE PEDESTRIAN
Ped OC PEDESTRIAN OVERCROSSING
Ped UC PEDESTRIAN UNDERCROSSING
Perm Mtl PERMEABLE MATERIAL
PEU PHOTOELECTRIC UNIT
PG PROFILE GRADE
PI POINT OF INTERSECTION
PJP PARTIAL JOINT PENETRATION
Pkt PACKET
Parky PARKWAY

P continued

PL PLATE
PI PLASTIC
P/L PROPERTY LINE
PLS PURE LIVE SEED
Plt PLANT,
PLANTING
Plt Estb PLANT ESTABLISHMENT
PM POST MILE,
TIME FROM NOON TO MIDNIGHT
PN PAVING NOTCH
POC POINT OF HORIZONTAL CURVE
POT POINT OF TANGENT
POVC POINT OF VERTICAL CURVE
PP PIPE PILE,
PLASTIC PIPE,
POWER POLE
PPL PREFORMED PERMEABLE LINER
PPP PERFORATED PLASTIC PIPE
PR PRESSURE RATED
PRC POINT OF REVERSE CURVE
PRF PAVEMENT REINFORCING FABRIC
PRLV PRESSURE RELIEF VALVE
PRV PRESSURE REGULATING VALVE
PRVC POINT OF REVERSE VERTICAL CURVE
PS&E PLANS, SPECIFICATIONS AND ESTIMATES
PS PRESTRESSED
P/S PRESTRESSED
PSP PERFORATED STEEL PIPE
PT POINT OF TANGENCY,
CONDUIT WITH PULL TAPE
PTR POWER TRANSFER RELAY
PVC POLYVINYL CHLORIDE
Pvmt PAVEMENT

Q

Q QUARTER CIRCLE
QCv QUICK COUPLING VALVE
Qty QUANTITY

R

R RADIUS
R & D REMOVE AND DISPOSE
R & S REMOVE AND SALVAGE
R/C RATE OF CHANGE
RCA REINFORCED CONCRETE ARCH
RCB REINFORCED CONCRETE BOX
RCP REINFORCED CONCRETE PIPE
RCPA REINFORCED CONCRETE PIPE ARCH
RCV REMOTE CONTROL VALVE
RCVM REMOTE CONTROL VALVE (MASTER)
RCVMF REMOTE CONTROL VALVE (MASTER) W/FLOW SENSOR
RCVP REMOTE CONTROL VALVE W/PRESSURE REGULATOR
RCW RECYCLED WATER
Rd ROAD
Rdwy ROADWAY
RE RELOCATED EQUIPMENT
RECP ROLLED EROSION CONTROL PRODUCT
Reinf REINFORCED,
REINFORCEMENT,
REINFORCING

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ABBREVIATIONS
(SHEET 2 OF 3)

A3B

2015 STANDARD PLAN A3C

R continued

Rel	RELOCATE
Repl	REPLACEMENT
Req	REQUIRED
Ret	RETAINING
Rev	REVISED, REVISION
RMMA	RUBBERIZED HOT MIX ASPHALT
RICS	REMOTE IRRIGATION CONTROL SYSTEM
Riv	RIVER
RM	ROAD-MIXED, RAMP METERING
RP	RADIUS POINT, REFERENCE POINT
RR	RAILROAD
RSP	ROCK SLOPE PROTECTION, REVISED STANDARD PLAN
Rt	RIGHT
Rte	ROUTE
RW	REDWOOD, RETAINING WALL
R/W	RIGHT OF WAY
RWIS	ROADSIDE WEATHER INFORMATION SYSTEM
Rwy	RAILWAY

S

S	SOUTH, SLIP, SUPPLEMENT
SAE	STRUCTURE APPROACH EMBANKMENT
Salv	SALVAGE
SAPP	STRUCTURAL ALUMINUM PLATE PIPE
SB	SOUTHBOUND, SLIP BASE
SC	SAND CUSHION
S/C	SAW CUT LINE
Sch	SCHEDULE
SCSP	SLOTTED CORRUGATED STEEL PIPE
SD	STORM DRAIN
Sec	SECOND, SECTION
Sep	SEPARATION
SG	SUBGRADE
Shld	SHOULDER
ShT	SHEET
SIC	SIGNAL INTERCONNECT CABLE
Sig	SIGNAL
Sim	SIMILAR
SM	SELECTED MATERIAL
SMA	SIGNAL MAST ARM
SNS	STREET NAME SIGN
SP	STAND PIPE, SERVICE POINT
Spec	SPECIAL, SPECIFICATION(S)
SPP	SLOTTED PLASTIC PIPE

S continued

Sq	SQUARE
SS	SLOPE STAKE
SSBM	STRAP AND SADDLE BRACKET METHOD
SSD	STRUCTURAL SECTION DRAIN
SSPA	STRUCTURAL STEEL PLATE ARCH
SSPP	STRUCTURAL STEEL PLATE PIPE
SSPPA	STRUCTURAL STEEL PLATE PIPE ARCH
SSRP	STEEL SPIRAL RIB PIPE
SST	SIDE STRIP
St	STREET
Sta	STATION
STBB	SINGLE THREE BEAM BARRIER
Std	STANDARD
Str	STRUCTURE
Surf	SURFACING
SW	SIDEWALK, SOUND WALL
Swr	SEWER
Sym	SYMMETRICAL
S4S	SURFACE 4 SIDES

T

T	SEMI-TANGENT, THIRD CIRCLE, THREAD, TRUCK TRAFFIC VOLUME (IN PERCENT) OF DESIGN HOURLY VOLUME
Tan	TANGENT
TB	TERMINAL BOARD
TBB	THREE BEAM BARRIER
Tbr	TIMBER
T&B	TOP AND BOTTOM
TCB	TRAFFIC CONTROL BOX
TCE	TEMPORARY CONSTRUCTION EASEMENT
TDC	TELEPHONE DEMARCATION CABINET
Temp	TEMPORARY, TEMPERATURE, TEMPERED
TG	TOP OF GRADE
TI	TRAFFIC INDEX
TLS	TRUCK LOADING STAND PIPE
TMS	TRAFFIC MONITORING STATION
TOS	TRAFFIC OPERATIONS SYSTEM
Tot	TOTAL
TP	TELEPHONE POLE
TPB	TREATED PERMEABLE BASE
TPM	TREATED PERMEABLE MATERIAL
TQ	THREE-QUARTER CIRCLE
Trans	TRANSITION
TRM	TURF REINFORCEMENT MAT
TS	TRANSVERSE, TRAFFIC SIGNAL, TUBULAR STEEL
TT	TWO-THIRDS CIRCLE
TWSA	TREE WELL SPRINKLER ASSEMBLY
Typ	TYPICAL

U

UC	UNDERCROSSING
UD	UNDERDRAIN
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UP	UNDERPASS
UPS	UNINTERRUPTIBLE POWER SUPPLY
UPSC	UNINTERRUPTIBLE POWER SUPPLY CONTROLLER
UPSM	UPS MODE

V

V	VALVE, DESIGN SPEED
Var	VARIABLE, VARIES
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
Veh	VEHICLE
Vert	VERTICAL
Via	VIADUCT
VIVDS	VIDEO IMAGE VEHICLE DETECTION SYSTEM
Vol	VOLUME

W

W	WEST, WIDTH
W/	WITH
W/O	WITHOUT
WB	WESTBOUND
WH	WEEP HOLE
WhT	WHITE
WIM	WEIGH-IN-MOTION
WM	WIRE MESH, WATER METER
WS	WATER SURFACE, WYE STRAINER
WSA	WYE STRAINER ASSEMBLY
WSP	WELDED STEEL PIPE
WT	WEIGHT
WV	WATER VALVE
WW	WINDWALL
WW/L	WINDWALL LAYOUT LINE
WWW	WELDED WIRE MESH

X

Xfmr	TRANSFORMER
X Sec	CROSS SECTION
Xing	CROSSING

Y

Yr	YEAR
Yrs	YEARS

Z

UNITS OF MEASUREMENT:

Some of the units used in the project plan quantity tables and in the Bid Item List are:

TABLE A

UNIT	DEFINITION
ACRE	ACRE
CF	CUBIC FOOT
CY	CUBIC YARD
EA	EACH
GAL	GALLON
LB	POUND
LF	LINEAR FOOT
LNMI	LANE MILE
LS	LUMP SUM
SOFT	SQUARE FOOT
SOYD	SQUARE YARD
STA	100 FEET
TON	2,000 POUNDS

Some of the units used in the plans other than in the project plan quantity tables are:

TABLE B

UNIT	DEFINITION
ksq	KIPS PER SQUARE INCH
ksf	KIPS PER SQUARE FOOT
psq	POUNDS PER SQUARE INCH
psf	POUNDS PER SQUARE FOOT
lbf+c, psf	POUNDS PER CUBIC FOOT
tsf	TONS PER SQUARE FOOT
mph, MPH #	MILES PER HOUR
oz	OUNCE
lb	POUND
kfp	1,000 POUNDS
cal	CALORIE
ft	FOOT OR FEET
gal	GALLON

* For use on a sign panel only

DIAT	COUNTY	ROUTE	POST MILES TOTAL	MILES PROJECT	DRAWING NO.	TOTAL SHEETS

Lucas B. Tinsley
REGISTERED CIVIL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

Some of the units used in the Electrical plans are:

TABLE C

UNIT	DEFINITION
A	AMPERE
bps	BITS PER SECOND
Bps	BYTES PER SECOND
FC	FOOT-CANDLE
Hz	HERTZ
K #	KILO
KV	KILOVOLT
KVA	KILOVOLT-AMPERE
kW	KILOWATT
M #	MEGA
m #	MILLI
mA	MILLIAMPERE
min	MINUTE
P #	PICO
s	SECOND
V	VOLT
VA	VOLT-AMPERE
V _{DC}	VOLT (DIRECT CURRENT)
V _{AC}	VOLT (ALTERNATING CURRENT)
W	WATT
Ω	OHM
μ #	MICRO

* Prefix to a unit

SYMBOLS:

Commonly used symbols for U.S. customary units

TABLE D

SYMBOL	DEFINITION
⊖	AT
⊕	CENTERLINE
∅	NOMINAL DIAMETER, DIAMETER, PHASE
⊞	PLATE
⊞	STATIONLINE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ABBREVIATIONS
(SHEET 3 OF 3)

A3C

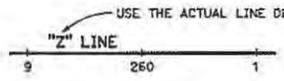
SYMBOLY FOR DESIGN FEATURES

DIST.	COUNTY	ROUTE	POST MILES TO TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

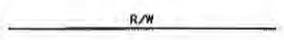
Jeffrey C. Kirby
REGISTERED CIVIL ENGINEER
October 30, 2015
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Jeff C. Kirby
53361
8-28-11
CIVIL
STATE OF CALIFORNIA

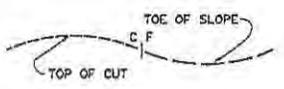
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



ALIGNMENT LINE (STATION LINE)



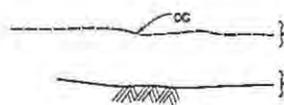
RIGHT OF WAY LINE (POSITION LABEL OUTSIDE OF CALTRANS R/W) (NO LEADER LINE OR ARROWHEAD IS NEEDED)



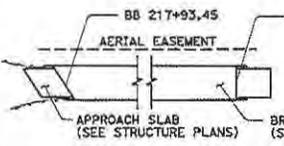
CATCH LINE FOR CUT AND FILL SLOPES



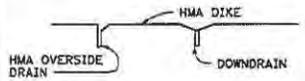
FINISHED GRADE LINE (USE SOLID LINE)



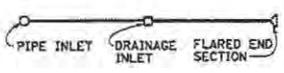
ORIGINAL GROUND LINE (USED FOR PROFILES AND TYPICAL SECTIONS) (MAY BE USED ON DETAIL SHEETS)



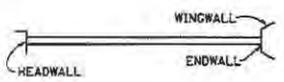
STRUCTURE (BRIDGE)



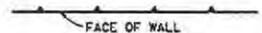
DIKE, DOWNDRAIN AND OVERSIDE DRAIN



PIPE CULVERT - SINGLE LINE (36" OR LESS IN DIAMETER) (PLUS - OTHER DRAINAGE FEATURES)



PIPE CULVERT - TWO LINES (GREATER THAN 36" TO 6' IN DIAMETER PLUS - OTHER DRAINAGE FEATURES) (OVER 6' IN DIAMETER, DRAW TO SCALE)



WALL



WALL ON BARRIER



WALL ON RETAINING WALL



CONCRETE (MEDIAN) BARRIER



NEW GUARDRAIL



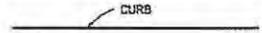
DOUBLE THREE BEAM BARRIER



TEMPORARY RAILING (TYPE K)



CURB WITHOUT GUTTER



CURB WITH CUTTER (CURB-LIP, FLOW LINE, TOP-BACK OF CURB)



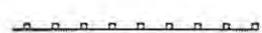
FENCE



EXISTING WALL - USE ONLY WHEN WORK IS TO BE PERFORMED ON EXISTING WALL (DO NOT DROP OUT)



EXISTING GUARDRAIL - USE ONLY WHEN WORK IS TO BE PERFORMED ON EXISTING RAILING (DO NOT DROP OUT)



EXISTING CONCRETE BARRIER - USE ONLY WHEN WORK IS TO BE PERFORMED ON EXISTING BARRIER (DO NOT DROP OUT)



SOLID TRAFFIC LINE



BROKEN TRAFFIC LINE



CURB RAMP



DIRECTION OF TRAFFIC (ARROWS ARE TO BE HOLLOW)

STRIPING AND SIGNING



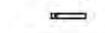
ROADSIDE SIGN - ONE POST, TWO POSTS (EMBEDDED)



ROADSIDE SIGN - ATTACHED TO ELECTROLIER, SIGNAL STANDARD, SIGN STRUCTURE POST OR BARRIER



EXISTING ROADSIDE SIGN - ONE POST, TWO POSTS (EMBEDDED)



OVERHEAD SIGN - ONE POST



OVERHEAD SIGN - TWO POST



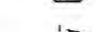
SYMBOL FOR ROADSIDE SIGN NUMBER



SYMBOL FOR OVERHEAD SIGN NUMBERING



SYMBOL FOR TRAFFIC LINE DETAIL



SYMBOL FOR DELINEATOR OR OBJECT MARKER



PAVEMENT MARKING ARROWS (ARROWS ARE TO BE HATCHED)



BEGIN OR END OF TRAFFIC STRIPE



TRANSITION FROM ONE TRAFFIC STRIPE TO ANOTHER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
LEGEND
LINES AND SYMBOLS
(SHEET 1 OF 5)

NO SCALE

A10A

2015 STANDARD PLAN A10A

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DIST	COUNTY	ROUTE	POST MILE TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
<i>Jeffrey C. Kelley</i> REGISTERED CIVIL ENGINEER January 20, 2017 PLANS APPROVAL DATE THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					

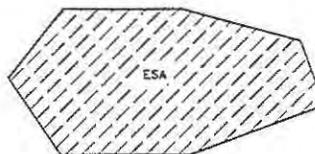


TO ACCOMPANY PLANS DATED _____

WATER POLLUTION CONTROL

- Temp HIGH-VISIBILITY FENCE
- Temp SILT FENCE
- Temp Reinf SILT FENCE
- Temp FIBER ROLL
- Temp GRAVEL BAG BERM
- Temp STRAW BALE BARRIER
- Temp SLOPE DRAIN FLEX PIPE
- Temp EARTH BERM
- Temp DITCH/SWALE
- Temp CONCRETE WASHOUT
- Temp DRAINAGE INLET PROTECTION
- Temp DRAINAGE OUTLET PROTECTION
- Temp CHECK DAM
- Temp CONSTRUCTION ENTRANCE
- Temp STOCKPILE

ENVIRONMENTALLY SENSITIVE AREA (ESA)



DRAINAGE

- DITCH FLOW LINE
- DIRECTION FLOW OF WATER
- DRAINAGE SYSTEM SYMBOL
- DRAINAGE UNIT SYMBOL
- DRAINAGE INLET

DRAFTING

- TILDE - DESIGNATES AN AREA
- NORTH ARROW
- ADDENDUM SHEET SYMBOL
(ADDENDUM NUMBER IS INCLUDED INSIDE THE SYMBOL)
- MATCH LINE
- BREAK LINE

BOUNDARY LINE

- STATE OR COUNTRY
- COUNTY OR RESERVATION BOUNDARY
- CITY OR MILITARY BOUNDARY
- FOREST
- SUBDIVISION, SECTION, GRANT
- RANCHO

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
LEGEND
LINES AND SYMBOLS
(SHEET 2 OF 5)
NO SCALE

RSP A10B DATED JANUARY 20, 2017 SUPERSEDES STANDARD PLAN A10B
DATED OCTOBER 30, 2015 - PAGE 5 OF THE STANDARD PLANS BOOK DATED 2015.
REVISED STANDARD PLAN RSP A10B

2015 REVISED STANDARD PLAN RSP A10B

TOPOGRAPHIC MAPPING LINES AND SYMBOLS
TOPOGRAPHIC MAPPING IS DROPPED OUT ON FINAL CONTRACT PLANS

- CURB
- LANE STRIPE
- EDGE OF TRAVELED WAY (STATE HIGHWAY)
- EDGE OF TRAVELED WAY (OTHER)
- EDGE OF ASPHALT (SHOULDER)
- CONCRETE
- GUARDRAIL
- MEDIAN BARRIER
- FENCE
- MASONRY WALL
- MASONRY WALL AND FENCE
- RETAINING WALL
- RETAINING WALL AND FENCE
- RETAINING WALL AND MASONRY WALL
- FLOWLINE (NATURAL AND MANMADE)
- EDGE OF BODY OF WATER, SURFACE HATCHED AND SPOT ELEVATION ON SURFACE
- DECK
BUILDING
COVERED PORCH OR PARKING
- DIRT PILE, ROCK
- DIRT PILE, ROCK
- POOL, SPA
- POOL, SPA
- TREES, BRUSH, OR VEGETATION OVER 1/2 CONTOUR INTERVAL IN HEIGHT
- VINEYARD ROW
- CATTLE GUARD
- OVERHEAD SIGN - SINGLE POST
- OVERHEAD SIGN - TWO POST
- TRAIL
- DIRT ROAD

SYMBOLS
ENLARGED FOR CLARITY

- LEFT TURN LANE ARROW
- HOV LANE (HIGH OCCUPANCY VEHICLE)
- DROP INLET, ROUND DROP INLET
- MANHOLE
- FIRE HYDRANT
- VALVE COVER, STAND PIPE, WELL, UTILITY BOX, RAILROAD CROSSING STANDARD
- UTILITY POLE, POLE AND WIRES, POLE WITH WIRES AND ANCHOR
- TRANSMISSION TOWER
- ELECTROLIER, ELECTROLIER ON POLE
- TRAFFIC SIGNAL, RAILROAD SIGNAL
- CALL BOX
- SIGNS - SINGLE POST, TWO POSTS
- SINGLE TREE, PALM
- MARSH OR SWAMP
- CRASH CUSHION
- TANK
- VOID - OBSTRUCTED AREA, UNABLE TO OBTAIN GROUND INFORMATION PHOTOGRAMMETRICALLY

RAILROAD

- SCALE: 1" = 100'
- SCALE: 1" = 50', 1" = 20'

CONTROL POINTS

- HORIZONTAL AND VERTICAL CONTROL POINT
- HORIZONTAL CONTROL POINT
- VERTICAL CONTROL POINT

TOPOGRAPHY

- INDEX CONTOUR
- INTERMEDIATE CONTOURS
- INDEX CONTOUR (SCALE: 1" = 50')
- GNY CONTOUR (GROUND NOT VISIBLE)
- DEPRESSION CONTOUR
- GNY DEPRESSION CONTOUR
- SPOT ELEVATION (AT DECIMAL POINT)

WATER WAYS

- RIVERS, STREAMS AND CREEKS - SMALL (ONE LINE)
- RIVERS, STREAMS AND CREEKS - LARGE (TWO LINES) (WHICH DEFINES THE WATER EDGE)
- OCEAN - (GRADUATED LINE WEIGHTS)
- WATER EDGE, LAKE, POND, SWAMP

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
LEGEND
LINES AND SYMBOLS
 (SHEET 5 OF 5)
 NO SCALE

A10E

Dist	COUNTY	ROUTE	POST MILE TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Jeffrey C. Kelley
 REGISTERED CIVIL ENGINEER

October 30, 2015
 PLANS APPROVAL DATE

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2015 STANDARD PLAN A10E

STATE	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

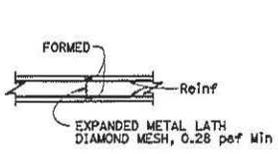
John W. Nolas
REGISTERED CIVIL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

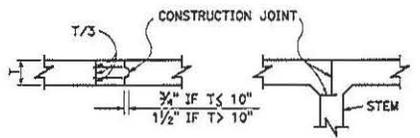
55759
12-31-15
CIVIL

REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

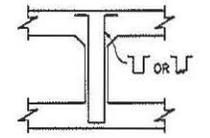
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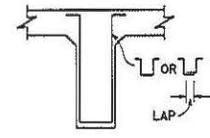
**ALTERNATIVE DECK
CONSTRUCTION JOINTS**



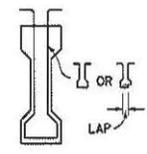
BRIDGE DETAIL 5-2 **BRIDGE DETAIL 5-3**
Top or bottom slab
DECK CONSTRUCTION JOINTS



REINFORCED BOX GIRDER
Girder or diaphragm



T-BEAM
Girder, bent cap or diaphragm

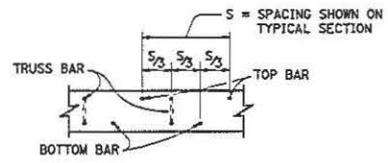


PRECAST GIRDER

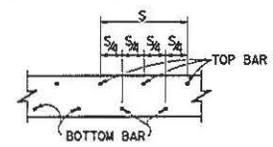
STIRRUP SIZE	LAP
#4	5"
#5	6"
#6	7 1/2"
#7	9"
#8	10"

A reinforcement bar must be placed inside of each stirrup hook or 90° bend.

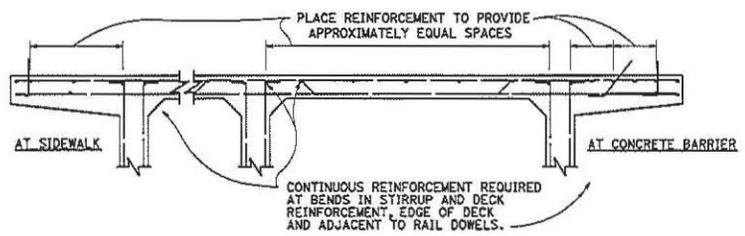
BRIDGE DETAIL 5-5
ALTERNATIVE STIRRUPS



BRIDGE DETAIL 5-10



BRIDGE DETAIL 5-11
**TRANSVERSE DECK REINFORCEMENT
SPACING DIAGRAMS**



BRIDGE DETAIL 5-15
TOP GIRDER REINFORCEMENT

NOTES:

1. In simple spans, transverse joints are not permitted unless approved by the Engineer.
2. In continuous spans, transverse joints may be located at about the 1/4 point of the span.
3. Reinforcing steel shall be continuous through all construction joints.
4. Longitudinal joints shall be located at the edge of a traffic lane unless otherwise permitted by the Engineer.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

BRIDGE DETAILS
NO SCALE

B0-5

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2015 STANDARD PLAN B0-5

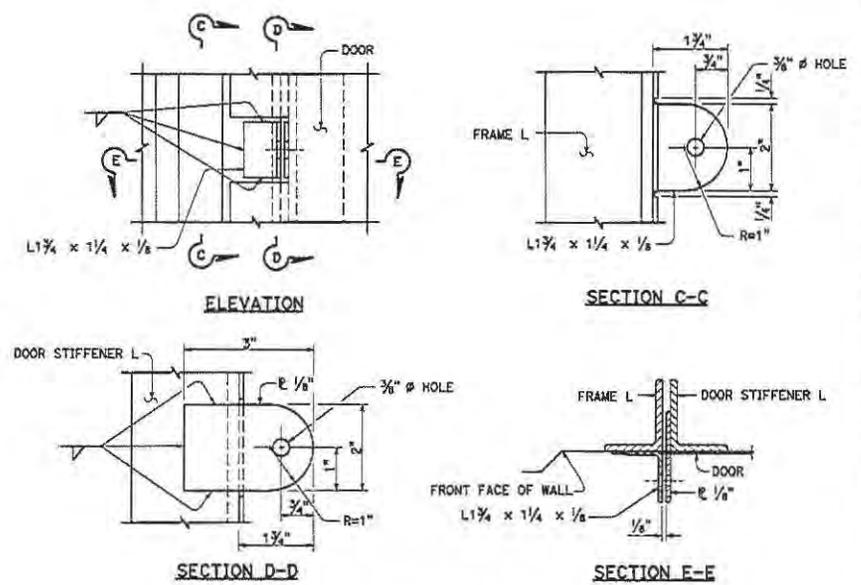
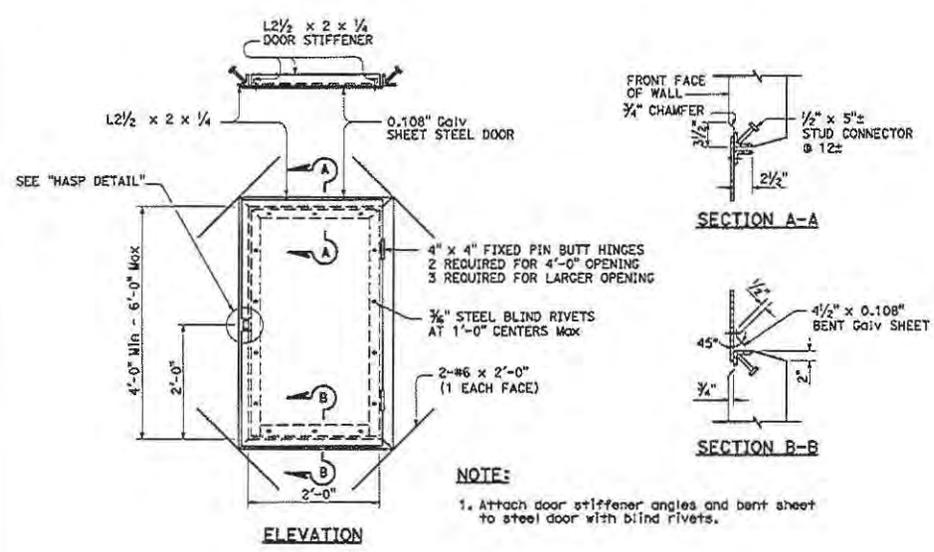
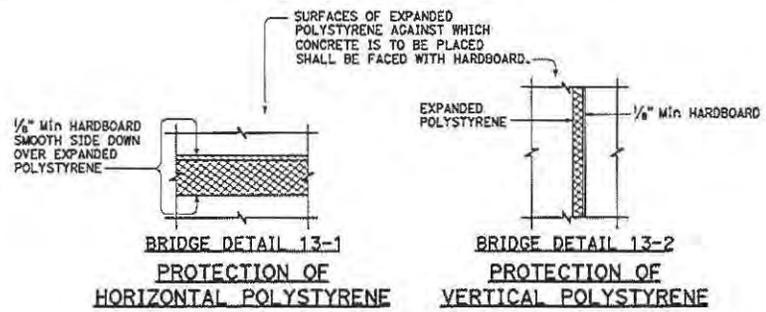
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

John W. Theloc
REGISTERED CIVIL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL CIVIL ENGINEER
John W. Theloc
CST519
12-31-15
CIVIL
STATE OF CALIFORNIA



HASP DETAIL

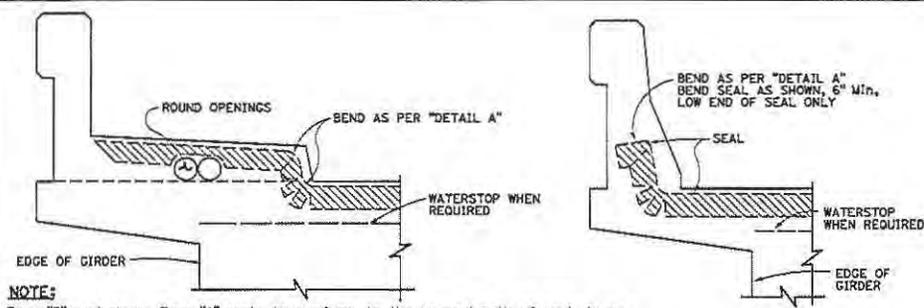
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
BRIDGE DETAILS
NO SCALE

B0-13

279

2015 STANDARD PLAN B0-13

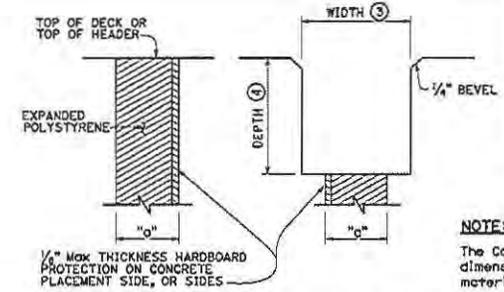
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL SHEETS
October 30, 2015 PLANS APPROVAL DATE				
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SHOWN COPIES OF THIS PLAN SHEET.				



NOTE:
 Type "B" seal shown. Type "A" seals to conform to the general path of seal shown, cuts for bending not required. Bend type "A" seals 3" up into curb or barrier rail; on only the low end of the seal.

CONCRETE BARRIER AND SIDEWALK

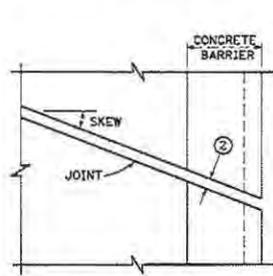
CONCRETE BARRIER



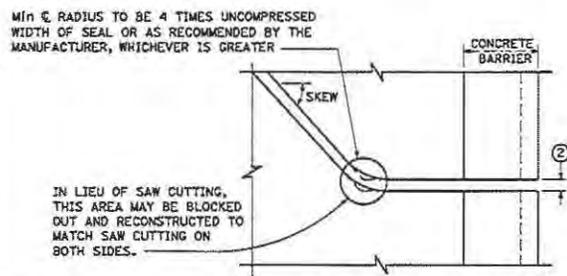
FORMING DETAIL SAWCUT DETAIL

NOTE:
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

JOINT SEALS DETAILS

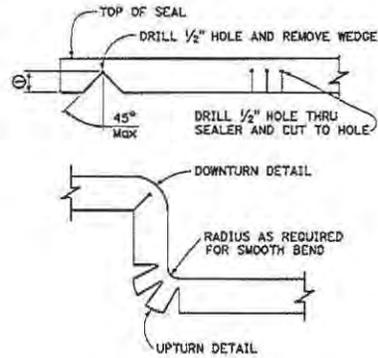


PLAN OF JOINT (SKEW ≤ 20°)



PLAN OF JOINT (SKEW > 20°)

IN LIEU OF SAW CUTTING, THIS AREA MAY BE BLOCKED OUT AND RECONSTRUCTED TO MATCH SAW CUTTING ON BOTH SIDES.



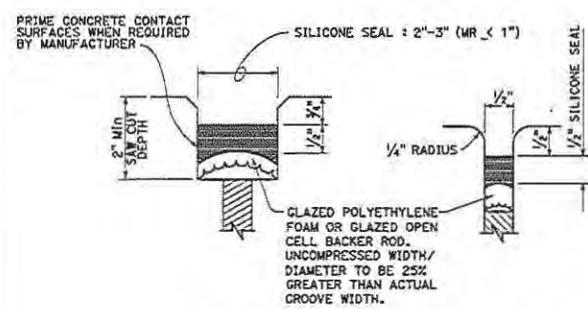
DETAIL A

NOTES:

- Make smooth cuts from the bottom of seal to 1/2" clear of top leaving at least one complete cell between the top of the cut and top of the seal. When necessary cut back of seal to clear conduit and round openings.
- Opening in barrier to match width of sawn deck joint.
- Sawcut groove widths shall be as ordered by the Engineer.
- Depth of sawcut: Type A - Depth to be 2" minimum. Type B - Depth to be equal to or greater than the depth of seal measured along the contact surface, when compressed to minimum width position (W₂) plus dimensions shown.
- MR (movement rating) as shown on other plan sheets.
- Other depths must be approved by the Engineer.
- A sidewalk joint shall be covered by an expansion joint armor.

DIMENSIONS "a" OF JOINT REQUIRED

MOVEMENT RATING (MR) ⑤	BRIDGE TYPE	"a" DIMENSION DECK CONCRETE PLACED		
		WINTER	FALL-SPRING	SUMMER
2"	ALL EXCEPT CIP/PS	1 1/2"	1 1/4"	3/4"
	CIP/PS	1 1/4"	1"	1/2"
1 1/2"	ALL EXCEPT CIP/PS	1 1/4"	1"	1/2"
	CIP/PS	1"	3/4"	1/2"
1"	ALL EXCEPT CIP/PS	1"	3/4"	1/2"
	CIP/PS	3/4"	1/2"	1/2"
1/2"	ALL EXCEPT CIP/PS	3/4"	3/4"	1/2"
	CIP/PS	1/2"	1/2"	1/2"

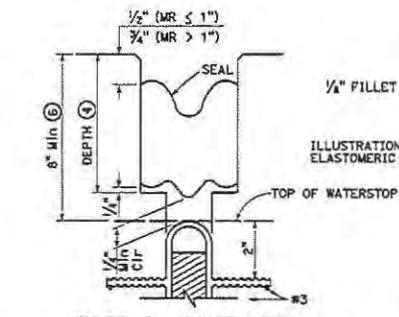


TYPE A SEAL

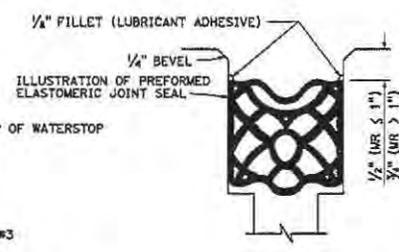
Movement rating : Silicone = 1" Max

TYPE AL SEAL

Longitudinal joints only



TYPE B JOINT SEAL IN MINIMUM WIDTH POSITION (W₂)



TYPE B SEAL

Movement Rating ≤ 2"

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
JOINT SEALS
(MAXIMUM MOVEMENT RATING = 2")
 NO SCALE

2015 STANDARD PLAN B6-21

301

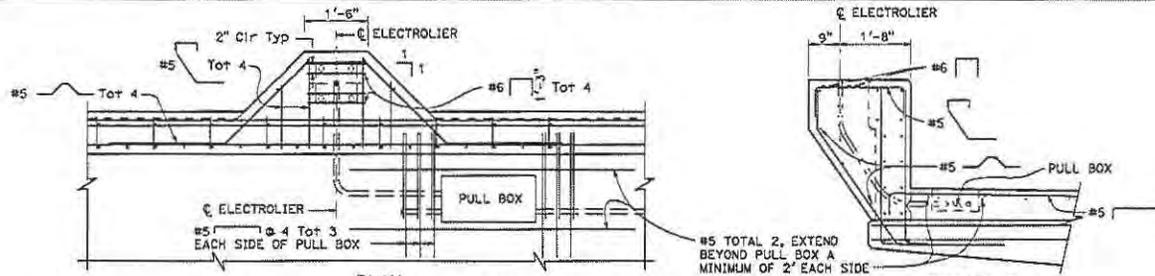
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DIST	COUNTY	ROUTE	POST MILE	SHEET TOTAL
			TOTAL PROJECT	NO. SHEETS

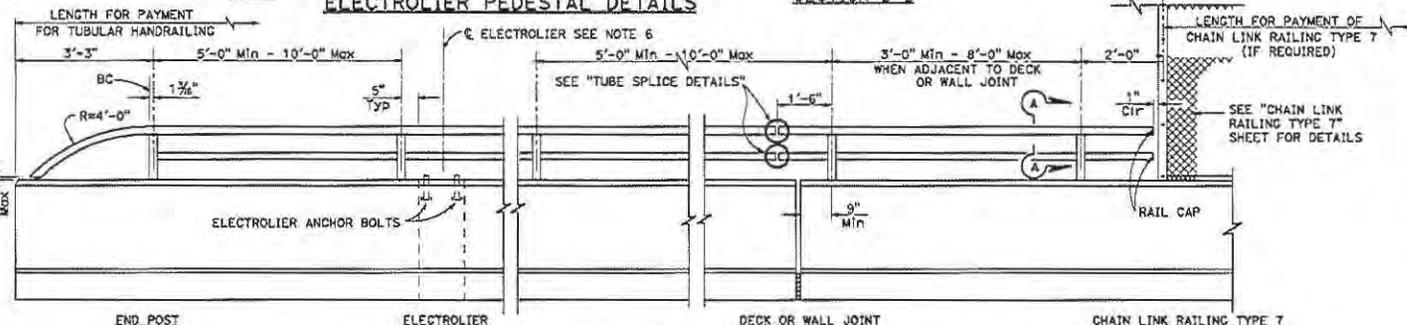
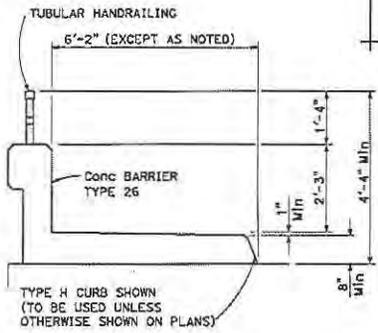
REGISTERED CIVIL ENGINEER
 July 15, 2016
 PLANS APPROVAL DATE
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TO ACCOMPANY PLANS DATED _____



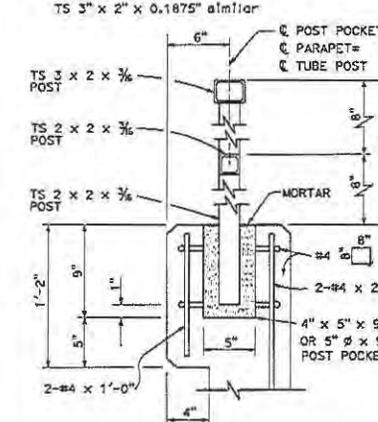
ELECTROLIER PEDESTAL DETAILS



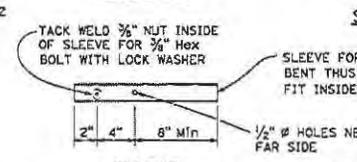
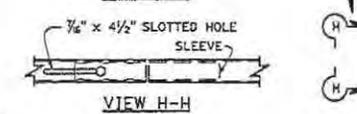
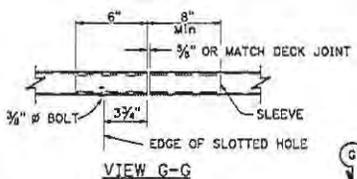
TYPICAL SECTION



RAIL CAP



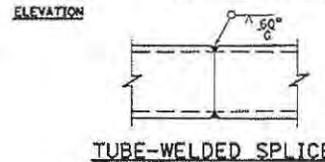
POST ANCHORAGE DETAILS



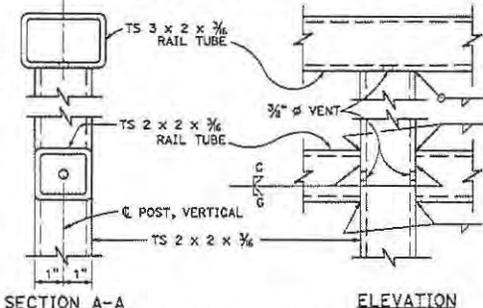
SLEEVE TUBE SPLICE DETAILS

TS 3 x 2 x 3/8 similar

NOTES:
 3/8" Nut tacked inside to sleeve may be replaced by drilled and topped hole in sleeve.



TUBE-WELDED SPLICE



RAIL CONNECTION DETAILS

- NOTES:**
1. Post shall be normal to railing.
 2. Rail tubes shall be shop bent or fabricated to fit horizontal curve when radius is less than 950'.
 3. Tube splices shall be located in the tubes spanning deck or wall joints. Increase joint width in tubes to match expansion joint width and increase sleeve length correspondingly.
 4. Top rail tube shall be continuous over not less than two posts except a short post spacing is permitted near deck or wall joints, electroliers, or other rail discontinuities as noted.
 5. For details and reinforcement not shown see Revised Standard Plan RSP B11-54.
 6. For electrolier mounting details, see Revised Standard Plans RSP ES-6A and RSP ES-6B.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
TUBULAR HANDRAILING
 NO SCALE

RSP B11-51 DATED JULY 15, 2016 SUPERSEDES STANDARD PLAN B11-51
 DATED OCTOBER 30, 2015 - PAGE 312 OF THE STANDARD PLANS BOOK DATED 2015.
REVISED STANDARD PLAN RSP B11-51

2015 REVISED STANDARD PLAN RSP B11-51

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DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Robert D. Smith
LICENSED LANDSCAPE ARCHITECT

January 20, 2017
PLANS APPROVAL DATE

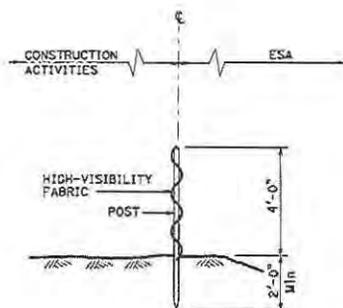
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STATE OF CALIFORNIA
DIVISION OF DESIGN

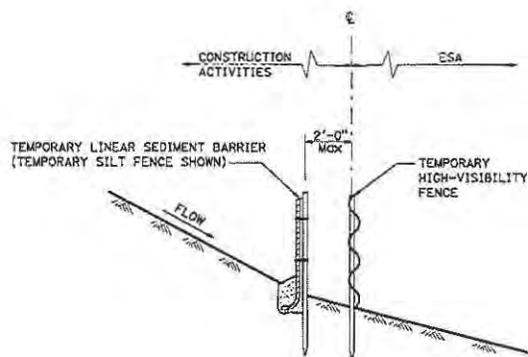


SIGN DETAIL

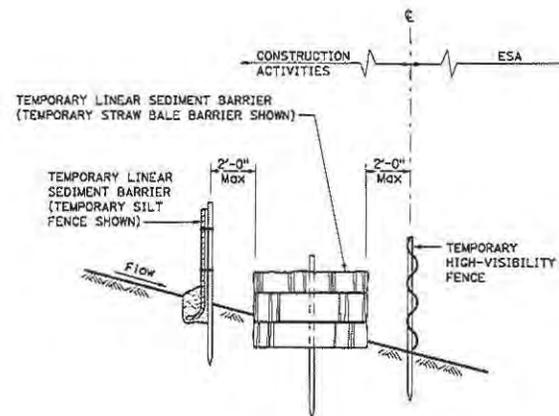
TO ACCOMPANY PLANS DATED _____



SECTION
TEMPORARY HIGH-VISIBILITY FENCE



SECTION
PLACEMENT DETAIL
FOR TEMPORARY LINEAR SEDIMENT BARRIER
USED WITH TEMPORARY
HIGH-VISIBILITY FENCE



SECTION
PLACEMENT DETAIL
FOR TEMPORARY SILT FENCE
AND TEMPORARY STRAW BALE BARRIER
USED WITH TEMPORARY HIGH-VISIBILITY FENCE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TEMPORARY WATER POLLUTION
CONTROL DETAILS
(TEMPORARY HIGH-VISIBILITY FENCE)**

NO SCALE
RSP T65 DATED JANUARY 20, 2017 SUPERSEDES STANDARD PLAN T65
DATED OCTOBER 30, 2015 - PAGE 273 OF THE STANDARD PLANS BOOK DATED 2015.

REVISED STANDARD PLAN RSP T65

2015 REVISED STANDARD PLAN RSP T65

The following Standard Plans for Public Works Construction, 2009 Edition, of the Public Works Standards, Inc. have been adopted by OCPW with conditions which shall apply to OCPW use. The conditions are listed below.

SPPWC * OCPW * Name and Conditions

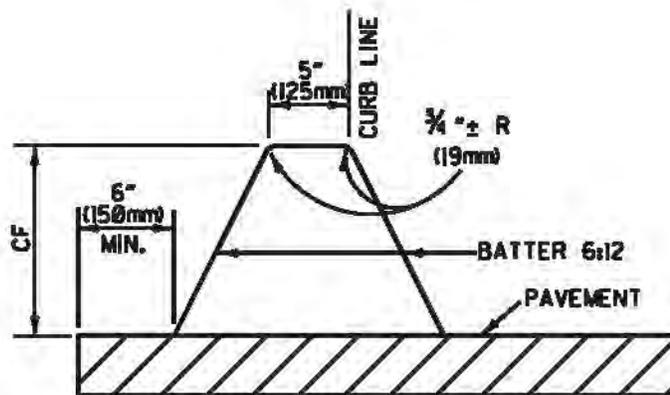
120-2

120-2-0C

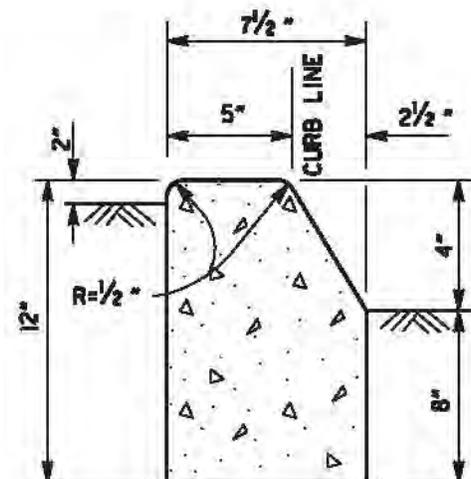
Curb and Gutter-Barrier

1. Type A-2. Place asphalt concrete surfacing $\frac{3}{8}$ inch above edge of PCC gutter, except in the case of curb ramps where the asphalt concrete surfacing shall be flush with the PCC gutter.
2. Type D-1. Tack AC pavement with emulsified asphalt at rate of 0.05 gallons per square yard prior to placing AC curb. Alternate D1 curb may be constructed using a batter of 6:12 and 5 inches top width as shown per Detail "A" below.
3. For the Type A2-6(150) curb, the "W" dimension shall be 1 foot-6 inches, unless otherwise indicated on the Plans.
4. Curb type shall be selected according to the following table:

	<45 mph	\geq 45 mph
Median	A1-6(150)	See detail "B" below
Adjacent to sidewalk	A2-6(150)	A2-6(150)



**ALTERNATE D1-6(150)
DETAIL "A"**



DETAIL "B"

COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT

Approved

Ignacio G. Ochoa, Chief Engineer

STD. PLAN

120-2-0C

Revision: April 2013

SPPWC STANDARD PLAN - CURB AND GUTTER-BARRIER

SHT. 1 OF 1

Appendix A – Water Pollution Control Plan Template



WATER POLLUTION CONTROL PROGRAM (WPCP)

for

START HERE...CLICK HERE TO INSERT PROJECT NAME-THEN TAB TO NEXT FIELD

RSM Contract Number:

INSERT RSM CONTRACT NUMBER-THEN TAB TO NEXT FIELD.

Prepared for:

Insert Name of Lead Agency-then TAB.

Insert Address 1 and press ENTER to insert Address 2 or TAB to next field.

Insert City, State, ZIP-then TAB.

Insert Resident Engineer's Name-then TAB.

Insert Resident Engineer's Telephone Number-then TAB.

Submitted by:

Insert Contractor's Company Name-then TAB.

Insert Address 1 and press ENTER for Address 2 or TAB to next field.-then TAB.

Insert City, State, ZIP-then TAB.

Insert Telephone-then TAB.

Insert Owner/Representative's Name-then TAB.

Project Site Address

Insert job site address, if any-then TAB.

Insert job site telephone number, if any-then TAB.

Contractor's Water Pollution Control Manager

Insert WPCM's Name-then TAB.

Insert Telephone Number(s)-then TAB.

Contractor's Designated Water Pollution Control Inspector (if different from WPCM)

Insert Inspectors Name-then TAB.

Insert Telephone Number(s)-then TAB.

WPCP Prepared by:

Insert Company Name-then TAB.

Insert Address 1 and press ENTER to insert Address 2 or TAB to next field.

Insert City, State, ZIP-then TAB.

Insert Telephone-then TAB.

Insert Name and Title of Preparer-then TAB.

WPCP Preparation Date

Insert Date

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WPCP Attachments

Attachment A	Water Pollution Control Drawings
Attachment B	Maintenance, Inspection, and Repair of Construction Site BMPs
Attachment C	Stormwater Quality Construction Site Inspection Checklist
Attachment D	Amendments
Attachment E	Notice of Discharge
Attachment F	Discharge Reporting Log
Attachment G	Trained Contractor Personnel Log
INSERT ADDITIONAL ATTACHMENT REFERENCES OR DELETE THIS LINE	

Section 10

WPCP Certification and Approval

10.1 Contractor's Certification and Approval by the Resident Engineer

INSTRUCTIONS

- The contractor, authorized and required by the Special Provisions to prepare and implement the WPCP, shall provide and sign the following certification:

REQUIRED TEXT

CONTRACTOR'S CERTIFICATION OF WPCP

"I certify under a penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted, to the best of my knowledge and belief is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature

Date

Name and Title

Telephone Number

INSTRUCTIONS

- If RSM is administering the project, then the RSM Engineer, as the authorized representative of the Department shall provide and sign the following certification upon approval of the WPCP.
- If a Local Agency is administering the project, then both the Local Agency Resident Engineer and the RSM Oversight Engineer shall provide and sign the following certification upon approval of the WPCP.

Is a Local Agency / Private Entity administering the project?

Yes No

REQUIRED TEXT WHEN RSM IS ADMINISTERING PROJECT

For Use by RSM Only

RSM RESIDENT ENGINEER'S APPROVAL OF WPCP

I, and/or personnel acting under my direction and supervision, have reviewed this WPCP and find that it meets the requirements set forth in the Special Provisions, the RSM SWPPP and WPCP Preparation Manual, and the Standard Specifications Section 7-1.01G - Water Pollution.

RSM Resident Engineer's Signature

Date of WPCP Approval

RSM Resident Engineer's Name (printed)

RSM Resident Engineer's Phone Number

REQUIRED TEXT WHEN LOCAL AGENCY / PRIVATE ENTITY IS ADMINISTERING PROJECT

For Use by Local Agency / Private Entity Only

LOCAL AGENCY / PRIVATE ENTITY RESIDENT ENGINEER'S APPROVAL OF WPCP

I, and/or personnel acting under my direction and supervision, have reviewed this WPCP and find that it meets the requirements set forth in the Special Provisions, the RSM SWPPP and WPCP Preparation Manual, and the Standard Specifications Section 7-1.01G - Water Pollution.

Resident Engineer's Signature

Date of WPCP Approval

Resident Engineer's Name (printed)

Resident Engineer's Phone Number

For Use by RSM Only

RSM OVERSIGHT ENGINEER'S CONCURRENCE OF WPCP

I, and/or personnel acting under my direction and supervision, have reviewed this WPCP and concur with the Resident Engineer's findings that it meets the requirements set forth in the Special Provisions, the RSM SWPPP and WPCP Preparation Manual, and the Standard Specifications Section 7-1.01G - Water Pollution.

RSM Oversight Engineer's Signature

Date of WPCP Concurrence

RSM Oversight Engineer's Name

RSM Oversight Engineer's Phone Number

Section 20

Project Information

INSTRUCTIONS

- Provide narrative text addressing the following topics in a format that can be easily understood by a person who is not familiar with the project.
 - Introduction and Project Description:
 - Provide a brief description of the project.
 - Describe the type(s) of work that will be performed.
 - Provide a brief description of the project location, including descriptive items such as county, route, post mile, city, and street names.
 - Describe proximity to receiving waters to which the project will discharge, including surface waters, drainage channels, and drainage systems.
 - Identify drainage system owners (municipality or agency).
 - Unique Site Features:
 - Provide a brief description of any unique site features (water bodies, wetlands, environmentally sensitive area, endangered or protected species, etc.)
 - Describe significant or high-risk activities that may impact stormwater quality. Include any unique features or activities within or adjacent to water bodies (such as dredging, re-use of aerially deposited lead material, large excavations, or work within a water body).
 - Project Schedule: Provide a written or graphical project schedule. A graphical schedule in the form of an image file can be copied into the form field for the graphical schedule. Alternatively the graphical schedule can be manually included in the document. The schedule shall clearly show how the rainy season relates to soil-disturbing and re-stabilization activities. The schedule only needs to be detailed enough to show major activities sequenced with the implementation of construction site BMPs, including:
 - Project start and finish dates
 - Rainy season dates
 - Mobilization dates
 - Mass clearing and grubbing, roadside clearing dates
 - Major grading and excavation dates
 - Dates for special activities named in other permits, such as Fish and Game
 - Rainy season implementation schedule

- Deployment of temporary soil stabilization BMPs
 - Deployment of temporary sediment control BMPs
 - Deployment of non-stormwater BMPs
 - Deployment of waste management and materials pollution control BMPs
 - Paving, sawcutting, and any other pavement related operations
 - Planned stockpiling operations
 - Dates for other significant long-term operations or activities that may plan non-stormwater discharges such as dewatering, grinding, etc.
- Note: Projects located in the Lake Tahoe, Truckee River, East Fork Carson River, or West Fork Carson River Hydrologic Units, and projects above 5,000 ft in elevation in the portions of Mono County or Inyo County within the Lahontan RWQCB are not allowed to perform removal of vegetation nor disturbance of existing ground surface conditions between October 15 of each year and May 1 of the following year; except when there is an emergency situation that threatens the public health and safety, or when the project is granted a variance by the RWQCB Executive Officer.
 - Pollutant Source Identification:
 - Review the contract documents and associated environmental documents to determine the known site contaminants and list them in this section.

EXAMPLE

1. Introduction and Project Description

The project consists of sound wall construction, shoulder work, and PCC pavement removal and replacement along approximately 1300 feet of highway. The project is located on northbound I-5 in Stockton (San Joaquin County), north from W. March Lane. Project runoff is conveyed approximately 2600 feet south to the Calaveras River via a combination of RSM-owned roadside ditches and underground drainage facilities. The Calaveras River discharges to the San Joaquin River approximately 1.9 miles downstream from I-5. The total disturbed area is about 0.8 acres.

2. Unique Site Features:

Relative proximity to Calaveras and San Joaquin Rivers.

3. Project Schedule (graphical):

The attached project schedule shows the projected progress of the project and includes implementation of water pollution control items.

4. Potential Pollutant Sources:

The primary construction activities, related materials, and wastes that have the potential to pollute stormwater include:

- a) Soil disturbing activities and resulting exposed soil areas, including minor grading along the shoulder and trenching for conduits and sound wall footings.
- b) Slurries from mortar mixing and PCC saw-cutting and placement.

- c) Solid wastes from PCC demolition and removal, sound-wall construction, and form work
- d) Temporary on-site storage of construction materials, including mortar mix, raw landscaping, soil stabilization materials, and treated lumber.
- e) General site litter.
- f) Equipment operation and maintenance.

REQUIRED TEXT

1. Introduction and Project Description:

2. Unique Site Features:

3. Project Schedule (graphical):

4. Potential Pollutant Sources:

EXAMPLE: GRAPHICAL SCHEDULE

The graphical Water Pollution Control Schedule is provided on the following page.

INSERT GRAPHICAL WATER POLLUTION CONTROL SCHEDULE

Section 30

Pollution Sources and Control Measures

INSTRUCTIONS

BMP SELECTION PROCESS

- BMPs are selected to reduce or eliminate pollutants in stormwater and non-stormwater discharges associated with construction activities. Described below is the sequence of steps that shall be used to identify BMPs to be included in WPCPs.

Step 1: Incorporate the temporary water pollution control BMPs that are described in:

- Contract Special Provisions;
- Contract Plans;
- Standard Plans; and
- Standard Specifications.

If the BMPs required in Step 1 are inadequate to address potential pollutants in stormwater discharges and non-stormwater discharges, then:

Step 2: Incorporate the temporary water pollution control BMPs using one or more of the RSM minimum requirements listed in Table 1-1 of the SWPPP/WPCP Preparation Manual.

Step 3: If the BMPs selected from Steps 1 and 2 are inadequate to address potential pollutants in stormwater discharges and non-stormwater discharges, then incorporate the temporary water pollution control BMPs that are described in Section 4.5 of the SWMP. For reference on these BMPs see the Construction Site Best Management Practices (BMPs) Reference Manual.

- Show the selected BMPs on the WPCDs.
- Complete the BMP implementation tables and descriptions in each of the following sections:
 - 30.1 Soil Stabilization (Erosion Control) and Sediment Control
 - 30.2 Construction Site Management

30.1 Soil Stabilization (Erosion Control) and Sediment Control

INSTRUCTIONS

- Use each of the following sections to identify erosion and sediment controls that will be implemented during the project.

30.1.1 Soil Stabilization Practices

30.1.2 Sediment Control Practices

30.1.3 Sediment Tracking Controls

30.1.4 Wind Erosion Controls

30.1.1 Soil Stabilization BMPs

INSTRUCTIONS

- Soil stabilization consists of source control measures that are designed to prevent soil particles from detaching and becoming suspended in stormwater runoff. Soil stabilization BMPs protect the soil surface by covering and/or binding the soil particles.
- Provide a brief description of soil-disturbing activities, such as clearing and grubbing, grading, excavation, trenching, etc. Show the limits of the soil-disturbed areas on the WPCDs.
- Complete the following BMP implementation table for temporary soil stabilization BMPs.
- Describe the locations and scheduled installations for each selected soil stabilization BMP.
- If the project will not create disturbed soil areas, state as such and check "No" for all BMPs in the soil stabilization selection BMP implementation table and enter "N/A" as the reason not used.

EXAMPLE

The following soil stabilization BMP implementation table indicates the BMPs that shall be implemented to control erosion on the construction site. Implementation and locations of temporary soil stabilization BMPs are shown on the WPCDs in Attachment A and described in this section. The BMP working details can also be found in Attachment A of this WPCP. The following list of BMPs and narrative explain how the selected BMPs will be incorporated into the project.

Soil disturbing activities consist of minor grading along the shoulder and trenching for utilities and sound wall footings as shown on WPCD-2. Existing vegetation will be preserved outside the immediate construction zone as shown.

SS-1 Scheduling

SS-2 Preservation of Existing Vegetation

- Clearing and grubbing will be limited to the boundaries of active construction as shown on WPCD-2. Surrounding areas of existing vegetation will be protected by installing ESA fencing around the drip lines of the trees.

SS-5 Soil Binders (Copolymer)

- BMP SS-5 was selected to minimize interference with the final (permanent) erosion control measures (decorative landscaping). Soil binders will be applied to all non-active soil disturbed areas during the rainy season in conformance with the DSA protection requirements in the Stormwater Pollution Prevention Plan/Water Pollution Control Program Preparation Manual.

REQUIRED TEXT

The following soil stabilization BMP implementation table indicates the BMPs that shall be implemented to control erosion on the construction site. Implementation and locations of temporary soil stabilization BMPs are shown on the WPCDs in Attachment A and described in this section. The BMP working details can also be found in Attachment A of this WPCP. The following list of BMPs and narrative explain how the selected BMPs will be incorporated into the project.

TEMPORARY SOIL STABILIZATION BMPs

CONSTRUCTION BMP ID NO ⁽¹⁾	BMP NAME	MINIMUM REQUIRE- MENT ⁽³⁾	CONTRACT BID ITEM	BMP USED		IF NOT USED, STATE REASON
				YES	NO	
SS-1	Scheduling	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SS-2	Preservation of Property/ Preservation of Existing Vegetation	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SS-3	Temporary Hydraulic Mulch (Bonded Fiber Matrix)	✓ ⁽²⁾	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Temporary Hydraulic Mulch (Polymer Stabilized Fiber Matrix)	✓ ⁽²⁾	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SS-4	Temporary Erosion Control (With Temporary Seeding)	✓ ⁽²⁾	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SS-5	Temporary Soil Stabilizer	✓ ⁽²⁾	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SS-6	Temporary Erosion Control (Straw Mulch with Stabilizing Emulsion)	✓ ⁽²⁾	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SS-7	Temporary Erosion Control Blanket (On Slope)	✓ ⁽²⁾	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Temporary Erosion Control Blanket (In swale or ditch)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SS-7	Temporary Cover (Plastic Covers)	✓ ⁽²⁾	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SS-8	Temporary Mulch (Wood)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SS-9	Earth Dikes / Drainage Swales & Lined Swales		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SS-10	Outlet Protection / Velocity Dissipation Devices		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SS-11	Slope Drains		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

START HERE...CLICK HERE TO INSERT PROJECT NAME-THEN TAB TO NEXT FIELD

Contract No. INSERT RSM CONTRACT NUMBER-THEN TAB TO NEXT FIELD.

CONSTRUCTION BMP ID NO ⁽¹⁾	BMP NAME	MINIMUM REQUIRE- MENT ⁽³⁾	CONTRACT BID ITEM	BMP USED		IF NOT USED, STATE REASON
				YES	NO	
SS-12	Streambank Stabilization		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ALTERNATIVE SOIL STABILIZATION BMPs USED⁽⁴⁾ ● Yes ● No						IF USED, STATE REASON
Notes: ⁽¹⁾ The BMP designations (SS-1, SC-3, etc.) are solely for maintaining continuity with existing RSM documents and are not provided to imply that the Construction Site BMP Reference Manual is a required contract document. ⁽²⁾ The Contractor shall ensure implementation of one of the two measures listed or a combination thereof to achieve and maintain the contract's rainy and non-rainy season requirements. ⁽³⁾ Not all minimum requirements may be applicable to every project. Applicability to a specific project shall be determined by the Contractor and approved by the Resident Engineer. ⁽⁴⁾ Use of alternative BMPs will require written approval by the Resident Engineer.						

INSERT NARRATIVE DESCRIBING SELECTED SOIL STABILIZATION BMPs

30.1.2 Sediment Control BMPs

INSTRUCTIONS

- Sediment controls are used to complement and enhance the selected soil stabilization measures. Sediment controls are designed to intercept runoff and capture suspended soil particles through a settlement or filtration process.
- Provide a brief description of soil-disturbed areas that will necessitate sediment control BMPs. References to the WPCDs and/or Section 30.1.1 are often sufficient.
- Complete the following BMP implementation table for temporary sediment control BMPs. All listed BMPs shall be considered for the project.
- Describe the locations and scheduled installations for each selected sediment control BMP.
- Show selected BMPs on the WPCDs.

EXAMPLE

The following sediment control BMP implementation table indicates the BMPs that shall be implemented to control sediment on the construction site. Implementation and locations of temporary sediment control BMPs are shown on the WPCDs in Attachment A and described in this section. The BMP working details can also be found in Attachment A of this WPCP. The following list of BMPs and narrative explain how the selected BMPs will be incorporated into the project.

Temporary fiber rolls will be used at the toe of slopes and as perimeter sediment controls. According to the contract special provisions, sediment controls for this project are required during the rainy season - continuously on non-active DSAs and before rain on active DSAs. Deployment locations will be as follows:

SC-5 Temporary Fiber Rolls

- Fiber rolls will be deployed along the downstream (southern) construction site perimeter as shown on WPCD-2. Once the drainage channel is constructed and lined, fiber rolls will be extended north, along each side of the channel. See SC-4, Temporary Check Dam, below.

SC-4 Temporary Check Dam

- Concentrated flows will be conveyed by the drainage channel that runs north-south, adjacent to the shoulder. During channel construction, sediment control will be provided by gravel bag check dams, spaced at 30 feet. Once the channel is lined, temporary fiber rolls will be installed along the channel banks to prevent sediment from entering the channel.

REQUIRED TEXT

The following sediment control BMP implementation table indicates the BMPs that shall be implemented to control sediment on the construction site. Implementation and locations of temporary sediment control BMPs are shown on the WPCDs in Attachment A and described in this section. The BMP working details can also be found in Attachment A of this WPCP. The following list of BMPs and narrative explain how the selected BMPs will be incorporated into the project.

Temporary sediment control

CONSTRUCTION BMP ID NO ⁽¹⁾	BMP NAME	MINIMUM REQUIREMENT ⁽³⁾	CONTRACT BID ITEM	BMP USED		IF NOT USED, STATE REASON
				YES	NO	
SC-1	Temporary Silt Fence	✓ ⁽²⁾	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SC-2	Temporary Sediment Basin		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SC-4	Temporary Check Dam		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SC-5	Temporary Fiber Rolls	✓ ⁽²⁾	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SC-6	Temporary Gravel Bag Berm		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SC-7	Street Sweeping	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SC-8	Temporary Sandbags		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SC-9	Temporary Straw Bale Barrier		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SC-10	Temporary Drain Inlet Protection	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ALTERNATIVE SEDIMENT CONTROL BMPs USED⁽⁴⁾						IF USED, STATE REASON
<input checked="" type="radio"/> Yes <input checked="" type="checkbox"/> No						
Notes: ⁽¹⁾ The BMP designations (SS-1, SC-3, etc.) are solely for maintaining continuity with existing RSM documents and are not provided to imply that the Construction Site BMP Reference Manual is a required contract document. ⁽²⁾ The Contractor shall ensure implementation of one of the two measures listed or a combination thereof to achieve and maintain the contract's rainy and non-rainy season requirements. ⁽³⁾ Not all minimum requirements may be applicable to every project. Applicability to a specific project shall be determined by the Contractor and approved by the Resident Engineer. ⁽⁴⁾ Use of alternative BMPs will require written approval by the Resident Engineer.						

INSERT NARRATIVE DESCRIBING TEMPORARY SEDIMENT CONTROL BMPs

30.1.3 Tracking Control BMPs

INSTRUCTIONS

- Refer to the following BMP implementation table for sediment tracking control BMPs. If a particular BMP will not be used or is not applicable enter a brief reason.
- Tracking controls shall be considered and implemented year round and throughout the duration of the project. Show selected sediment tracking control BMPs on the WPCDs in Attachment A.

REQUIRED TEXT

The following tracking control BMP implementation table indicates the BMPs that shall be implemented to reduce sediment tracking from the construction site onto private or public roads. Implementation and locations of tracking control BMPs are shown on the WPCDs in Attachment A and described in this section. The BMP working details can also be found in Attachment A of this WPCP. The following list of BMPs and narrative explain how the selected BMPs will be incorporated into the project.

TEMPORARY TRACKING CONTROL BMPs

CONSTRUCTION BMP ID NO ⁽¹⁾	BMP NAME	MINIMUM REQUIRE- MENT	CONTRACT BID ITEM	BMP USED		IF NOT USED, STATE REASON
				YES	NO	
SC-7	Street Sweeping		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TC-1	Temporary Construction Entrance		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TC-2	Stabilized Construction Roadway		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TC-3	Temporary Entrance / Outlet Tire Wash		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ALTERNATIVE TRACKING CONTROL BMPs USED⁽²⁾						IF USED, STATE REASON
<input checked="" type="radio"/> Yes <input checked="" type="radio"/> No						

Notes:
⁽¹⁾ The BMP designations (SS-1, SC-3, etc.) are solely for maintaining continuity with existing RSM documents and are not provided to imply that the Construction Site BMP Reference Manual is a required contract document.
⁽²⁾ Use of alternative BMPs will require written approval by the Resident Engineer.

INSERT NARRATIVE DESCRIBING TRACKING CONTROL BMPs

30.1.4 Wind Erosion Control BMPs

INSTRUCTIONS

- Refer to the following BMP implementation table for wind erosion control BMPs. If a particular BMP will not be used or is not applicable enter a brief reason.
- Provide a narrative description of wind erosion control BMPs Give a general approach on how wind erosion control BMPs will be implemented on the project to control dust during construction operations, including stockpile operations at all times.
- If the project will not create disturbed soil areas, indicate this in the narrative description.

REQUIRED TEXT

The following wind erosion control BMP implementation table indicates the BMPs that shall be implemented to control wind erosion on the construction site. Implementation and locations of wind erosion control BMPs are shown on the WPCDs in Attachment A and/or described in this section. The BMP working details can be found in Attachment A. The following list of BMPs and narrative explain how the selected BMPs shall be incorporated into the project.

TEMPORARY WIND EROSION CONTROL

CONSTRUCTION BMP ID NO ⁽¹⁾	BMP NAME	MINIMUM REQUIRE- MENT ⁽²⁾	CONTRACT BID ITEM	BMP USED		IF NOT USED, STATE REASON
				YES	NO	
WE-1	Wind Erosion Control	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TC-1	Temporary Construction Entrance		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TC-2	Stabilized Construction Roadway		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
----	All Soil Stabilization Measures included in Section 500.3.4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ALTERNATIVE WIND EROSION CONTROL BMPs USED⁽³⁾						IF USED, STATE REASON
<input type="radio"/> Yes <input type="radio"/> No						
Notes: ⁽¹⁾ The BMP designations (SS-1, SC-3, etc.) are solely for maintaining continuity with existing RSM documents and are not provided to imply that the Construction Site BMP Reference Manual is a required contract document. ⁽²⁾ Not all minimum requirements may be applicable to every project. Applicability to a specific project shall be determined by the Contractor and approved by the Resident Engineer. ⁽³⁾ Use of alternative BMPs will require written approval by the Resident Engineer.						

INSERT NARRATIVE DESCRIBING WIND EROSION CONTROL BMPs

30.2 Construction Site Management

30.2.1 Non-Stormwater Management BMPs

INSTRUCTIONS

- Non-stormwater discharges which are not authorized under the RSM Permit or authorized under a separate NPDES permit are prohibited. Examples of prohibited discharges common to construction activities include:
 - Vehicle and equipment wash water, including concrete washout water.
 - Slurries from concrete cutting and coring operations or AC grinding operations.
 - Slurries from concrete or mortar mixing operations.
 - Blast residue from high-pressure washing of structures or surfaces.
 - Wash water from cleaning painting equipment.
 - Runoff from dust control applications of water or dust palliatives.
 - Sanitary and septic wastes.
- List all activities that have the potential to produce non-stormwater discharges. (Consider dewatering operations and any construction activity that requires water use.) Discuss planned dewatering operations with the Resident Engineer to determine possible requirement for permits and/or treatment. Discuss how mobile operations, such as maintenance and fueling for large or stationary equipment, will be addressed.
- Use the following BMP implementation table to select BMPs as necessary to contain, remove, and dispose potential non-stormwater discharges.
- Describe the locations and scheduled installations for each selected Non-Stormwater Management BMPs.

REQUIRED TEXT

The following BMP implementation table indicates the BMPs that have been selected to control non-stormwater pollution on the construction site. Implementation and locations of non-stormwater control BMPs are shown on the WPCDs in Attachment A and described in this section. The BMP working details that will be adhered to are found in Attachment A of this WPCP.

CONSTRUCTION SITE MANAGEMENT

NON-STORM WATER MANAGEMENT BMPS						
BMP No.	BMP	MINIMUM REQUIREMENT	CHECK IF CONTRACT REQUIREMENT	CHECK IF USED	CHECK IF NOT USED	IF NOT USED, STATE REASON
NS-1	Water Conservation Practices					
NS-2	Dewatering Operations					
NS-3	Paving and Grinding Operations					
NS-4	Temporary Stream Crossing					
NS-5	Clear Water Diversion					
NS-6	Illicit Discharge / Illegal Dumping Reporting					
NS-7	Potable Water / Irrigation					
Vehicle and Equipment Operations						
NS-8	Vehicle and Equipment Cleaning					
NS-9	Vehicle and Equipment Fueling					
NS-10	Vehicle and Equipment Maintenance					

INSERT NARRATIVE DESCRIBING NON-STORM WATER MANAGEMENT POLLUTION CONTROL BMPs

30.2.2 Waste Management and Materials Pollution Control BMPs

INSTRUCTIONS

- Waste management consists of implementing procedural and structural BMPs for collecting, handling, storing and disposing of wastes generated by a construction project to prevent the release of waste materials into stormwater discharges. Wastes are going to be generated during construction; however, the methods in which the wastes are collected, stored, and removed will determine the success of the waste management activities. Construction site wastes can range from residues collected from non-stormwater discharges (i.e. paint removal) to general site litter and debris (i.e. empty marker paint cans).
- Material pollution control (materials handling) consist of implementing procedural and structural BMPs for handling, storing and using construction materials to prevent the release of those materials into stormwater discharges. The amount and type of construction materials to be utilized at the site will be dependent upon the type of construction and the length of the construction period. The materials may be used continuously, such as fuel for vehicles and equipment, or the materials may be used for a discrete period, such as fertilizer for landscaping.
- Waste management and materials pollution control BMPs must be implemented to minimize stormwater contact with construction materials, wastes and service areas, and to prevent materials and wastes from being discharged off-site.
- Review project activities to identify likely construction materials and wastes. Identify materials and wastes with special handling or disposal requirements, such as lead contaminated soils. List anticipated materials and wastes below.
- Based on the listed materials and wastes, use the following materials handling and waste management BMP consideration checklist to select appropriate BMPs.
- Describe the locations and scheduled installations for each selected waste management and materials pollution control BMPs. For Solid Waste Management WM-5, a list of waste disposal facilities and the type of waste to be disposed at each facility is provided.

REQUIRED TEXT

The following BMP implementation table indicates the BMPs that have been selected to control construction site wastes and materials. Implementation and locations of materials handling and waste management BMPs are shown on the WPCDs in Attachment A. The BMP working details that will be adhered to are found in Attachment A of this WPCP. The following list of BMPs and narrative explain how the selected BMPs will be incorporated into the project.

Waste Management and Materials Pollution Control BMPs						
BMP No.	BMP	MINIMUM REQUIREMENT	CHECK IF CONTRACT REQUIREMENT	CHECK IF USED	CHECK IF NOT USED	IF NOT USED, STATE REASON
WM-1	Material Delivery and Storage					
WM-2	Material Use					
WM-3	Asphalt Concrete Stockpiles					
WM-4	Spill Prevention and Control					
WM-5	Solid Waste Management					
WM-6	Hazardous Waste Management					
WM-7	Contaminated Soil Management					
WM-8	Concrete Waste Management					
WM-9	Sanitary/Septic Waste Management					
WM-10	Liquid Waste Management					

INSERT NARRATIVE DESCRIBING WASTE MANAGEMENT AND MATERIALS POLLUTION CONTROL BMPs

30.3 Water Pollution Control Drawings (WPCDs)

INSTRUCTIONS

- The contractor shall include WPCDs in the WPCP to show the locations, applications, and deployment of the BMPs checked in the preceding sections.
- The WPCDs shall include one or more drawings at a scale sufficient to clearly show on-site drainage patterns and the location of erosion and sediment control BMPs. The WPCDs shall be no smaller than the "reduced plans" (approximately 11" x 17") issued by RSM. A sample WPCD can be referenced in Attachment A of Appendix B of the "SWPPP and WPCP Preparation Manual."
- The WPCDs shall include:
 - Detail sheets showing construction details for the BMPs that shall be used.
 - Location sheets, usually modified layout, grading, stage construction, and/or drainage sheets, showing the locations of BMPs that will be used. Delineation of BMPs to be implemented during project construction will be in the form of construction notes and/or symbols.

REQUIRED TEXT

The WPCDs are included as Attachment A to this Water Pollution Control Program.

30.4 Construction BMP Maintenance, Inspection, and Repair

INSTRUCTIONS

- A program for the regular inspection, maintenance, and repair of BMPs shall be included in the WPCP in Attachment B. The contractor's attention is directed to the Contract Specifications and Special Provisions for requirements for maintenance and inspection of BMPs.
- Appendix B, Attachment B of the "SWPPP and WPCP Preparation Manual", shows a sample Maintenance, Inspection and Repair of Construction Site BMPs form.
- At a minimum, the contractor shall inspect the site before and after storm events, and at 24-hour intervals during extended storms. The Contract Special Provisions may require additional inspections.
- The results of the inspection and assessment shall be recorded on the Construction Site Inspection Checklist included in Appendix B, Attachment C to the "SWPPP and WPCP Preparation Manual," and included as Attachment C of this WPCP.
- A copy of each completed Construction Site Inspection Checklist shall be provided to the Resident Engineer within 24-hours of an inspection, and a copy included in the on-site WPCP.
- A tracking or follow-up procedure must follow any inspection that identifies deficiencies in BMPs.

REQUIRED TEXT

A completed Inspection, Maintenance, and Repair Program shall be provided in Attachment B of the WPCP.

Site inspections shall be conducted by the Contractor's WPCM or other RSM approved 24-hour trained staff at the following minimum frequencies:

- Prior to a forecast storm.
- After a rain event that causes runoff from the construction site.
- At 24-hour intervals during extended rain events.
- Daily inspections within the Lake Tahoe Hydrologic Unit.
- Weekly during the rainy season.
- Every 2 weeks during the non-rainy season; and
- At any other time(s) or intervals of time specified in the Contract Special Provisions.

Completed inspection checklists (Attachment C) will be submitted to the Resident Engineer within 24 hours of inspection. Copies of the completed checklists will be kept with the WPCP. A tracking or follow-up procedure shall follow any inspection that identifies deficiencies in BMPs.

30.5 Training

INSTRUCTIONS

- Individuals responsible for WPCP preparation, implementation, and permit compliance are required to be trained, and the WPCP shall document all training. This includes those personnel responsible for installation, inspection, maintenance, and repair of BMPs. Describe the types of training that the contractor's inspection, maintenance, and repair personnel have received or will receive that are directly related to stormwater pollution prevention.
- Training may be both formal and informal.
- Formal stormwater pollution prevention or erosion and sediment control training sessions may include certification as a Certified Professional in Erosion and Sediment Control (CPESC); workshops offered by the SWRCB, RWQCB, Community College or University of California Extension; or other locally recognized agencies or professional organizations such as the International Erosion Control Association (IECA), Association of Bay Area Governments (ABAG), Association of General Contractors (AGC), etc. Contractors are encouraged to contact the RWQCB or the SWRCB to inquire about availability of training.
- A listing of training organizations, subject matter and classes are located at: <http://www.dot.ca.gov/hq/construc/stormwater/stormwater1.html>
- The Contractor's WPCM and the WPCP preparer shall have a minimum of 24 hours (3 days) of formal stormwater pollution prevention training.
- Onsite stormwater pollution prevention training shall be conducted on an ongoing basis.
- Document informal stormwater training using the sample training log sheet provided as Attachment G.

- Document formal stormwater training by providing a list of classes and copies of class completion documentation. Documentation shall be submitted to the Resident Engineer within 24 hours of completion of training.
- Training records shall be updated, documented and reported in the WPCP quarterly.

REQUIRED TEXT

The Water Pollution Control Manager (WPCM) assigned to this project is:

Insert WPCM's Name-then TAB

Insert Telephone Number(s)-then TAB

Insert Contractor's Company Name-then TAB

Insert Address 1 then press ENTER to insert Address 2 or TAB to next field

Insert City, State, Zip-then TAB

The WPCM shall have primary responsibility and significant authority for the implementation, maintenance, inspection and amendments to the approved WPCP. The WPCM will be available at all times throughout duration of the project. Duties of the Contractor's WPCM include but are not limited to:

- Ensuring full compliance with the WPCP and the Permit; and
- Implementing all elements of the WPCP.

The WPCM shall have the authority to mobilize crews in order to make immediate repairs to the water pollution control measures.

The training log showing formal and informal training of various personnel is shown in Attachment G. A copy of all training certificate(s) (e.g., RSM 24 Hour Training Class, etc.) for the WPCM and the WPCP Preparer are included in Attachment G. Training records shall be updated, documented and reported in the WPCP quarterly. Documentation of new training shall be submitted to the Resident Engineer within 24-hours of training.

INSERT HERE ANY ADDITIONAL TEXT REGARDING TRAINING OF PERSONNEL.

This WPCP was prepared by INSERT COMPANY, NAME AND PROFESSIONAL REGISTRATION OR OTHER QUALIFICATIONS (INCLUDING INFORMATION REGARDING OTHER TRAINING COURSES, SUCH AS RSM SWPPP PREPARATION TRAINING) OF PERSON THAT PREPARED THE WPCP.

Section 40 Amendments

INSTRUCTIONS

- The WPCP shall be amended whenever there is a change in construction or operations that may cause the discharge of significant quantities of pollutants to surface waters, ground waters, municipal storm drain systems, or when deemed necessary by the Resident Engineer. All WPCP amendments shall be documented in letter format and include revised WPCD sheets, as appropriate. WPCP amendments shall be certified by the contractor and require approval by the RSM or Local Agency / Private Entity Resident Engineer (and RSM Oversight Engineer if applicable). Approved amendments shall be attached to the Contractor's on-site WPCP in Attachment D.
- The following items will be included in the amendment, as appropriate:
 - Discuss who requested the amendment.
 - Describe location of proposed change.
 - Describe reason for change.
 - Describe the original BMP proposed, if any.
 - Describe the new BMP proposed.
 - Include any revised WPCDs for detail or location changes.
 - Include a copy of the Amendment Log in Attachment D.
- The certification form shall be included in Attachment D and shall be signed by the contractor and Resident Engineer (and Oversight Engineer if applicable) for each amendment. The signed forms shall be included with the Amendment.
- If RSM is administering the project, then the RSM Resident Engineer, as the authorized representative of the Department shall provide and sign the following certification.
- If a Local Agency / Private Entity is administering the project, then the Local Agency / Private Entity Resident Engineer shall sign and provide the certification form to the RSM Oversight Engineer for approval.
- The Amendment shall be documented in the following Amendment Log Table. Enter the Amendment number, date, brief description, and name of the person who prepared the Amendment in the table. Include a copy of the Amendment Log in Attachment D.

REQUIRED TEXT

The WPCP shall be amended whenever there is a change in construction or operations that may cause the discharge of significant quantities of pollutants to surface waters, ground waters, municipal storm drain systems, or when deemed necessary by the Resident Engineer. All WPCP amendments shall be documented in letter format and include revised WPCD sheets, as appropriate. WPCP

amendments shall be certified by the contractor and require approval by the RSM or Local Agency / Private Entity Resident Engineer (and RSM Oversight Engineer if applicable). Approved amendments and log shall be attached to the Contractor's on-site WPCP in Attachment D.

Project Name: **START HERE...CLICK HERE TO INSERT PROJECT NAME-THEN TAB TO NEXT FIELD**

RSM Contract Number: **INSERT RSM CONTRACT NUMBER-THEN TAB TO NEXT FIELD.**

Amendment No.	Date	Brief Description of Amendment	Prepared By

Section 50 Reporting

50.1 Discharge Reporting

INSTRUCTIONS

- Discharges will be reported in writing to the Resident Engineer verbally upon discovery and in writing within 7 days (3 days for Districts 7 and 11) of occurrence or as required in the Special Provisions. A Notice of Discharge form for reporting discharges shall be included in Attachment E. A Discharge Reporting Log shall be included in Attachment F.
- Note: USEPA has issued regulations that define Reportable Quantity (RQ) levels for oil and hazardous substances. These regulations are found in the Code of Federal Regulations at 40 CFR Part 110, Part 117, or Part 302.

REQUIRED TEXT

If a discharge occurs or if the project receives a written notice or order from any regulatory agency, the contractor will immediately notify the Engineer and will file a written report to the Resident Engineer within 7 days (3 days for Districts 7 and 11) of the discharge event, notice, or order. Corrective measures will be implemented immediately following the discharge, notice or order. A Notice of Discharge form is provided in Attachment E. All discharges shall be documented on a Discharge Reporting Log in Attachment F.

The report to the Resident Engineer will contain the following items:

- The date, time, location, nature of operation, and type of discharge, including the cause or nature of the notice or order.
- The BMPs deployed before the discharge event, or prior to receiving notice or order.
- The date of deployment and type of BMPs deployed after the discharge event, or after receiving the notice or order, including additional BMPs installed or planned to reduce or prevent re-occurrence.
- An implementation and maintenance schedule for any affected BMPs.

Discharges requiring reporting include:

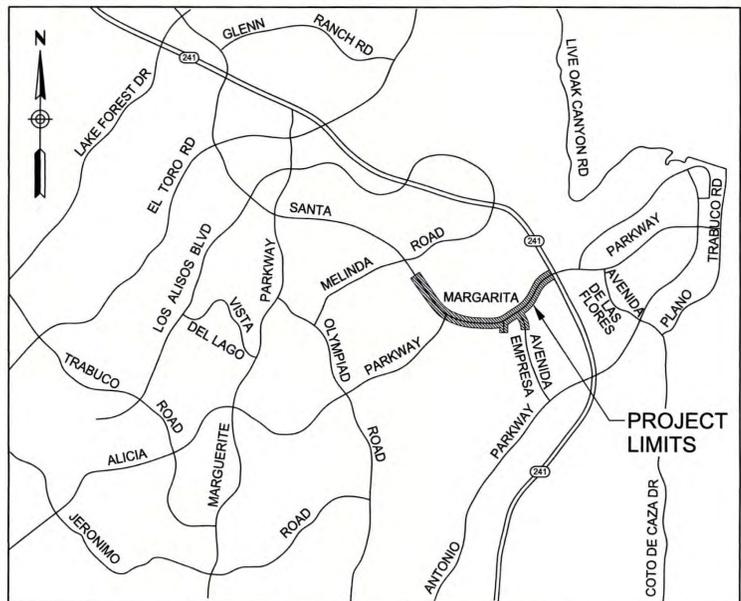
- Stormwater from a DSA discharged to a waterway without treatment by a temporary construction BMP.
- Non-stormwater, except conditionally exempted discharges, discharged to a waterway or a storm drain system, without treatment by an approved control measure (BMP).
- Stormwater discharged to a waterway or a storm drain system where the control measures (BMPs) have been overwhelmed or not properly maintained or installed.
- Discharge of hazardous substances above the reportable quantities in 40 CFR 117.3 or 302.4.

- Stormwater runoff containing hazardous substances from spills discharged to a waterway or storm drain system.
- Discharges that may endanger health or the environment.
- Other discharge reporting as directed by the Resident Engineer.

Appendix B – Santa Margarita Parkway Bridge Hinge Repair Project Plans

CITY OF RANCHO SANTA MARGARITA

SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT FROM SAN SEBASTIAN TO SR-241



VICINITY MAP
NOT TO SCALE



GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION, AND THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLANS & SPECIFICATIONS, LATEST EDITION.
2. ALL EXISTING IMPROVEMENTS INCLUDING CURBS AND GUTTERS, SIDEWALKS, & ASPHALT CONCRETE, WHICH ARE BEING JOINED OR MATCHED IN CONNECTION WITH THIS PROJECT, SHALL BE JOINED OR MATCHED IN A MANNER SATISFACTORY TO THE CITY ENGINEER INCLUDING NECESSARY SAW CUTTING, REMOVAL, REPLACEMENT AND CAPPING.
3. AC PAVEMENT SHALL BE SAWCUT TO FULL DEPTH.
4. LOCATIONS OF THE UTILITY FACILITIES AS SHOWN ON THE PLANS ARE BASED ON INFORMATION PROVIDED BY UTILITY OWNERS. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THEIR ACTUAL LOCATIONS, TO PROTECT AND MAINTAIN ALL EXISTING UTILITIES. ANY DAMAGE TO SUCH FACILITIES CAUSED BY THIS WORK SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.
5. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND SHALL NOTIFY THE CITY ENGINEER AT (949) 635-1800, 48 HOURS PRIOR TO STARTING EACH PHASE OF CONSTRUCTION AND PRIOR TO REQUIRING INSPECTION.
6. TRAFFIC CONTROL AND SAFETY DEVICES SHALL BE PLACED AND MAINTAINED PER THE 2014 CA MUTCD REV 1 AND THE SATISFACTION OF THE ENGINEER.
7. TRAFFIC STRIPING, PAVEMENT LEGENDS, AND RAISED PAVEMENT MARKERS SHALL BE PER CALTRANS MAINTENANCE MANUAL, STANDARD PLANS AND 2015 STANDARD SPECIFICATIONS (SECTIONS 81 AND 84).
8. ALL TRAFFIC CONTROL WORK FOR CONSTRUCTION SHALL CONFORM TO PART 6 OF THE 2014, CA MUTCD REV 1 AND ALL O.S.H.A. REQUIREMENTS.
9. THE CONTRACTOR SHALL HAVE ALL TRAFFIC CONTROL CONSTRUCTION SIGNS, DELINEATORS, ETC., PROPERLY INSTALLED PRIOR TO COMMENCING CONSTRUCTION.
10. THE CONTRACTOR SHALL MAINTAIN ALL TRAFFIC CONTROL SIGNS, DELINEATORS, ETC., TO ENSURE PROPER FLOW AND SAFETY OF TRAFFIC WHILE WORKING IN THE STREET.
11. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED IN THE FIELD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL TRAFFIC CONTROL DEVICES REQUIRED BY THE CITY TO ASSURE PUBLIC SAFETY AT ALL TIMES.
12. THE CONTRACTOR SHALL UTILIZE A FLAGMAN DURING CONSTRUCTION WORK AS DEEMED NECESSARY BY THE CITY INSPECTOR.
13. ARROW BOARDS SHALL BE USED ON ANY LANE CLOSURE ON ARTERIAL STREETS.
14. THIS PROJECT IS NPDES CONSTRUCTION PRIORITY: HIGH.
15. CITY OF RANCHO SANTA MARGARITA MINIMUM BEST MANAGEMENT PRACTICES SHALL BE REQUIRED AT ALL TIMES OR AS DIRECTED BY THE ENGINEER.
16. COUNTY OF ORANGE (2012 EDITION) RUNOFF GUIDANCE MANUAL SHALL BE IMPLEMENTED FOR THIS PROJECT OR AS DIRECTED BY THE CITY.
17. CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING ALL NPDES REQUIREMENTS FOR THIS PROJECT INCLUSIVE OF LABOR, MATERIALS, PERMITS AND OTHER FEES AS REQUIRED TO DO THIS WORK. □

STRIPING GENERAL NOTES

1. SIGNING AND STRIPING SHALL CONFORM TO JULY 2015, CALTRANS STANDARD PLANS AND ANY ADDENDA THERE TO, AND THESE PLANS AND SPECIAL PROVISIONS. SEE CALTRANS STANDARD PLANS A-20 (A-E) AND A24 (A-E) FOR STRIPING DETAILS, INCLUDING INSTALLATION AND REMOVAL OF RAISED REFLECTIVE PAVEMENT MARKERS. PAVEMENT LEGENDS SHALL MATCH THE CITY STENCILS (HAWKINS STENCILS OR EQUIVALENT).
2. ALL STRIPING AND PAVEMENT MARKINGS SHALL BE REFLECTORIZED AND APPLIED IN TWO COATS. A MINIMUM OF SEVEN DAYS SHALL BE PROVIDED BETWEEN FIRST AND SECOND COATS.
3. ALL CONFLICTING STRIPING, PAVEMENT MARKINGS, AND CURB PAINT SHALL BE REMOVED BY WET SANDBLASTING OR OTHER APPROVED METHOD PRIOR TO INSTALLATION OF NEW STRIPING. ALL CONFLICTING RAISED PAVEMENT MARKERS SHALL BE REMOVED.
4. PAVEMENT THAT IS DAMAGED DUE TO REMOVAL OF MARKERS OR STRIPING SHALL BE REPAIRED TO THE SATISFACTION OF THE CITY ENGINEER.
5. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE STARTING WORK. IF CONDITIONS EXIST WHICH ARE CONTRARY TO THOSE SHOWN ON THE PLANS, THE CITY REPRESENTATIVE SHALL BE NOTIFIED BEFORE PROCEEDING WITH WORK.
6. ALL WORK SHALL CONFORM TO THE PLANS AND SPECIFICATIONS IN ALL RESPECTS AND SHALL BE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER.
7. PAINTING PROCEDURES FOR STRIPING AND MARKINGS SHALL BE PER STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK), REFLECTORIZE ALL STRIPING AND PAVEMENT LEGENDS AND MATCH CITY STENCIL SIZES AND SHAPES UNLESS OTHERWISE NOTED.
8. STRIPING SHALL BE CAT TRACKED AND APPROVED BY THE CITY INSPECTOR PRIOR TO FINAL INSTALLATION.
9. ALL SIGN FACE REFLECTIVE SHEETING SHALL BE HIGH INTENSITY GRADE WITH PROTECTIVE OVERLAY FILM.
10. BLUE RAISED REFLECTIVE PAVEMENT MARKER SHALL BE INSTALLED ADJACENT TO ALL EXISTING FIRE HYDRANTS IN ACCORDANCE WITH 2014 CA MUTCD REV 1.

LEGEND

ICV IRRIGATION CONTROL VALVE

UTILITY CONTACT

NOTIFY THE FOLLOWING AGENCIES AT LEAST TWO DAYS PRIOR TO STARTING ANY WORK

SOUTHERN CALIFORNIA EDISON COMPANY (949) 458-4671
 SOUTHERN CALIFORNIA GAS COMPANY (714) 749-0328/(909) 518-6437
 AT&T (714) 666-5674
 SANTA MARGARITA WATER DISTRICT (949) 459-6504

SHEET INDEX

SHT. NO.	DESCRIPTION	SHT. NO.	DESCRIPTION
1	TITLE SHEET, VICINITY MAP AND NOTES	24	GENERAL PLAN NO. 1
2	DETOUR ROAD PAVEMENT NO. 1	25	GENERAL PLAN NO. 2
3	DETOUR ROAD PAVEMENT NO. 2	26	GENERAL NOTES
4	MEDIAN RECONSTRUCTION DETAILS NO. 1	27	TEMPORARY TOWER DETAILS
5	MEDIAN RECONSTRUCTION DETAILS NO. 2	28	BRIDGE REMOVAL DETAILS
6	SIGNING & STRIPING 216+00 TO 236+50	29	ABUTMENT DETAILS
7	SIGNING & STRIPING 236+50 TO 251+50	30	HINGE DETAILS NO. 1
8	SIGNING & STRIPING 251+50 TO SR 241 RAMPS	31	HINGE DETAILS NO. 2
9	TRAFFIC CONTROL - STAGE 1 216+00 TO 236+50	32	BAR RESTRAINER DETAILS NO. 1
10	TRAFFIC CONTROL - STAGE 1 236+50 TO 251+50	33	BAR RESTRAINER DETAILS NO. 2
11	TRAFFIC CONTROL - STAGE 1 236+50 TO SR 241 RAMPS	34	DECK OVERLAY DETAILS
12	TRAFFIC CONTROL - STAGE 2 216+00 TO 236+50	35	STRIP JOINT SEAL ASSEMBLY DETAILS
13	TRAFFIC CONTROL - STAGE 2 236+50 TO 251+50	36	JOINT ARMOR DETAILS
14	TRAFFIC CONTROL - STAGE 2 251+50 TO SR 241 RAMPS	37	CONCRETE BARRIER DETAILS
15	LANDSCAPE PLAN NO. 1	38	DECK OPENINGS
16	LANDSCAPE PLAN NO. 2	39	LOG OF TEST BORINGS NO. 1
17	LANDSCAPE PLAN NO. 3	40	LOG OF TEST BORINGS NO. 2
18	IRRIGATION PLAN NO. 1	41	LOG OF TEST BORINGS NO. 3
19	IRRIGATION PLAN NO. 2	42	LOG OF TEST BORINGS NO. 4
20	IRRIGATION PLAN NO. 3		
21	LANDSCAPE DETAILS & NOTES NO. 1		
22	LANDSCAPE DETAILS & NOTES NO. 2		
23	LANDSCAPE DETAILS & NOTES NO. 3		

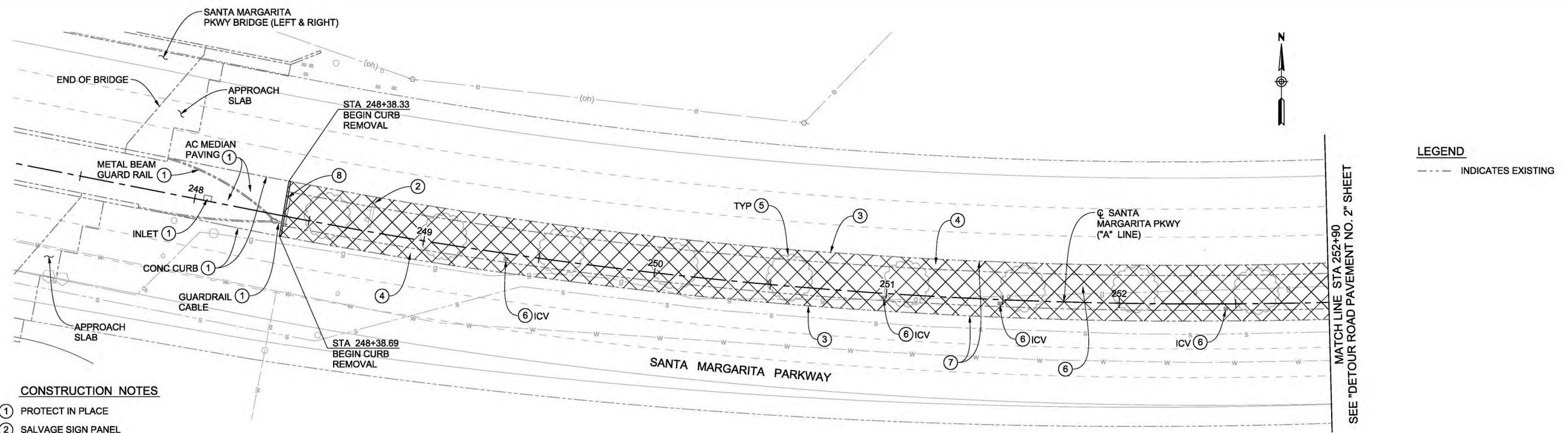
NOTICE TO CONTRACTOR

CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF ALL PERSONS ON THE PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT TO BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL AND ALLEGED, IN THE CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

ATTENTION IS DIRECTED TO THE POSSIBLE EXISTENCE OF UNDERGROUND FACILITIES NOT KNOWN OR IN A LOCATION DIFFERENT FROM THAT WHICH IS SHOWN ON THE PLANS OR IN THE SPECIAL PROVISIONS. THE CONTRACTOR SHALL TAKE STEPS TO ASCERTAIN THE EXACT LOCATION OF ALL UNDERGROUND FACILITIES PRIOR TO DOING WORK THAT MAY DAMAGE SUCH FACILITIES OR INTERFERE WITH THEIR SERVICE. BEFORE EXCAVATING, THE CONTRACTOR SHALL VERIFY THE LOCATION OF UNDERGROUND UTILITIES BY CONTACTING UNDERGROUND SERVICE ALERT AT 1-800-422-4133.

DIGALERT
 DIAL TOLL FREE 1-800-422-4133
 AT LEAST TWO DAYS BEFORE YOU DIG
 UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

PREPARED BY FIRM: NCM ENGINEERING ADDRESS: 22362 GILBERTO, SUITE 125 RANCHO SANTA MARGARITA, CA 92688 TELEPHONE: (949) 277-7358 FAX: (949) 589-7448 SIGNATURE: _____ DATE: 10/28/19		REVISIONS <table border="1"> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table>																		BENCH MARK DATA DESCRIBED BY OCS 2003 - FOUND 3 OCS ALUMINUM BENCHMARK DISK STAMPED "3PP-24-89", SET IN THE TOP SOUTHEASTERLY CORNER OF A 4 FT. BY 4.5 FT. CONCRETE CATCH BASIN. MONUMENT IS LOCATED IN THE SOUTHEASTERLY CORNER OF THE INTERSECTION OF SANTA MARGARITA PARKWAY AND AVENIDA EMPRESSA, 150 FT. SOUTHERLY OF THE CENTERLINE OF SANTA MARGARITA PARKWAY AND 54.5 FT. EASTERLY OF THE CENTERLINE OF AVENIDA EMPRESSA. MONUMENT IS SET LEVEL WITH THE SIDEWALK. NAVD88 ELEV = 912.622		RECOMMENDED BY <table border="1"> <tr><td>TITLE</td><td>BY</td><td>DATE</td></tr> <tr><td>ASST. CITY ENGINEER</td><td> </td><td> </td></tr> <tr><td>TRAFFIC</td><td> </td><td> </td></tr> <tr><td>P.W. SUPER</td><td> </td><td> </td></tr> </table>		TITLE	BY	DATE	ASST. CITY ENGINEER			TRAFFIC			P.W. SUPER			APPROVED BY: CITY OF RANCHO SANTA MARGARITA PUBLIC WORKS DEPARTMENT BRENDAN DUGAN, CITY ENGINEER DATE: 10-30-19		CITY OF RANCHO SANTA MARGARITA SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT TITLE SHEET, VICINITY MAP AND NOTES		PROJECT NO. SHEET 1 OF 42 DRAWING NO. T1
TITLE	BY	DATE																																						
ASST. CITY ENGINEER																																								
TRAFFIC																																								
P.W. SUPER																																								



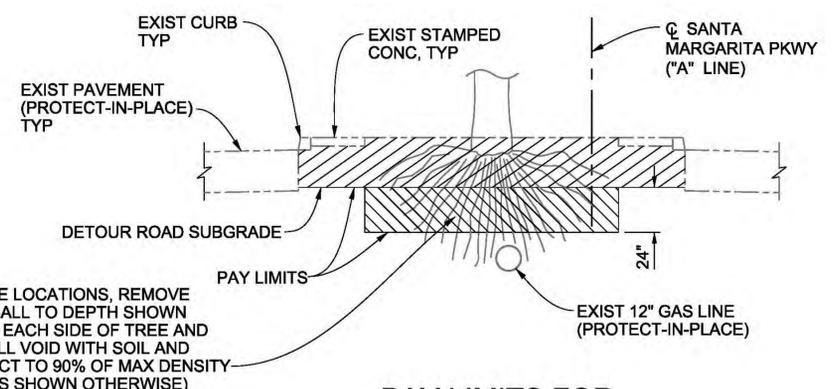
LEGEND
 - - - - - INDICATES EXISTING

MATCH LINE STA 252+90
 SEE "DETOUR ROAD PAVEMENT NO. 2" SHEET

CONSTRUCTION NOTES

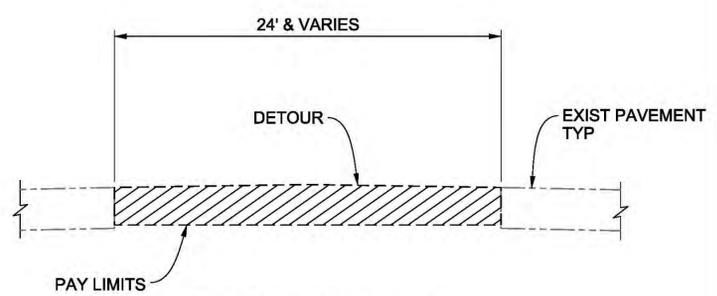
- ① PROTECT IN PLACE
- ② SALVAGE SIGN PANEL
- ③ REMOVE EXISTING CONCRETE CURB
- ④ REMOVE EXISTING STAMPED CONCRETE
- ⑤ REMOVE TREE
- ⑥ REMOVE LANDSCAPING AND IRRIGATION
- ⑦ CONSTRUCT HOT MIX ASPHALT PAVEMENT
- ⑧ CONSTRUCT HMA DIKE, TYPE A

PART PLAN 1
 1" = 20'



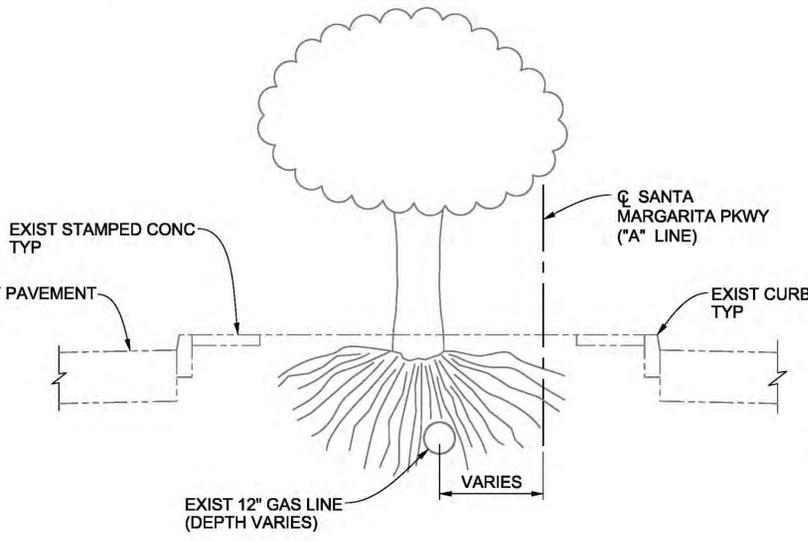
AT TREE LOCATIONS, REMOVE ROOT BALL TO DEPTH SHOWN FOR 12' EACH SIDE OF TREE AND BACKFILL VOID WITH SOIL AND COMPACT TO 90% OF MAX DENSITY (UNLESS SHOWN OTHERWISE)

PAY LIMITS FOR ROADWAY EXCAVATION (DETOUR)

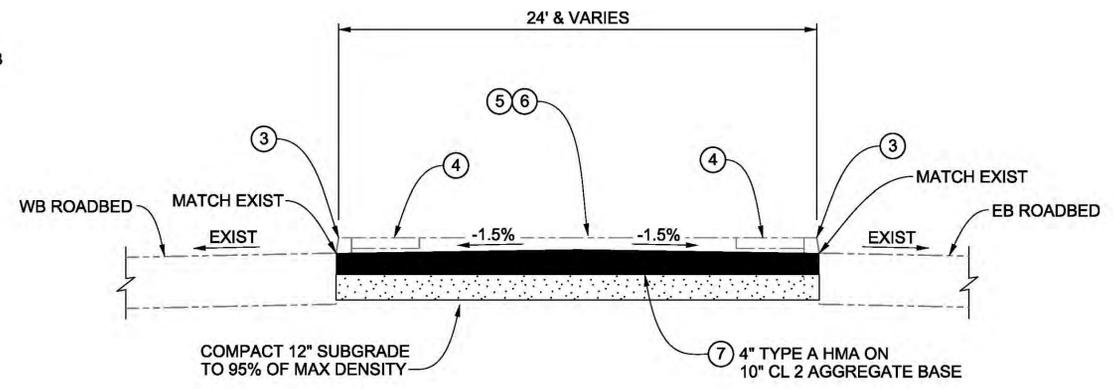


PAY LIMITS FOR ROADWAY EXCAVATION (DETOUR REMOVAL)

EXCAVATION LIMITS
 NO SCALE



TYPICAL SECTION - EXISTING
 NO SCALE



DETOUR ROAD SECTION
 STA 248+38.33 TO 257+51
 NO SCALE

REGISTERED PROFESSIONAL ENGINEER
 EDWARD NG
 No. 46767
 Exp. 9/30/21
 CIVIL
 STATE OF CALIFORNIA

DIGALERT

DIAL TOLL FREE
 1-800-422-4133

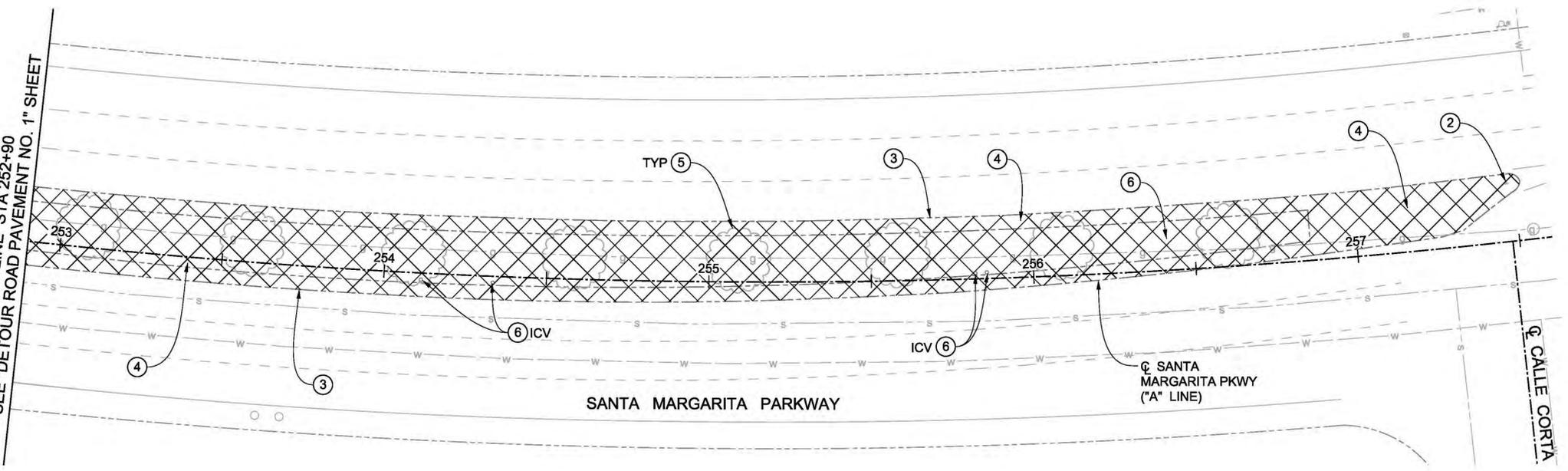
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 BEFORE YOU DIG

UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

PREPARED BY FIRM: NCM ENGINEERING ADDRESS: 22362 GILBERTO, SUITE 125 RANCHO SANTA MARGARITA, CA 92688 TELEPHONE: (949) 267-7358 FAX: (949) 589-7448 SIGNATURE: _____ DATE: 10/28/19	REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>NO.</th><th>DESCRIPTION</th><th>DATE</th></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	NO.	DESCRIPTION	DATE							MADE BY: _____ DATE: _____ APPROVED BY: _____ DATE: _____	BENCH MARK DATA	REFERENCE DRAWINGS	RECOMMENDED BY <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>TITLE</th><th>BY</th><th>DATE</th></tr> <tr><td>ASST. CITY ENGINEER</td><td> </td><td> </td></tr> <tr><td>TRAFFIC</td><td> </td><td> </td></tr> <tr><td>P.W. SUPER</td><td> </td><td> </td></tr> </table>	TITLE	BY	DATE	ASST. CITY ENGINEER			TRAFFIC			P.W. SUPER			APPROVED BY: CITY OF RANCHO SANTA MARGARITA PUBLIC WORKS DEPARTMENT BRENDAN DUGAN, CITY ENGINEER DATE: _____	CITY OF RANCHO SANTA MARGARITA SANTA MARGARITA PARKWAY STREET IMPROVEMENTS DETOUR ROAD PAVEMENT NO. 1	PROJECT NO. SHEET 2 OF 42 DRAWING NO. C1
NO.	DESCRIPTION	DATE																											
TITLE	BY	DATE																											
ASST. CITY ENGINEER																													
TRAFFIC																													
P.W. SUPER																													



MATCH LINE STA 252+90
SEE "DETOUR ROAD PAVEMENT NO. 1" SHEET



LEGEND
- - - - - INDICATES EXISTING

PART PLAN 2
1" = 20'

CONSTRUCTION NOTES

- ② SALVAGE SIGN PANEL
- ③ REMOVE EXISTING CONCRETE CURB
- ④ REMOVE EXISTING STAMPED CONCRETE
- ⑤ REMOVE TREE
- ⑥ REMOVE LANDSCAPING AND IRRIGATION
- ⑦ CONSTRUCT HOT MIX ASPHALT PAVEMENT

NOTE:
1. FOR REMOVAL CROSS-SECTION, SEE "DETOUR ROAD PAVEMENT NO. 1" SHEET.

REGISTERED PROFESSIONAL ENGINEER

EDWARD NG

No. 46767

Exp. 8/30/21

CIVIL

STATE OF CALIFORNIA

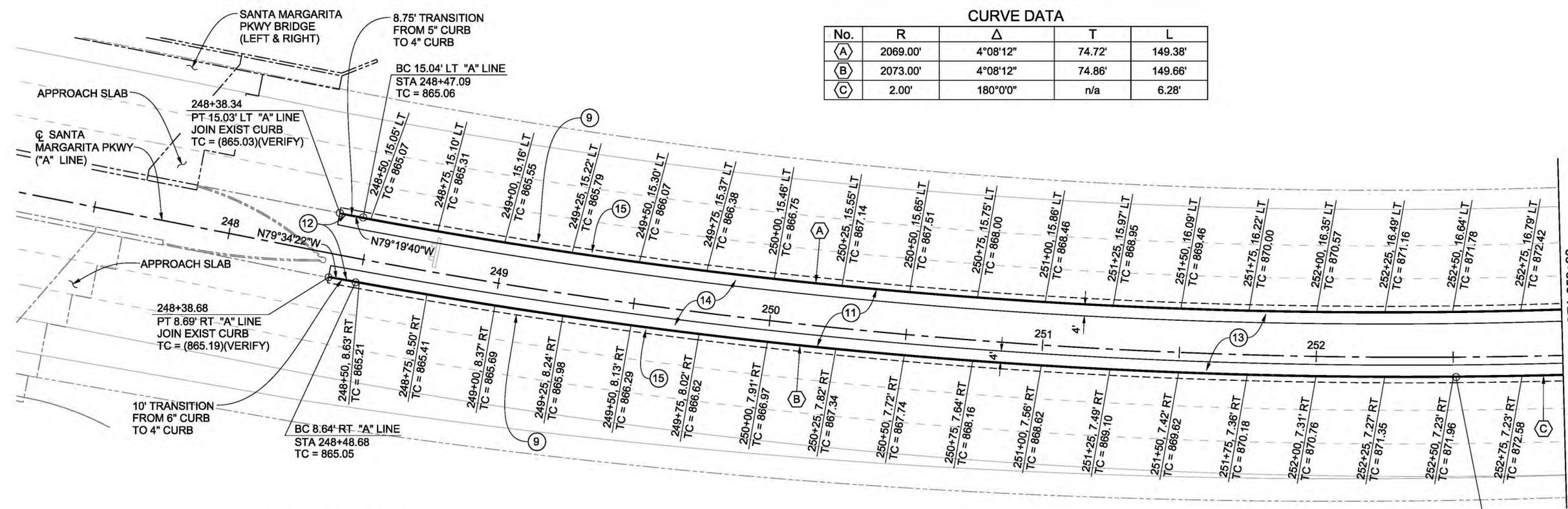
DIGALERT

DIAL TOLL FREE
1-800-422-4133

AT LEAST TWO DAYS
BEFORE YOU DIG

UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

<p>PREPARED BY</p> <p>FIRM: NCM ENGINEERING</p> <p>ADDRESS: 22362 GILBERTO, SUITE 125 RANCHO SANTA MARGARITA, CA 92688</p> <p>TELEPHONE: (949) 267-7358 FAX: (949) 589-7448</p> <p>SIGNATURE: DATE: 10/28/19</p>	<p>REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table>																	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>MADE BY</th><th>DATE</th><th>APPROVED BY</th><th>DATE</th></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table>	MADE BY	DATE	APPROVED BY	DATE									<p>BENCH MARK DATA</p>	<p>REFERENCE DRAWINGS</p>	<p>RECOMMENDED BY</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>TITLE</th><th>BY</th><th>DATE</th></tr> <tr><td>ASST. CITY ENGINEER</td><td> </td><td> </td></tr> <tr><td>TRAFFIC</td><td> </td><td> </td></tr> <tr><td>P.W. SUPER</td><td> </td><td> </td></tr> </table>	TITLE	BY	DATE	ASST. CITY ENGINEER			TRAFFIC			P.W. SUPER			<p>APPROVED BY:</p> <p>CITY OF RANCHO SANTA MARGARITA PUBLIC WORKS DEPARTMENT</p> <p>BRENDAN DUGAN, CITY ENGINEER</p> <p>DATE: _____</p>	<p>CITY OF RANCHO SANTA MARGARITA</p> <p>SANTA MARGARITA PARKWAY STREET IMPROVEMENTS</p> <p>DETOUR ROAD PAVEMENT NO. 2</p>	<p>PROJECT NO. _____</p> <p>SHEET 3 OF 42</p> <p>DRAWING NO. C2</p>
MADE BY	DATE	APPROVED BY	DATE																																													
TITLE	BY	DATE																																														
ASST. CITY ENGINEER																																																
TRAFFIC																																																
P.W. SUPER																																																



CURVE DATA

No.	R	Δ	T	L
A	2069.00'	4°08'12"	74.72'	149.38'
B	2073.00'	4°08'12"	74.86'	149.66'
C	2.00'	180°0'0"	n/a	6.28'

LEGEND

--- INDICATES EXISTING



CONSTRUCTION NOTES

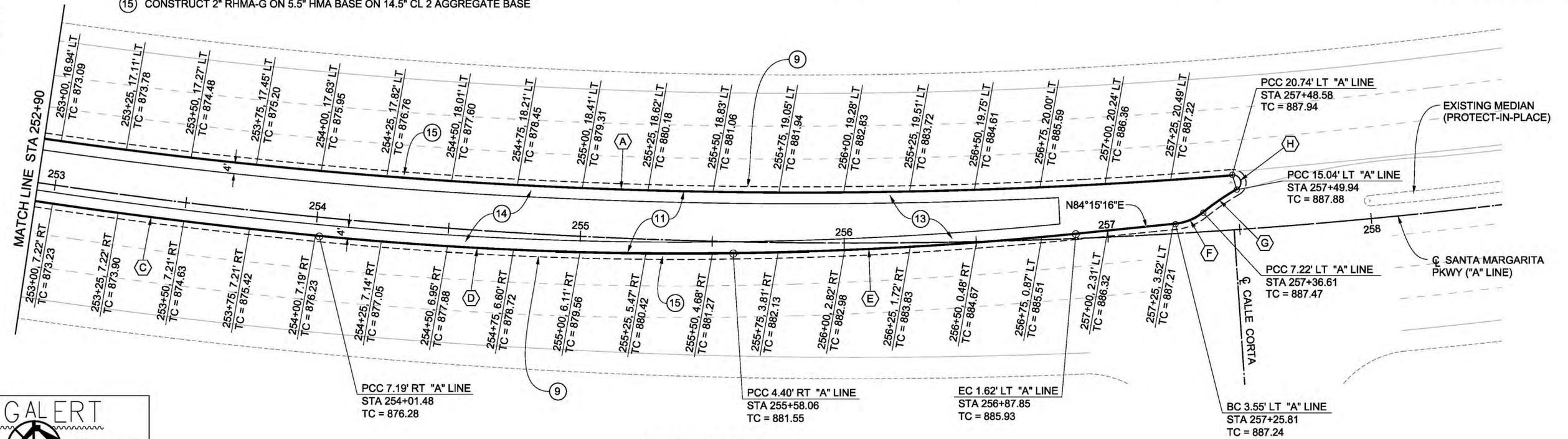
- 9 SAWCUT AND REMOVE PAVEMENT
- 11 CONSTRUCT MEDIAN CURB PER ORANGE COUNTY STD PLAN 120-2-OC, DETAIL "B"
- 12 CONSTRUCT MEDIAN CURB TRANSITION FROM EXISTING CURB TO 4" HIGH MEDIAN CURB PER DETAIL ON "MEDIAN RECONSTRUCTION DETAILS NO. 2" SHEET
- 13 BACKFILL WITH MEDIAN SOIL AND COMPACT TO 90% OF MAX DENSITY
- 14 CONSTRUCT STAMPED CONCRETE, SEE "LANDSCAPE PLANS" FOR DETAILS
- 15 CONSTRUCT 2" RHMA-G ON 5.5" HMA BASE ON 14.5" CL 2 AGGREGATE BASE

PART PLAN 1
1" = 20'

CURVE DATA

No.	R	Δ	T	L
D	1408.00'	6°23'32"	78.62'	157.08'
E	1476.00'	5°02'53"	65.06'	130.04'
F	20.00'	33°02'52"	5.93'	11.54'
G	100.00'	8°49'42"	7.72'	15.41'
H	3.00'	205°23'22"	13.32'	8.10'

NOTE:
1. FOR CROSS-SECTION, SEE "MEDIAN RECONSTRUCTION DETAILS NO. 1" SHEET.



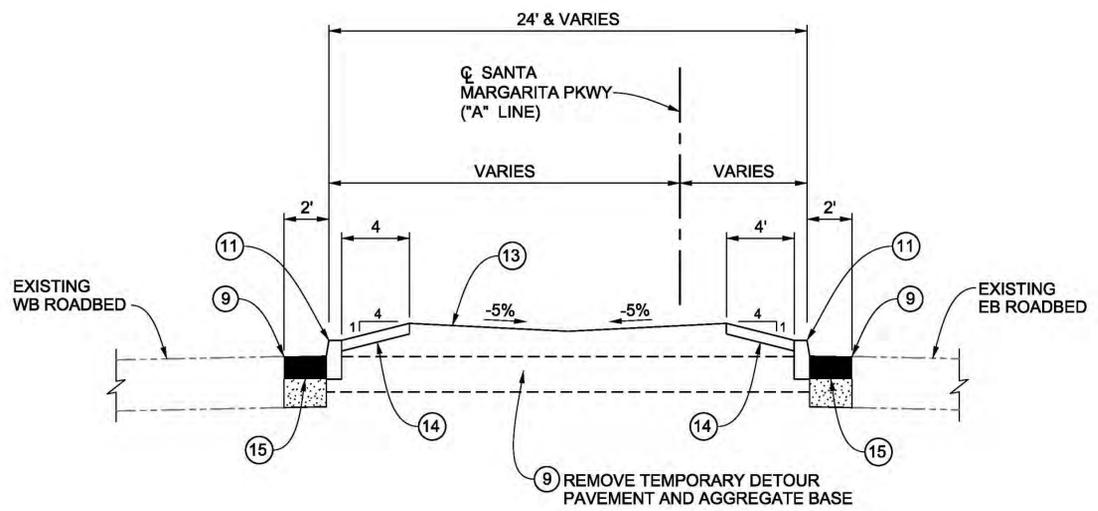
PART PLAN 2
1" = 20'

DIGALERT
REGISTERED PROFESSIONAL ENGINEER
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STATE OF CALIFORNIA

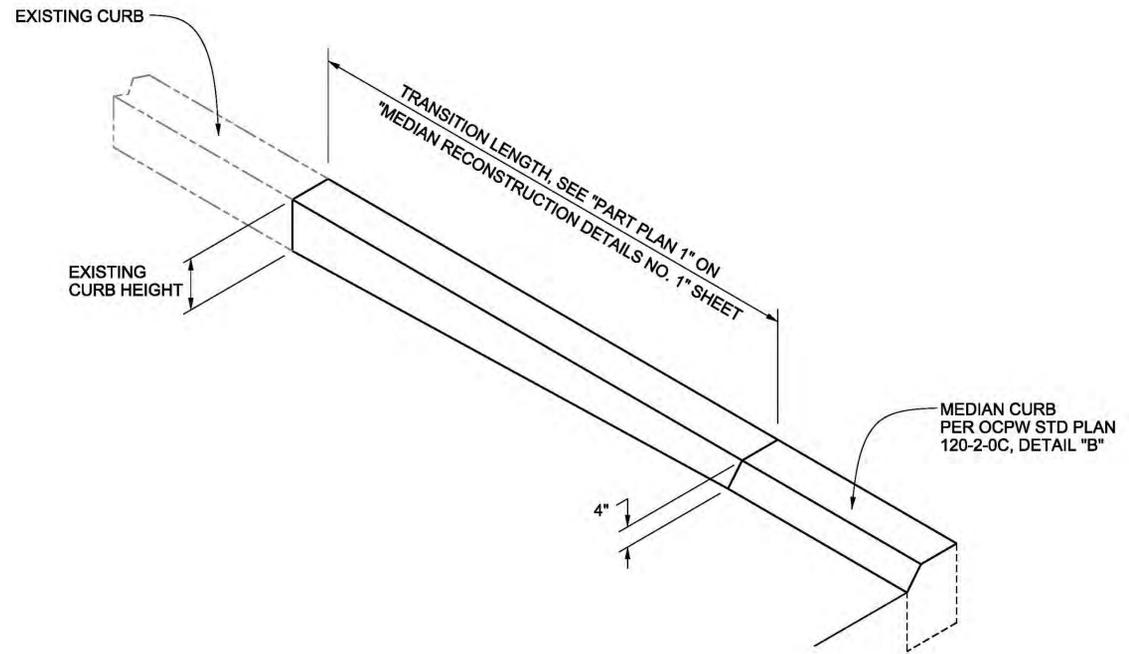
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UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

PREPARED BY FIRM: NCM ENGINEERING ADDRESS: 22362 GILBERTO, SUITE 125 RANCHO SANTA MARGARITA, CA 92688 TELEPHONE: (949) 267-7358 FAX: (949) 589-7448 SIGNATURE: <i>[Signature]</i> DATE: 10/28/19	REVISIONS 1 2 3	MADE BY DATE	APPROVED BY DATE	BENCH MARK DATA	REFERENCE DRAWINGS	RECOMMENDED BY TITLE BY DATE ASST. CITY ENGINEER TRAFFIC P.W. SUPER	APPROVED BY: CITY OF RANCHO SANTA MARGARITA PUBLIC WORKS DEPARTMENT BRENDAN DUGAN, CITY ENGINEER DATE:	CITY OF RANCHO SANTA MARGARITA SANTA MARGARITA PARKWAY STREET IMPROVEMENTS MEDIAN RECONSTRUCTION DETAILS NO. 1	PROJECT NO.
									SHEET 4 OF 42 DRAWING NO. C3

LEGEND
 - - - - - INDICATES EXISTING



SECTION
STA 248+38.34 TO 257+52.5
 NO SCALE



MEDIAN CURB TRANSITION DETAIL
 NO SCALE

CONSTRUCTION NOTES

- ⑨ SAWCUT AND REMOVE PAVEMENT
- ⑪ CONSTRUCT MEDIAN CURB PER ORANGE COUNTY STD PLAN 120-2-OC, DETAIL "B"
- ⑬ BACKFILL WITH MEDIAN SOIL AND COMPACT TO 90% OF MAX DENSITY
- ⑭ CONSTRUCT STAMPED CONCRETE, SEE "LANDSCAPE PLANS" FOR DETAILS
- ⑮ CONSTRUCT 2" RHMA-G ON 5.5" HMA BASE ON 14.5" CL 2 AGGREGATE BASE

REGISTERED PROFESSIONAL ENGINEER
 EDWARD NG
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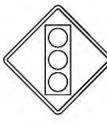
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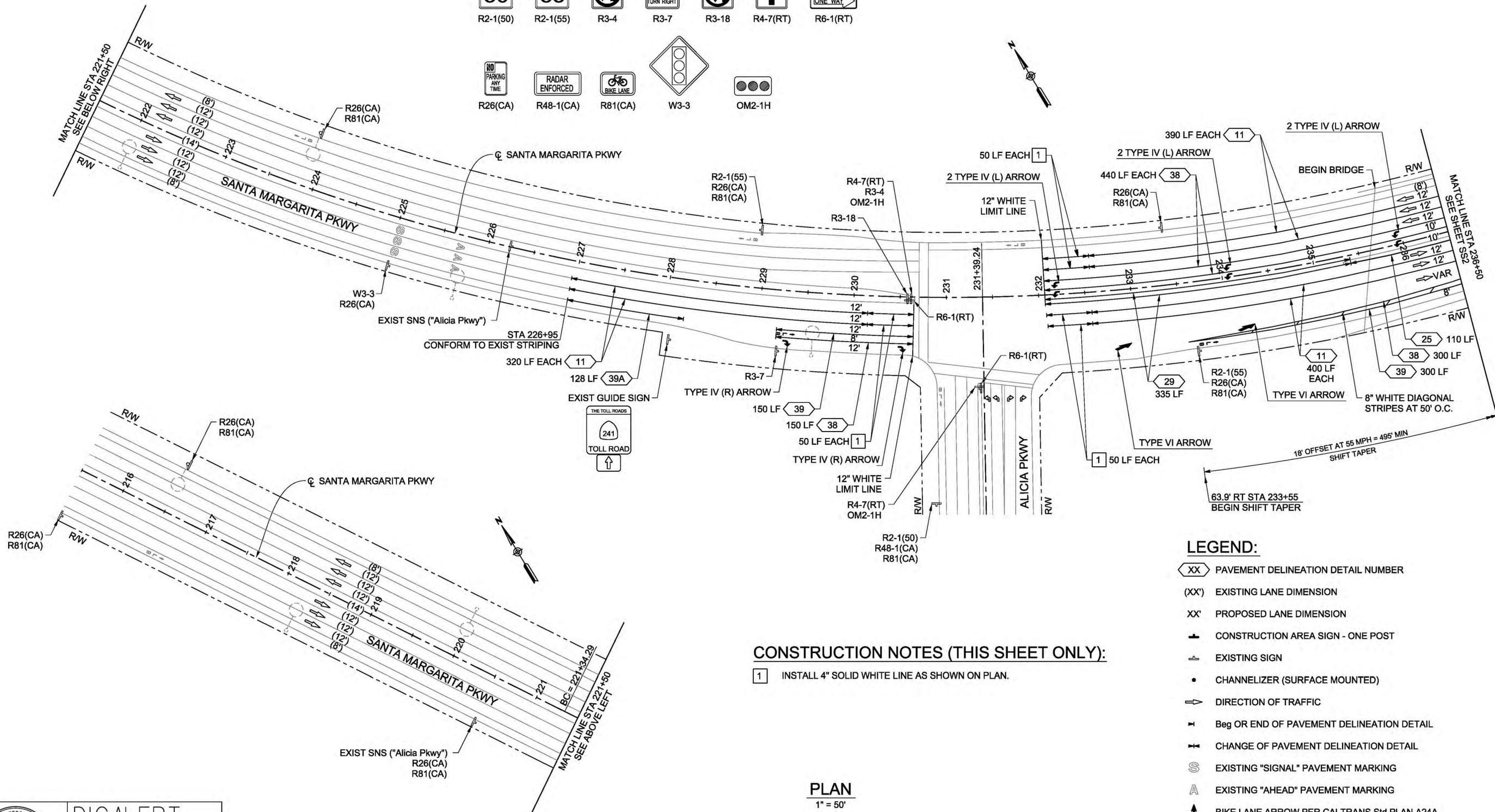
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MADE BY	DATE																																																			
APPROVED BY	DATE																																																			
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ASST. CITY ENGINEER																																																				
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SIGN LEGEND:

						
R2-1(50)	R2-1(55)	R3-4	R3-7	R3-18	R4-7(RT)	R6-1(RT)
						
R26(CA)	R48-1(CA)	R81(CA)	W3-3	OM2-1H		



CONSTRUCTION NOTES (THIS SHEET ONLY):

- 1 INSTALL 4" SOLID WHITE LINE AS SHOWN ON PLAN.

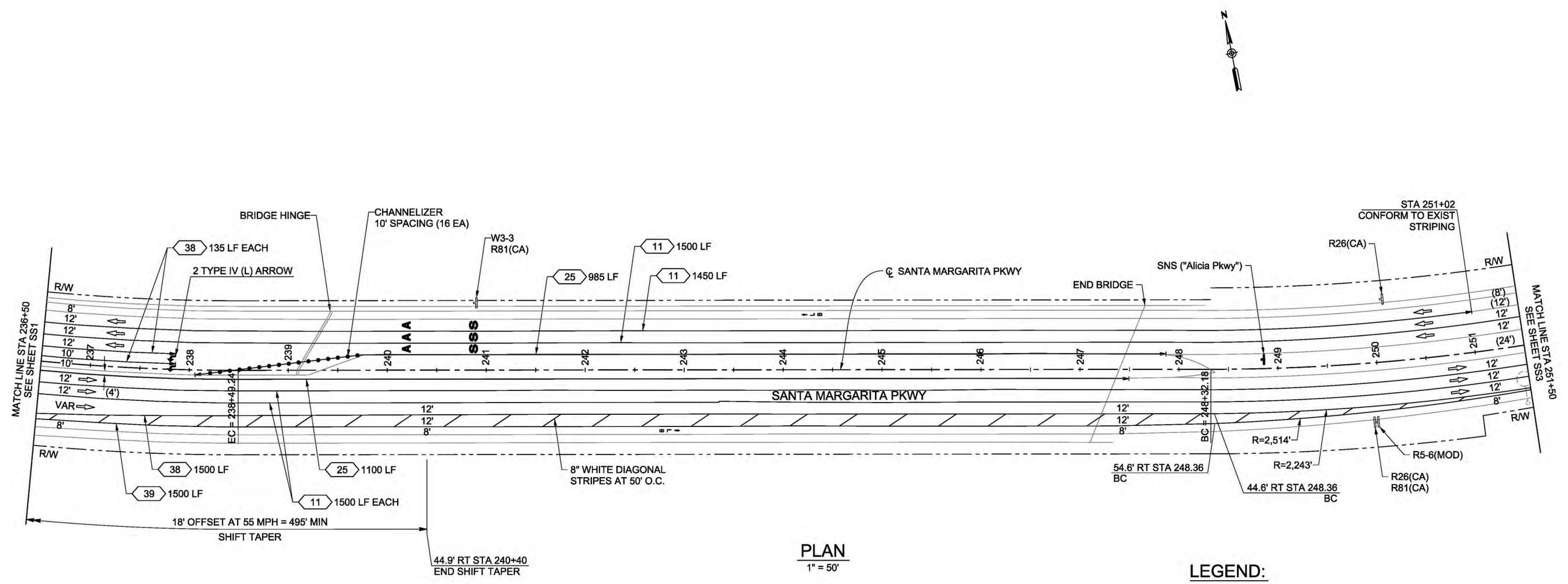
PLAN
1" = 50'

LEGEND:

- XX PAVEMENT DELINEATION DETAIL NUMBER
- (XX) EXISTING LANE DIMENSION
- XX' PROPOSED LANE DIMENSION
- CONSTRUCTION AREA SIGN - ONE POST
- EXISTING SIGN
- CHANNELIZER (SURFACE MOUNTED)
- DIRECTION OF TRAFFIC
- Beg OR END OF PAVEMENT DELINEATION DETAIL
- CHANGE OF PAVEMENT DELINEATION DETAIL
- EXISTING "SIGNAL" PAVEMENT MARKING
- EXISTING "AHEAD" PAVEMENT MARKING
- BIKE LANE ARROW PER CALTRANS Std PLAN A24A
- "LANE" (48") PAVEMENT MARKING PER CALTRANS Std PLAN A24D
- "BIKE" PAVEMENT MARKING PER CALTRANS Std PLAN A24D

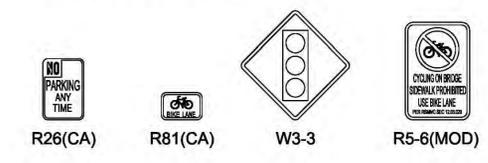
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UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

PREPARED BY FIRM: LIN CONSULTING, Inc ADDRESS: 1432 EDINGER AVENUE, SUITE 230 TUSTIN, CA 92780 TELEPHONE: (714)258-8411 FAX: (714)258-8511 DATE: 10/28/19	REVISIONS	MADE BY DATE APPROVED BY DATE	BENCH MARK DATA	REFERENCE DRAWINGS	RECOMMENDED BY TITLE BY DATE	APPROVED BY: CITY OF RANCHO SANTA MARGARITA PUBLIC WORKS DEPARTMENT BRENDAN DUGAN, CITY ENGINEER DATE:	CITY OF RANCHO SANTA MARGARITA SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR SIGNING AND STRIPING 216+00 TO 236+50	PROJECT NO. SHEET 6 OF 42 DRAWING NO. SS1



PLAN
1" = 50'

SIGN LEGEND:



LEGEND:

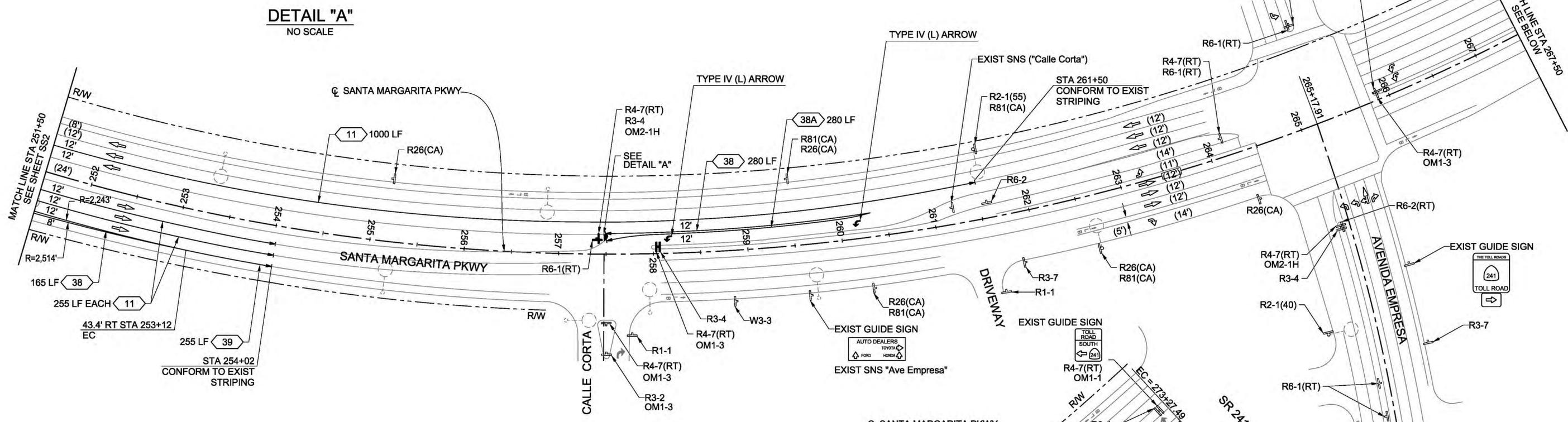
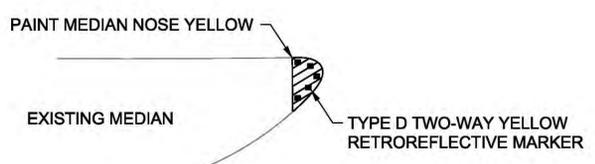
- XX Pavement Delineation Detail Number
- (XX') Existing Lane Dimension
- XX' Proposed Lane Dimension
- ⇨ Existing Sign
- Channelizer (Surface Mounted)
- ⇨ Direction of Traffic
- ⇨ Beg OR End of Pavement Delineation Detail
- ⇨ Change of Pavement Delineation Detail
- S** "Signal" Pavement Marking per Caltrans Std Plan A24D
- A** "Ahead" Pavement Marking per Caltrans Std Plan A24D
- ↑ Bike Lane Arrow per Caltrans Std Plan A24A
- L "Lane" (48") Pavement Marking per Caltrans Std Plan A24D
- B "Bike" Pavement Marking per Caltrans Std Plan A24D

REGISTERED PROFESSIONAL ENGINEER
GARY R. HANSEN
No. 26543
Exp. 3/31/20
CIVIL
STATE OF CALIFORNIA

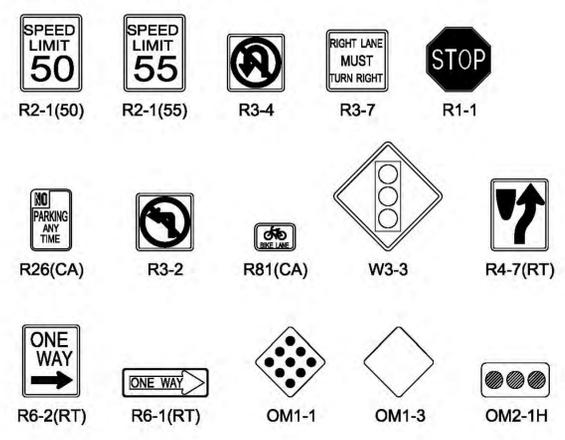
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<p>PREPARED BY FIRM: LIN CONSULTING, Inc ADDRESS: 1432 EDINGER AVENUE, SUITE 230 TUSTIN, CA 92780 TELEPHONE: (714)258-8411 FAX: (714)258-8511 Signature: <i>Gary R. Hansen</i> DATE: 10/28/19</p>	<p>REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>										<p>MADE BY DATE</p>	<p>APPROVED BY DATE</p>	<p>BENCH MARK DATA</p>	<p>REFERENCE DRAWINGS</p>	<p>RECOMMENDED BY</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>TITLE</th><th>BY</th><th>DATE</th></tr> <tr><td>PRINCIPAL</td><td> </td><td> </td></tr> <tr><td>TRAFFIC</td><td> </td><td> </td></tr> <tr><td>P.W. SUPER</td><td> </td><td> </td></tr> </table>	TITLE	BY	DATE	PRINCIPAL			TRAFFIC			P.W. SUPER			<p>APPROVED BY: CITY OF RANCHO SANTA MARGARITA PUBLIC WORKS DEPARTMENT BRENDAN DUGAN, CITY ENGINEER DATE: </p>	<p>CITY OF RANCHO SANTA MARGARITA SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR SIGNING AND STRIPING 236+50 TO 251+50</p>	<p>PROJECT NO. SHEET 7 OF 42 DRAWING NO. SS2</p>
TITLE	BY	DATE																												
PRINCIPAL																														
TRAFFIC																														
P.W. SUPER																														



SIGN LEGEND:



LEGEND:

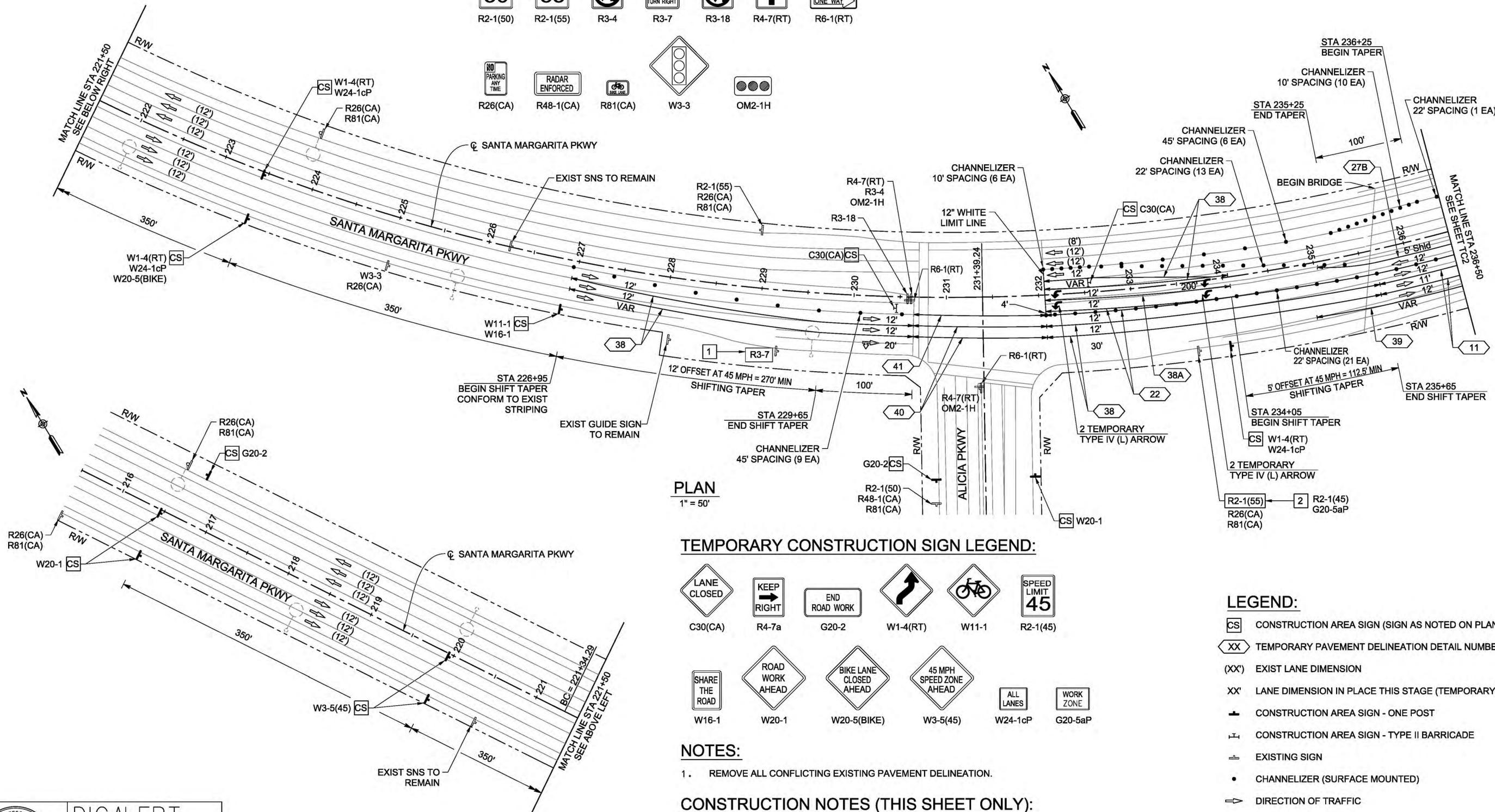
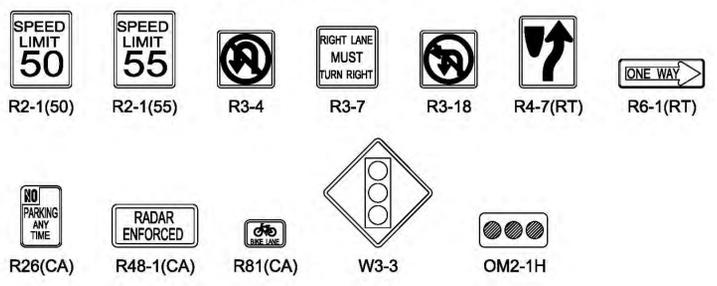
- XX PAVEMENT DELINEATION DETAIL NUMBER
- XX' EXISTING LANE DIMENSION
- XX' PROPOSED LANE DIMENSION
- + PROPOSED SIGN - ONE POST
- = EXISTING SIGN
- CHANNELIZER (SURFACE MOUNTED)
- ⇨ DIRECTION OF TRAFFIC
- ⇨ Beg OR END OF PAVEMENT DELINEATION DETAIL
- ⇨ CHANGE OF PAVEMENT DELINEATION DETAIL
- ↑ BIKE LANE ARROW PER CALTRANS Std PLAN A24A
- L "LANE" (48") PAVEMENT MARKING PER CALTRANS Std PLAN A24D
- B "BIKE" PAVEMENT MARKING PER CALTRANS Std PLAN A24D

PLAN
1" = 50'

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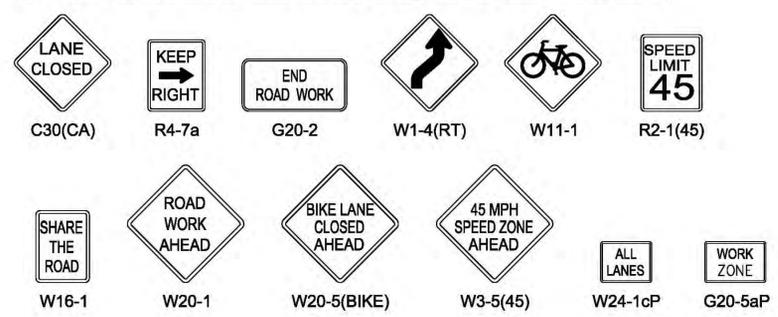
PREPARED BY FIRM: LIN CONSULTING, Inc ADDRESS: 1432 EDINGER AVENUE, SUITE 230 TUSTIN, CA 92780 TELEPHONE: (714)258-8411 FAX: (714)258-8511 DATE: 10/28/19	REVISIONS	MADE BY DATE APPROVED BY DATE	BENCH MARK DATA	REFERENCE DRAWINGS	RECOMMENDED BY TITLE BY DATE	APPROVED BY: CITY OF RANCHO SANTA MARGARITA PUBLIC WORKS DEPARTMENT BRENDAN DUGAN, CITY ENGINEER DATE:	CITY OF RANCHO SANTA MARGARITA SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR SIGNING AND STRIPING 251+50 TO SR 241 RAMPS	PROJECT NO. SHEET 8 OF 42 DRAWING NO. SS3
					SIGNATURE			

EXISTING SIGN LEGEND:



PLAN
1" = 50'

TEMPORARY CONSTRUCTION SIGN LEGEND:



LEGEND:

- CS CONSTRUCTION AREA SIGN (SIGN AS NOTED ON PLANS)
- XX TEMPORARY PAVEMENT DELINEATION DETAIL NUMBER
- (XX) EXIST LANE DIMENSION
- XX' LANE DIMENSION IN PLACE THIS STAGE (TEMPORARY)
- CONSTRUCTION AREA SIGN - ONE POST
- CONSTRUCTION AREA SIGN - TYPE II BARRICADE
- EXISTING SIGN
- CHANNELIZER (SURFACE MOUNTED)
- DIRECTION OF TRAFFIC
- BEGIN OR END OF PAVEMENT DELINEATION DETAIL
- CHANGE OF PAVEMENT DELINEATION DETAIL

NOTES:

1. REMOVE ALL CONFLICTING EXISTING PAVEMENT DELINEATION.

CONSTRUCTION NOTES (THIS SHEET ONLY):

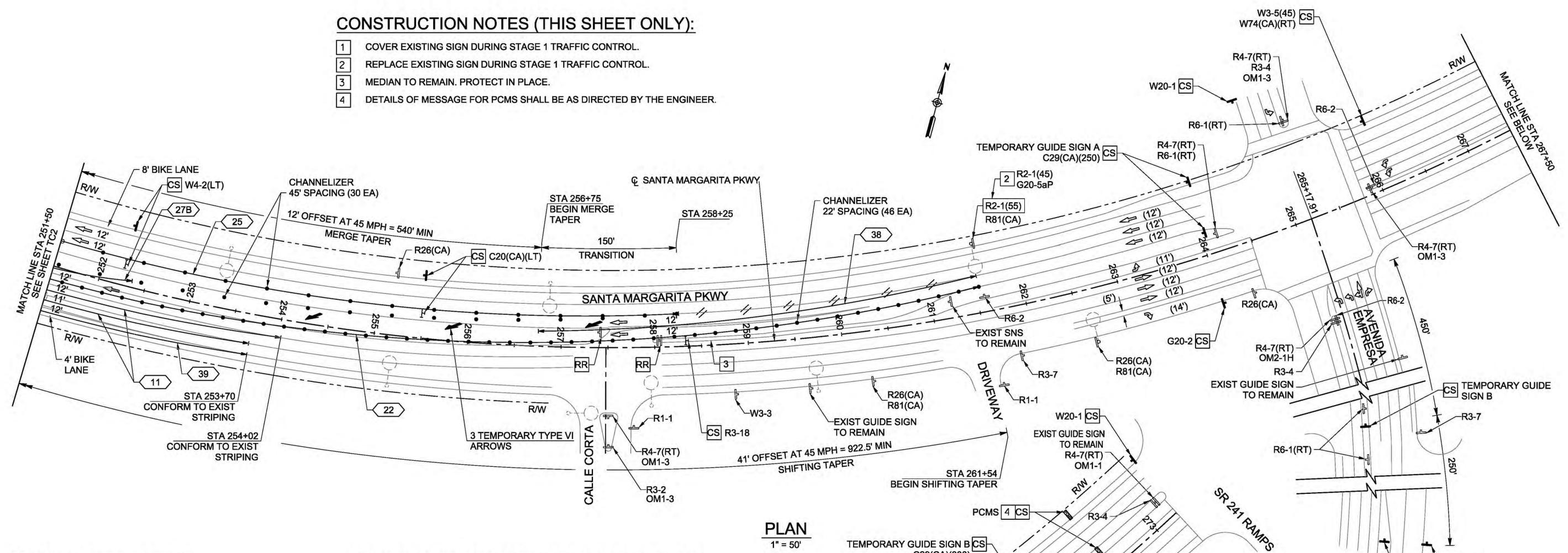
- 1 COVER EXISTING SIGN DURING STAGE 1 TRAFFIC CONTROL.
- 2 REPLACE EXISTING SIGN DURING STAGE 1 TRAFFIC CONTROL.

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 GARY R. HANSEN
 No. 26543
 Exp. 3/31/20
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 STATE OF CALIFORNIA
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PREPARED BY FIRM: LIN CONSULTING, Inc ADDRESS: 1432 EDINGER AVENUE, SUITE 230 TUSTIN, CA 92780 TELEPHONE: (714)258-8411 FAX: (714)258-8511 SIGNATURE: <i>Gary R. Hansen</i> DATE: 10/28/19	REVISIONS (Empty table for revisions)	MADE BY DATE APPROVED BY DATE (Empty table for approvals)	BENCH MARK DATA (Empty table for benchmarks)	REFERENCE DRAWINGS (Empty table for references)	RECOMMENDED BY TITLE BY DATE PRINCIPAL TRAFFIC P.W. SUPER	APPROVED BY: CITY OF RANCHO SANTA MARGARITA PUBLIC WORKS DEPARTMENT E. MAXIMOUS, CITY ENGINEER DATE:	CITY OF RANCHO SANTA MARGARITA SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR TRAFFIC CONTROL - STAGE 1 216+00 TO 236+50	PROJECT NO.
								SHEET 9 OF 42 DRAWING NO. TC1

CONSTRUCTION NOTES (THIS SHEET ONLY):

- 1 COVER EXISTING SIGN DURING STAGE 1 TRAFFIC CONTROL.
- 2 REPLACE EXISTING SIGN DURING STAGE 1 TRAFFIC CONTROL.
- 3 MEDIAN TO REMAIN. PROTECT IN PLACE.
- 4 DETAILS OF MESSAGE FOR PCMS SHALL BE AS DIRECTED BY THE ENGINEER.



PLAN
1" = 50'

EXISTING SIGN LEGEND:

TEMPORARY CONSTRUCTION SIGN LEGEND:

NOTES:

1. REMOVE ALL CONFLICTING EXISTING PAVEMENT DELINEATION.

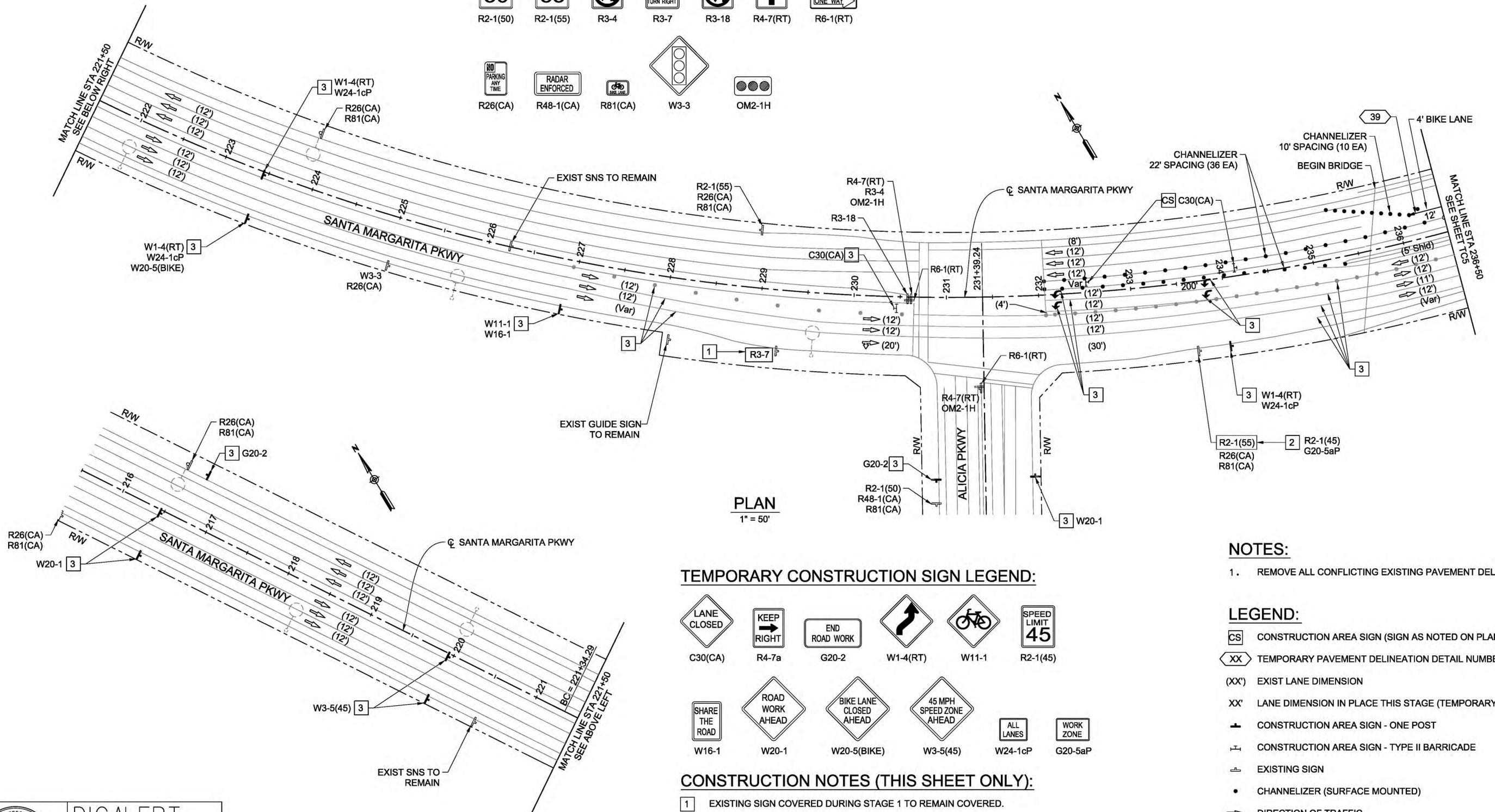
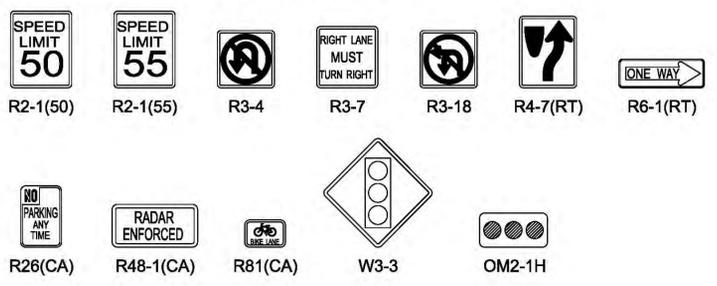
LEGEND:

- CONSTRUCTION AREA SIGN (SIGN AS NOTED ON PLANS)
- REMOVE AND REUSE EQUIPMENT
- TEMPORARY PAVEMENT DELINEATION DETAIL NUMBER
- EXIST LANE DIMENSION
- XX' symbol"/> LANE DIMENSION IN PLACE THIS STAGE (TEMPORARY)
- PORTABLE CHANGEABLE MESSAGE SIGN
- CONSTRUCTION AREA SIGN - ONE POST
- CONSTRUCTION AREA SIGN - TYPE II BARRICADE
- EXISTING SIGN
- CHANNELIZER (SURFACE MOUNTED)
- DIRECTION OF TRAFFIC
- BEGIN OR END OF PAVEMENT DELINEATION DETAIL
- CHANGE OF PAVEMENT DELINEATION DETAIL
- REMOVE PAVEMENT STRIPE

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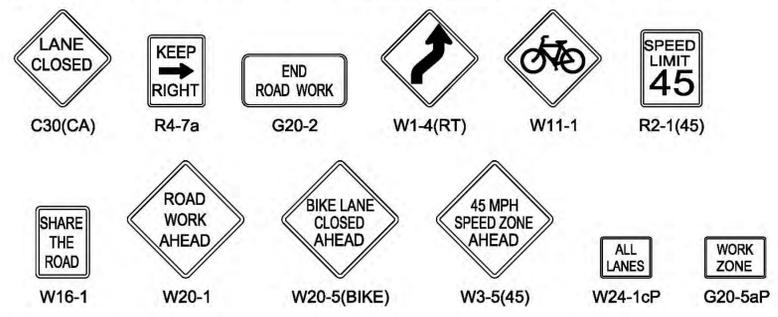
PREPARED BY: FIRM: LIN CONSULTING, Inc ADDRESS: 1432 EDINGER AVENUE, SUITE 230 TUSTIN, CA 92780 TELEPHONE: (714)258-8411 FAX: (714)258-8511 DATE: 10/28/19	REVISIONS	MADE BY DATE APPROVED BY DATE	BENCH MARK DATA	REFERENCE DRAWINGS	RECOMMENDED BY: TITLE BY DATE PRINCIPAL TRAFFIC P.W. SUPER	APPROVED BY: CITY OF RANCHO SANTA MARGARITA PUBLIC WORKS DEPARTMENT BRENDAN DUGAN, CITY ENGINEER DATE:	CITY OF RANCHO SANTA MARGARITA SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR TRAFFIC CONTROL - STAGE 1 236+50 TO SR 241 RAMPS	PROJECT NO. SHEET 11 OF 42 DRAWING NO. TC3

EXISTING SIGN LEGEND:



PLAN
1" = 50'

TEMPORARY CONSTRUCTION SIGN LEGEND:



CONSTRUCTION NOTES (THIS SHEET ONLY):

- 1 EXISTING SIGN COVERED DURING STAGE 1 TO REMAIN COVERED.
- 2 REPLACED EXISTING SIGN DURING STAGE 1 WITH SIGNS AS SHOWN TO REMAIN.
- 3 EXISTING STAGE 1 TRAFFIC CONTROL TO REMAIN.

NOTES:

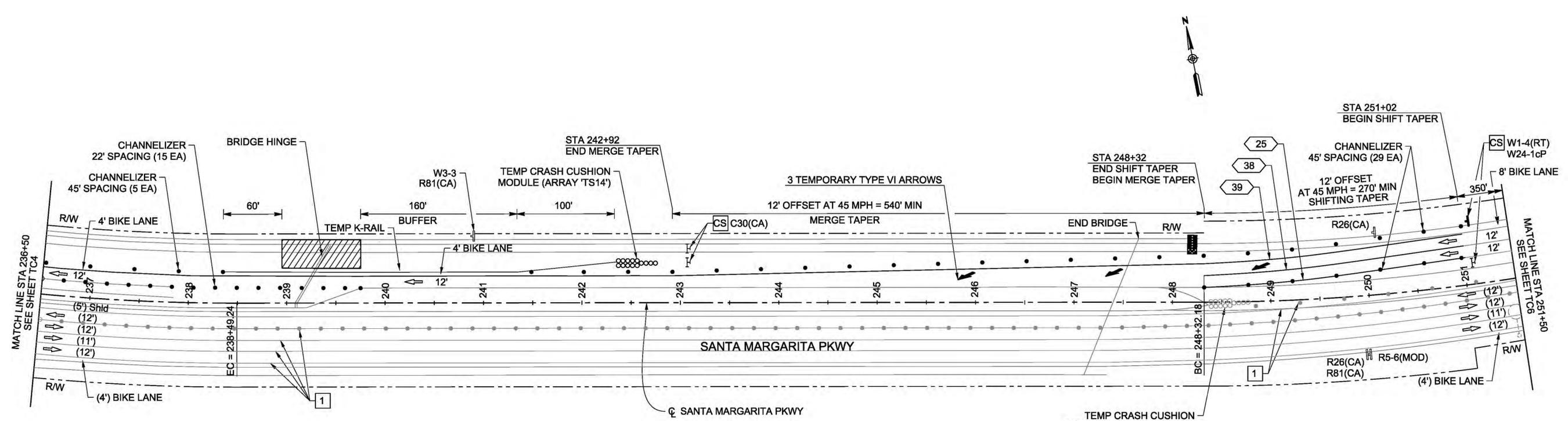
- 1. REMOVE ALL CONFLICTING EXISTING PAVEMENT DELINEATION.

LEGEND:

- CS CONSTRUCTION AREA SIGN (SIGN AS NOTED ON PLANS)
- XX TEMPORARY PAVEMENT DELINEATION DETAIL NUMBER
- (XX) EXIST LANE DIMENSION
- XX' LANE DIMENSION IN PLACE THIS STAGE (TEMPORARY)
- CONSTRUCTION AREA SIGN - ONE POST
- ⊥ CONSTRUCTION AREA SIGN - TYPE II BARRICADE
- ⊢ EXISTING SIGN
- CHANNELIZER (SURFACE MOUNTED)
- DIRECTION OF TRAFFIC
- BEGIN OR END OF PAVEMENT DELINEATION DETAIL
- CHANGE OF PAVEMENT DELINEATION DETAIL

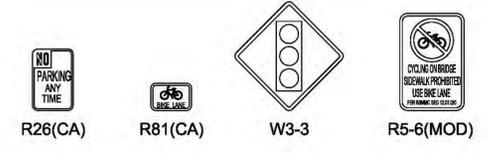
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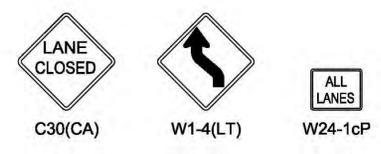


PLAN
1" = 50'

EXISTING SIGN LEGEND:



TEMPORARY CONSTRUCTION SIGN LEGEND:



NOTES:

1. REMOVE ALL CONFLICTING EXISTING PAVEMENT DELINEATION.

LEGEND:

- CS CONSTRUCTION AREA SIGN (SIGN AS NOTED ON PLANS)
- XX TEMPORARY PAVEMENT DELINEATION DETAIL NUMBER
- (XX) EXIST LANE DIMENSION
- XX' LANE DIMENSION IN PLACE THIS STAGE (TEMPORARY)
- CONSTRUCTION AREA SIGN - ONE POST
- CONSTRUCTION AREA SIGN - TYPE II BARRICADE
- EXISTING SIGN
- CHANNELIZER (SURFACE MOUNTED)
- ➔ DIRECTION OF TRAFFIC
- ➔ BEGIN OR END OF PAVEMENT DELINEATION DETAIL
- ➔ CHANGE OF PAVEMENT DELINEATION DETAIL
- ⚡ FLASHING ARROW SIGN
- ▨ WORK AREA

CONSTRUCTION NOTES (THIS SHEET ONLY):

- 1 EXISTING STAGE 1 TRAFFIC CONTROL TO REMAIN.

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PREPARED BY LIN CONSULTING, Inc 1432 EDINGER AVENUE, SUITE 230 TUSTIN, CA 92780 TELEPHONE: (714)258-8411 FAX: (714)258-8511 DATE: 10/28/19	REVISIONS	MADE BY DATE	APPROVED BY DATE	BENCH MARK DATA	REFERENCE DRAWINGS	RECOMMENDED BY TITLE BY DATE PRINCIPAL TRAFFIC P.W. SUPER	APPROVED BY: CITY OF RANCHO SANTA MARGARITA PUBLIC WORKS DEPARTMENT BRENDAN DUGAN, CITY ENGINEER DATE:	CITY OF RANCHO SANTA MARGARITA SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR TRAFFIC CONTROL - STAGE 2 236+50 TO 251+50	PROJECT NO. SHEET 13 OF 42 DRAWING NO. TC5
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GENERAL NOTES TO CONTRACTOR

1. SEE LANDSCAPE PLAN NO.3 SHEET L-17 FOR CONSTRUCTION NOTES
2. SEE LANDSCAPE DETAILS & NOTES NO.1 SHEET L-21 FOR TREE & SHRUB PLANTING DETAILS
3. SEE LANDSCAPE PLAN NO. 3 SHEET L-23 FOR GENERAL LANDSCAPE PLANTING NOTES

4. NEW INTEGRAL COLORED CONCRETE PAVING COLOR AND TEXTURE MUST CLOSELY RESEMBLE THE REFEREE SAMPLE LOCATED AT THE SANTA MARGARITA PARKWAY MEDIAN IN COLOR AND TEXTURE PATTERN

NEW INTERGAL COLORED CONCRETE PAVING SHALL BE FURNISHED BY:

- a. DAVIS TERRA COTTA (#10134). POWDER DOSE RATE 4 LBS. PER 94 LBS. SACK OF CEMENT
- b. OR APPROVED EQUAL

5. NEW CONCRETE PAVING 12" X 12" PATTERN STAMP TOOL SHALL BE PROVIDED BY:

- a. BOMANITE IMPRINT SYSTEMS www.bomanite.com
- b. LITHOTEX BY: SCOFIELD COMPANY 1-800-800-9900
- c. OR APPROVED EQUAL

6. TREE DEEP ROOT BARRIER SHALL BE FURNISHED BY:

- a. DEEP ROOT COMPANY www.deepro.com
- b. NDS MANUFACTURER EPS SERIES www.ndspro.com
- c. OR APPROVED EQUAL

7. PVC DRAIN PIPE AND GREEN CAP COVER SHALL BE FROM THE FOLLOWING MANUFACTURER:

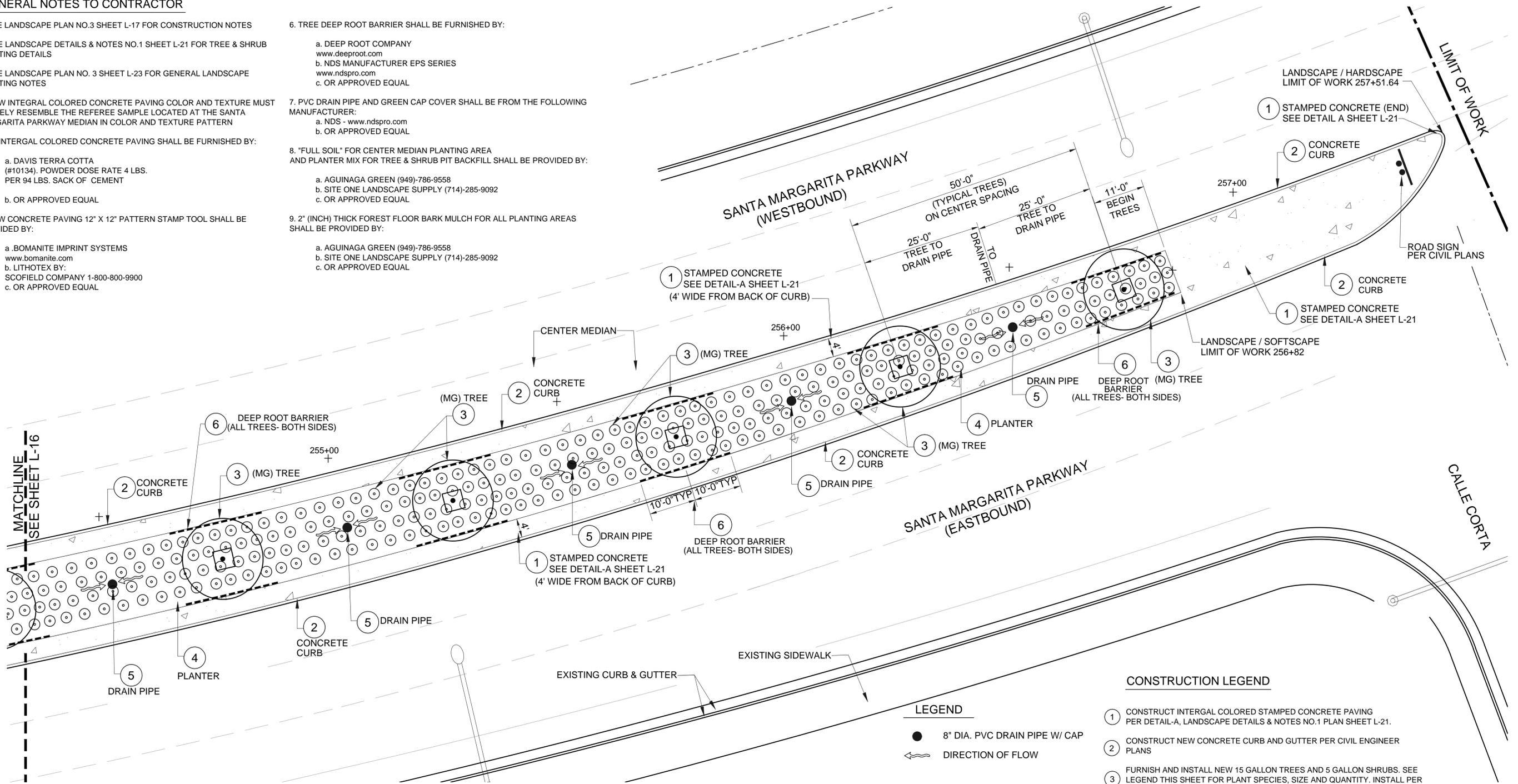
- a. NDS - www.ndspro.com
- b. OR APPROVED EQUAL

8. "FULL SOIL" FOR CENTER MEDIAN PLANTING AREA AND PLANTER MIX FOR TREE & SHRUB PIT BACKFILL SHALL BE PROVIDED BY:

- a. AGUINAGA GREEN (949)-786-9558
- b. SITE ONE LANDSCAPE SUPPLY (714)-285-9092
- c. OR APPROVED EQUAL

9. 2" (INCH) THICK FOREST FLOOR BARK MULCH FOR ALL PLANTING AREAS SHALL BE PROVIDED BY:

- a. AGUINAGA GREEN (949)-786-9558
- b. SITE ONE LANDSCAPE SUPPLY (714)-285-9092
- c. OR APPROVED EQUAL



MATCHLINE - SEE SHEET L-16

LIMIT OF WORK

CALE CORTA

TREE PLANTING LEGEND

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	QUANTITY	HEIGHT & SPREAD
(MG)	MAGNOLIA GRANDIFLORA "MAJESTIC BEAUTY" MAJESTIC BEAUTY MAGNOLIA	15 GALLON STANDARD	17	8' H X 3' W. MINIMUM 1 1/2" Ø CALIPER. ALL TREES TO MATCH

SHRUB PLANTING LEGEND

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	QUANTITY	HEIGHT & SPREAD
○	PITTOSPORUM TOBIRA "WHEELERS DWARF" DWARF PITTOSPORUM	5 GALLON	828	2' H X 2' W. MINIMUM FULL TO GROUND

CONSTRUCTION LEGEND

1. CONSTRUCT INTERGAL COLORED STAMPED CONCRETE PAVING PER DETAIL-A, LANDSCAPE DETAILS & NOTES NO.1 PLAN SHEET L-21.
2. CONSTRUCT NEW CONCRETE CURB AND GUTTER PER CIVIL ENGINEER PLANS
3. FURNISH AND INSTALL NEW 15 GALLON TREES AND 5 GALLON SHRUBS. SEE LEGEND THIS SHEET FOR PLANT SPECIES, SIZE AND QUANTITY. INSTALL PER DETAILS B & C LANDSCAPE DETAILS & NOTES NO.1 PLAN SHEET L-21.
4. PLANTER AREA: FINISH GRADE AND FURNISH AND PLACE "FULL SOIL" & PLANTER MIX AND TOP DRESSING: (2") INCH THICK COVERAGE FOREST FLOOR MULCH SHALL BE CONTINUOUS UNDER ALL LANDSCAPE AREAS.
5. INSTALL (8") INCH Ø PVC DRAIN PIPE WITH NDS GREEN ROUND DRAIN GRATE. PROVIDE GRAVEL SUMP. SEE DETAIL D LANDSCAPE DETAILS & NOTES NO.1 PLAN SHEET L-21. SLOPE FINISH GRADE TOWARDS DRAIN PIPE 2% MIN. - 3% MAX.
6. INSTALL TWENTY (20) (LINEAR FEET) DEEP ROOT BARRIER, (24") INCH DEPTH EACH TREE BOTH SIDES ADJACENT TO PAVING SEE DETAIL B LANDSCAPE DETAILS & NOTES PLAN SHEET L-21

LEGEND

- 8" DIA. PVC DRAIN PIPE W/ CAP
- DIRECTION OF FLOW



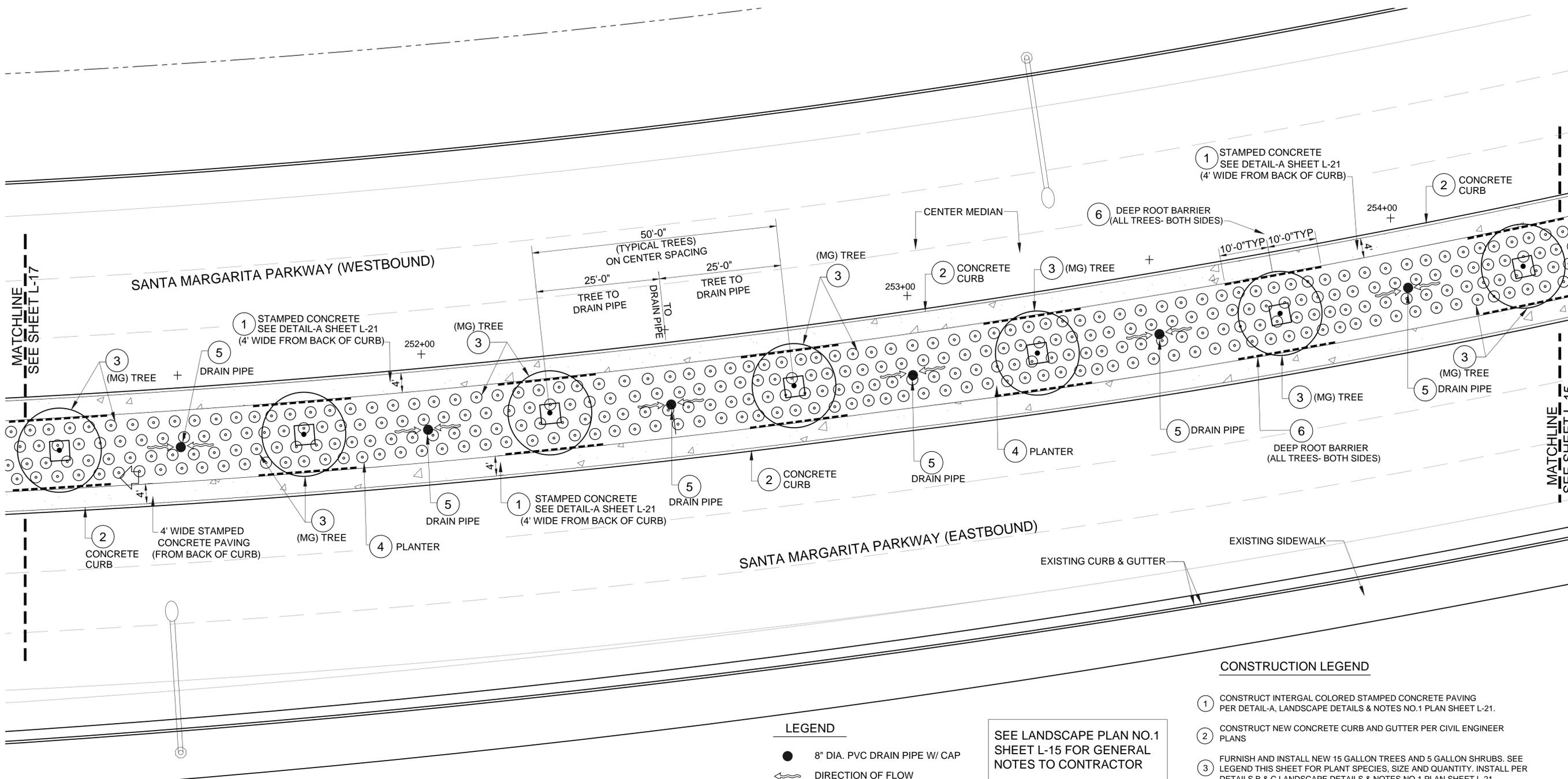
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PREPARED BY FIRM: NCM ENGINEERING ADDRESS: 22362 GILBERTO, SUITE 125 RANCHO SANTA MARGARITA, CA 92688 TELEPHONE: (949)294-7358 FAX: (949)589-7448 SIGNATURE: _____ DATE: 10/28/19	REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>NO.</th><th>DESCRIPTION</th><th>DATE</th></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	NO.	DESCRIPTION	DATE							MADE BY: _____ DATE: _____ APPROVED BY: _____ DATE: _____	BENCH MARK DATA REFERENCE DRAWINGS	RECOMMENDED BY <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>TITLE</th><th>BY</th><th>DATE</th></tr> <tr><td>ASST. CITY ENGINEER</td><td> </td><td> </td></tr> <tr><td>TRAFFIC</td><td> </td><td> </td></tr> <tr><td>P.W. SUPER</td><td> </td><td> </td></tr> </table>	TITLE	BY	DATE	ASST. CITY ENGINEER			TRAFFIC			P.W. SUPER			APPROVED BY: CITY OF RANCHO SANTA MARGARITA PUBLIC WORKS DEPARTMENT E. MAXIMOUS, CITY ENGINEER DATE: _____	CITY OF RANCHO SANTA MARGARITA SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR LANDSCAPE PLAN NO. 1	PROJECT NO. SHEET 15 OF 42 DRAWING NO. L-15
NO.	DESCRIPTION	DATE																										
TITLE	BY	DATE																										
ASST. CITY ENGINEER																												
TRAFFIC																												
P.W. SUPER																												



CONSTRUCTION LEGEND

- 1 CONSTRUCT INTERGAL COLORED STAMPED CONCRETE PAVING PER DETAIL-A, LANDSCAPE DETAILS & NOTES NO.1 PLAN SHEET L-21.
- 2 CONSTRUCT NEW CONCRETE CURB AND GUTTER PER CIVIL ENGINEER PLANS
- 3 FURNISH AND INSTALL NEW 15 GALLON TREES AND 5 GALLON SHRUBS. SEE LEGEND THIS SHEET FOR PLANT SPECIES, SIZE AND QUANTITY. INSTALL PER DETAILS B & C LANDSCAPE DETAILS & NOTES NO.1 PLAN SHEET L-21.
- 4 PLANTER AREA: FINISH GRADE AND FURNISH AND PLACE "FULL SOIL" & PLANTER MIX AND TOP DRESSING: (2") INCH THICK COVERAGE FOREST FLOOR MULCH SHALL BE CONTINUOUS UNDER ALL LANDSCAPE AREAS.
- 5 INSTALL (8") INCH Ø PVC DRAIN PIPE WITH NDS GREEN ROUND DRAIN GRATE. PROVIDE GRAVEL SUMP. SEE DETAIL D LANDSCAPE DETAILS & NOTES NO.1 PLAN SHEET L-21. SLOPE FINISH GRADE TOWARDS DRAIN PIPE 2% MIN. - 3% MAX.
- 6 INSTALL TWENTY (20) (LINEAR FEET) DEEP ROOT BARRIER, (24") INCH DEPTH EACH TREE BOTH SIDES ADJACENT TO PAVING SEE DETAIL B LANDSCAPE DETAILS & NOTES PLAN SHEET L-21

LEGEND

- 8" DIA. PVC DRAIN PIPE W/ CAP
- ← DIRECTION OF FLOW

SEE LANDSCAPE PLAN NO.1 SHEET L-15 FOR GENERAL NOTES TO CONTRACTOR

TREE PLANTING LEGEND

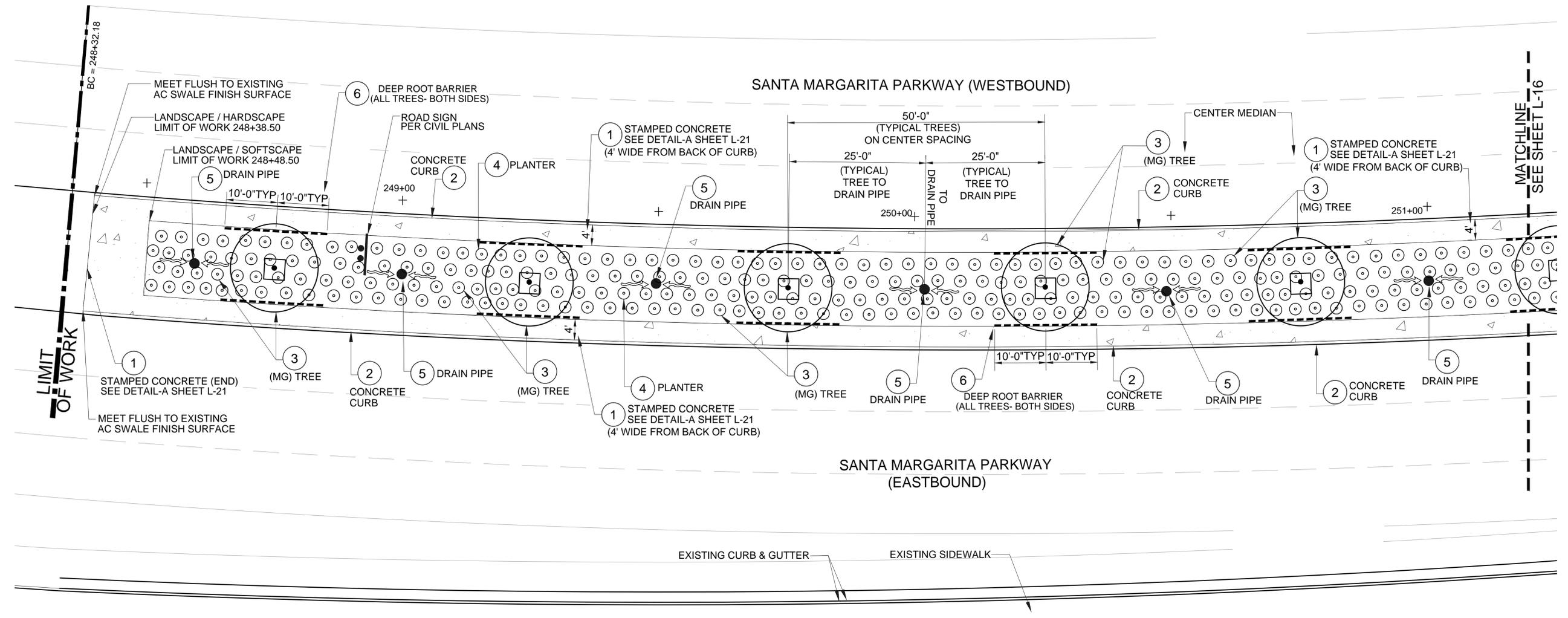
SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	QUANTITY	HEIGHT & SPREAD
(MG)	MAGNOLIA GRANDIFLORA "MAJESTIC BEAUTY" MAJESTIC BEAUTY MAGNOLIA	15 GALLON STANDARD	17	8' H X 3' W. MINIMUM 1 1/2" Ø CALIPER. ALL TREES TO MATCH

SHRUB PLANTING LEGEND

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	QUANTITY	HEIGHT & SPREAD
○	PITOSPORUM TOBIRA "WHEELERS DWARF" DWARF PITOSPORUM	5 GALLON	828	2' H X 2' W. MINIMUM FULL TO GROUND

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PREPARED BY: NCM ENGINEERING ADDRESS: 22362 GILBERTO, SUITE 125 RANCHO SANTA MARGARITA, CA 92688 TELEPHONE: (949)294-7358 FAX: (949)589-7448 SIGNATURE: <i>[Signature]</i> DATE: 10/28/19	REVISIONS:	MADE BY: DATE: APPROVED BY: DATE:	BENCH MARK DATA:	REFERENCE DRAWINGS:	RECOMMENDED BY: TITLE: BY: DATE: ASST. CITY ENGINEER: TRAFFIC: P.W. SUPER:	APPROVED BY: CITY OF RANCHO SANTA MARGARITA PUBLIC WORKS DEPARTMENT: E. MAXIMOUS, CITY ENGINEER: DATE:	CITY OF RANCHO SANTA MARGARITA SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR LANDSCAPE PLAN NO. 2	PROJECT NO.: SHEET 16 OF 42 DRAWING NO. L-16
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TREE PLANTING LEGEND

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	QUANTITY	HEIGHT & SPREAD
	MAGNOLIA GRANDIFLORA "MAJESTIC BEAUTY" MAJESTIC BEAUTY MAGNOLIA	15 GALLON STANDARD	17	8' H X 3' W. MINIMUM 1 1/2" Ø CALIPER. ALL TREES TO MATCH

SHRUB PLANTING LEGEND

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	QUANTITY	HEIGHT & SPREAD
	PITTOSPORUM TOBIRA "WHEELERS DWARF" DWARF PITTOSPORUM	5 GALLON	828	2' H X 2' W. MINIMUM FULL TO GROUND

LEGEND

- 8" DIA. PVC DRAIN PIPE W/ CAP
- DIRECTION OF FLOW

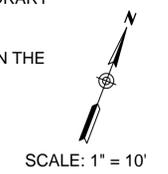
SEE LANDSCAPE PLAN NO.1
SHEET L-15 FOR GENERAL
NOTES TO CONTRACTOR

CONSTRUCTION LEGEND

1. CONSTRUCT INTERGAL COLORED STAMPED CONCRETE PAVING PER DETAIL-A, LANDSCAPE DETAILS & NOTES NO.1 PLAN SHEET L-21.
2. CONSTRUCT NEW CONCRETE CURB AND GUTTER PER CIVIL ENGINEER PLANS
3. FURNISH AND INSTALL NEW 15 GALLON TREES AND 5 GALLON SHRUBS. SEE LEGEND THIS SHEET FOR PLANT SPECIES, SIZE AND QUANTITY. INSTALL PER DETAILS B & C LANDSCAPE DETAILS & NOTES NO.1 PLAN SHEET L-21.
4. PLANTER AREA: FINISH GRADE AND FURNISH AND PLACE "FULL SOIL" & PLANTER MIX AND TOP DRESSING: (2") INCH THICK COVERAGE FOREST FLOOR MULCH SHALL BE CONTINUOUS UNDER ALL LANDSCAPE AREAS.
5. INSTALL (8") INCH Ø PVC DRAIN PIPE WITH NDS GREEN ROUND DRAIN GRATE. PROVIDE GRAVEL SUMP. SEE DETAIL D LANDSCAPE DETAILS & NOTES NO.1 PLAN SHEET L-21. SLOPE FINISH GRADE TOWARDS DRAIN PIPE 2% MIN. - 3% MAX.
6. INSTALL TWENTY (20') (LINEAR FEET) DEEP ROOT BARRIER, (24") INCH DEPTH EACH TREE BOTH SIDES ADJACENT TO PAVING SEE DETAIL B LANDSCAPE DETAILS & NOTES PLAN SHEET L-21

CONSTRUCTION NOTES:

1. THE DIMENSIONS ARE SHOWN FOR APPROXIMATE LINE. ALL RADII AND CURVES ARE TO HAVE CONTINUOUS AND SMOOTH TRANSITIONS WITHOUT ABRUPT CHANGES OR BENDS.
2. ALL FORMS AND ALIGNMENT OF PAVING SHALL BE APPROVED BY THE ENGINEER AND CITY INSPECTOR PRIOR TO POURING ANY CONCRETE
3. CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION AND SHALL BE HELD LIABLE FOR ALL DAMAGES INCURRED.
4. CONTRACTOR SHALL NOTE AND INSTALL ALL SLEEVES SHOWN ON IRRIGATION PLAN PRIOR TO INSTALLATION OF PAVING.
5. ALL CONSTRUCTION AND WORKMANSHIP SHALL CONFORM TO STATE AND LOCAL CODES.
6. CONTRACTOR MUST CHECK ALL DIMENSIONS, FRAMING CONDITIONS AND SITE CONDITIONS BEFORE STARTING WORK. LANDSCAPE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES OR DEFICIENCIES.
7. CONDITIONS NOT SPECIFICALLY SHOWN SHALL BE CONSTRUCTED SIMILAR TO THE DETAILS FOR THE RESPECTIVE MATERIALS.
8. THE DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. ALL BRACING, TEMPORARY SUPPORTS, SHORING, ETC. IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
9. DESIGN, MATERIALS, EQUIPMENT AND PRODUCTS OTHER THAN THOSE DESCRIBED OR INDICATED ON THE DRAWINGS MAY BE CONSIDERED FOR USE, PROVIDED PRIOR APPROVAL IS OBTAINED FROM THE CITY REPRESENTATIVE, LANDSCAPE ARCHITECT AND THE APPLICABLE GOVERNING CODE AUTHORITY.



REGISTERED LANDSCAPE ARCHITECT
ROBERT J. McMANUS
No. 3463
Exp. 8/31/21
STATE OF CALIFORNIA

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UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

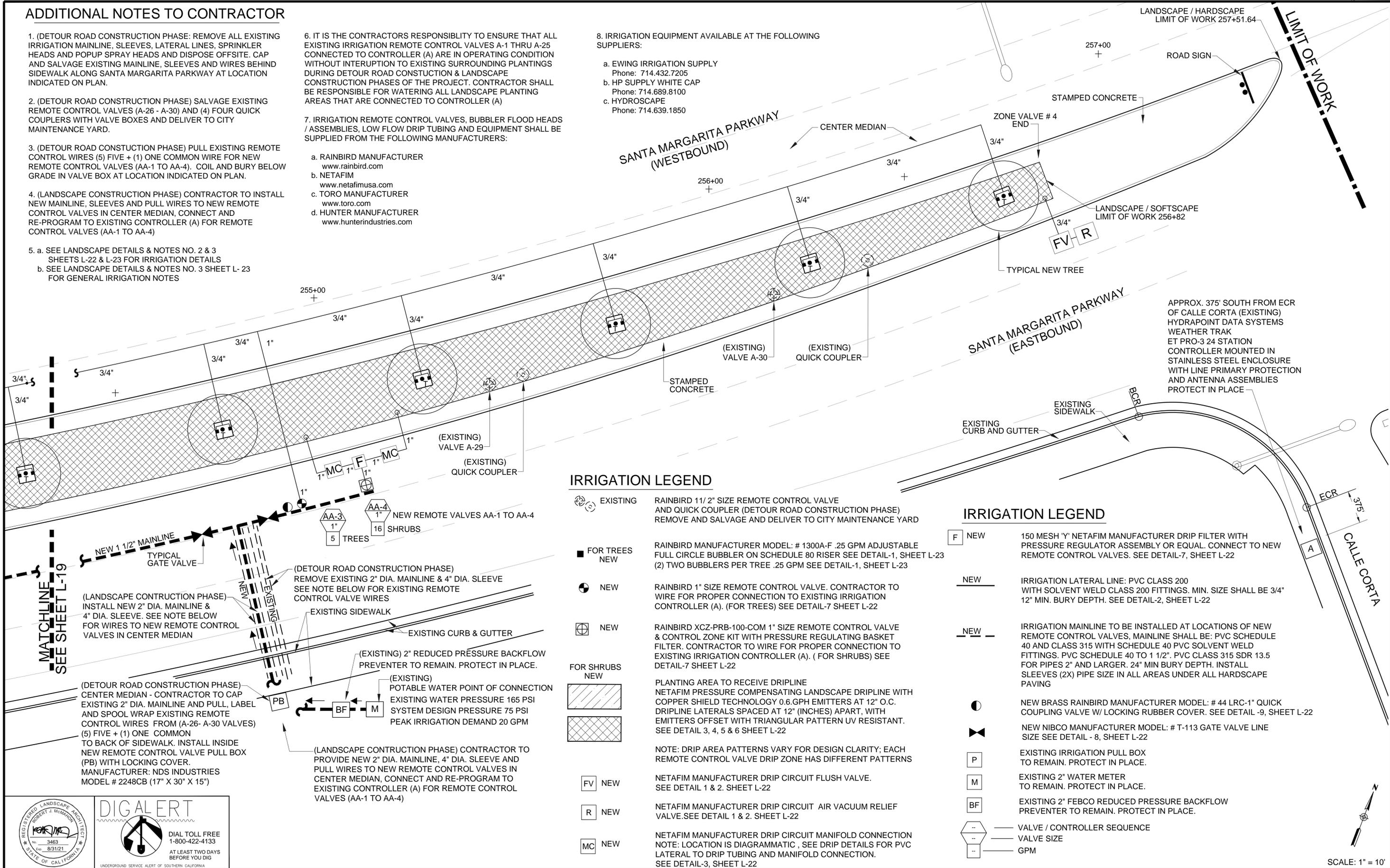
PREPARED BY FIRM: NCM ENGINEERING ADDRESS: 22362 GILBERTO, SUITE 125 RANCHO SANTA MARGARITA, CA 92688 TELEPHONE: (949)294-7358 FAX: (949)589-7448 SIGNATURE: DATE: 10/28/19	REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>										MADE BY: DATE: APPROVED BY: DATE:	BENCH MARK DATA	REFERENCE DRAWINGS	RECOMMENDED BY <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>TITLE</td><td>BY</td><td>DATE</td></tr> <tr><td>ASST. CITY ENGINEER</td><td> </td><td> </td></tr> <tr><td>TRAFFIC</td><td> </td><td> </td></tr> <tr><td>P.W. SUPER</td><td> </td><td> </td></tr> </table>	TITLE	BY	DATE	ASST. CITY ENGINEER			TRAFFIC			P.W. SUPER			APPROVED BY: CITY OF RANCHO SANTA MARGARITA PUBLIC WORKS DEPARTMENT E. MAXIMOUS, CITY ENGINEER DATE:	CITY OF RANCHO SANTA MARGARITA SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR LANDSCAPE PLAN NO. 3	PROJECT NO. SHEET 17 OF 42 DRAWING NO. L-17
TITLE	BY	DATE																											
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ADDITIONAL NOTES TO CONTRACTOR

- (DETOUR ROAD CONSTRUCTION PHASE: REMOVE ALL EXISTING IRRIGATION MAINLINE, SLEEVES, LATERAL LINES, SPRINKLER HEADS AND POPUP SPRAY HEADS AND DISPOSE OFFSITE. CAP AND SALVAGE EXISTING MAINLINE, SLEEVES AND WIRES BEHIND SIDEWALK ALONG SANTA MARGARITA PARKWAY AT LOCATION INDICATED ON PLAN.
- (DETOUR ROAD CONSTRUCTION PHASE) SALVAGE EXISTING REMOTE CONTROL VALVES (A-26 - A-30) AND (4) FOUR QUICK COUPLERS WITH VALVE BOXES AND DELIVER TO CITY MAINTENANCE YARD.
- (DETOUR ROAD CONSTRUCTION PHASE) PULL EXISTING REMOTE CONTROL WIRES (5) FIVE + (1) ONE COMMON WIRE FOR NEW REMOTE CONTROL VALVES (AA-1 TO AA-4). COIL AND BURY BELOW GRADE IN VALVE BOX AT LOCATION INDICATED ON PLAN.
- (LANDSCAPE CONSTRUCTION PHASE) CONTRACTOR TO INSTALL NEW MAINLINE, SLEEVES AND PULL WIRES TO NEW REMOTE CONTROL VALVES IN CENTER MEDIAN, CONNECT AND RE-PROGRAM TO EXISTING CONTROLLER (A) FOR REMOTE CONTROL VALVES (AA-1 TO AA-4)
- SEE LANDSCAPE DETAILS & NOTES NO. 2 & 3 SHEETS L-22 & L-23 FOR IRRIGATION DETAILS
 - SEE LANDSCAPE DETAILS & NOTES NO. 3 SHEET L- 23 FOR GENERAL IRRIGATION NOTES

- IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT ALL EXISTING IRRIGATION REMOTE CONTROL VALVES A-1 THRU A-25 CONNECTED TO CONTROLLER (A) ARE IN OPERATING CONDITION WITHOUT INTERRUPTION TO EXISTING SURROUNDING PLANTINGS DURING DETOUR ROAD CONSTRUCTION & LANDSCAPE CONSTRUCTION PHASES OF THE PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING ALL LANDSCAPE PLANTING AREAS THAT ARE CONNECTED TO CONTROLLER (A)
- IRRIGATION REMOTE CONTROL VALVES, BUBBLER FLOOD HEADS / ASSEMBLIES, LOW FLOW DRIP TUBING AND EQUIPMENT SHALL BE SUPPLIED FROM THE FOLLOWING MANUFACTURERS:
 - RAINBIRD MANUFACTURER
www.rainbird.com
 - NETAFIM
www.netafimusa.com
 - TORO MANUFACTURER
www.toro.com
 - HUNTER MANUFACTURER
www.hunterindustries.com

- IRRIGATION EQUIPMENT AVAILABLE AT THE FOLLOWING SUPPLIERS:
 - EWING IRRIGATION SUPPLY
Phone: 714.432.7205
 - HP SUPPLY WHITE CAP
Phone: 714.689.8100
 - HYDROSCAPE
Phone: 714.639.1850



IRRIGATION LEGEND

- EXISTING RAINBIRD 11/ 2" SIZE REMOTE CONTROL VALVE AND QUICK COUPLER (DETOUR ROAD CONSTRUCTION PHASE) REMOVE AND SALVAGE AND DELIVER TO CITY MAINTENANCE YARD
- FOR TREES NEW RAINBIRD MANUFACTURER MODEL: # 1300A-F .25 GPM ADJUSTABLE FULL CIRCLE BUBBLER ON SCHEDULE 80 RISER SEE DETAIL-1, SHEET L-23 (2) TWO BUBBLERS PER TREE .25 GPM SEE DETAIL-1, SHEET L-23
- NEW RAINBIRD 1" SIZE REMOTE CONTROL VALVE. CONTRACTOR TO WIRE FOR PROPER CONNECTION TO EXISTING IRRIGATION CONTROLLER (A). (FOR TREES) SEE DETAIL-7 SHEET L-22
- NEW RAINBIRD XCZ-PRB-100-COM 1" SIZE REMOTE CONTROL VALVE & CONTROL ZONE KIT WITH PRESSURE REGULATING BASKET FILTER. CONTRACTOR TO WIRE FOR PROPER CONNECTION TO EXISTING IRRIGATION CONTROLLER (A). (FOR SHRUBS) SEE DETAIL-7 SHEET L-22
- FOR SHRUBS NEW PLANTING AREA TO RECEIVE DRIPLINE NETAFIM PRESSURE COMPENSATING LANDSCAPE DRIPLINE WITH COPPER SHIELD TECHNOLOGY 0.6.GPH EMITTERS AT 12" O.C. DRIPLINE LATERALS SPACED AT 12" (INCHES) APART, WITH EMITTERS OFFSET WITH TRIANGULAR PATTERN UV RESISTANT. SEE DETAIL 3, 4, 5 & 6 SHEET L-22
- FV NEW NOTE: DRIP AREA PATTERNS VARY FOR DESIGN CLARITY; EACH REMOTE CONTROL VALVE DRIP ZONE HAS DIFFERENT PATTERNS NETAFIM MANUFACTURER DRIP CIRCUIT FLUSH VALVE. SEE DETAIL 1 & 2. SHEET L-22
- R NEW NETAFIM MANUFACTURER DRIP CIRCUIT AIR VACUUM RELIEF VALVE.SEE DETAIL 1 & 2. SHEET L-22
- MC NEW NETAFIM MANUFACTURER DRIP CIRCUIT MANIFOLD CONNECTION NOTE: LOCATION IS DIAGRAMMATIC , SEE DRIP DETAILS FOR PVC LATERAL TO DRIP TUBING AND MANIFOLD CONNECTION. SEE DETAIL-3, SHEET L-22

IRRIGATION LEGEND

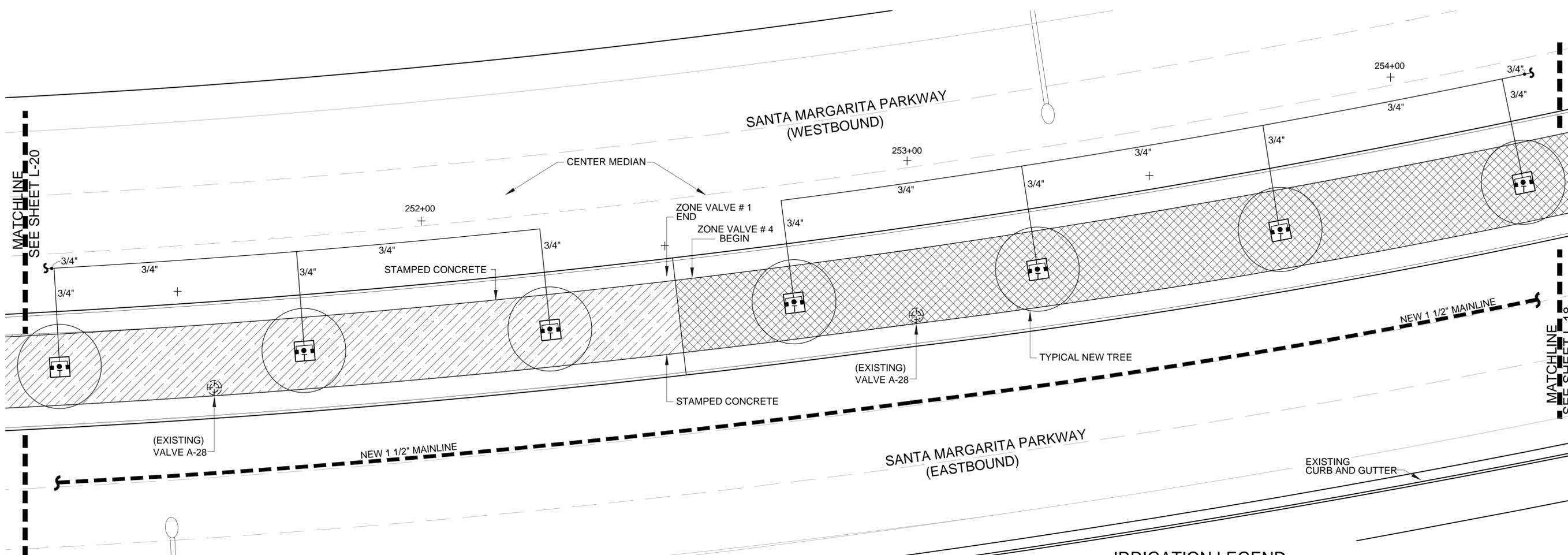
- F NEW 150 MESH 'Y' NETAFIM MANUFACTURER DRIP FILTER WITH PRESSURE REGULATOR ASSEMBLY OR EQUAL. CONNECT TO NEW REMOTE CONTROL VALVES. SEE DETAIL-7, SHEET L-22
- NEW IRRIGATION LATERAL LINE: PVC CLASS 200 WITH SOLVENT WELD CLASS 200 FITTINGS. MIN. SIZE SHALL BE 3/4" 12" MIN. BURY DEPTH. SEE DETAIL-2, SHEET L-22
- NEW IRRIGATION MAINLINE TO BE INSTALLED AT LOCATIONS OF NEW REMOTE CONTROL VALVES. MAINLINE SHALL BE: PVC SCHEDULE 40 AND CLASS 315 WITH SCHEDULE 40 PVC SOLVENT WELD FITTINGS. PVC SCHEDULE 40 TO 1 1/2". PVC CLASS 315 SDR 13.5 FOR PIPES 2" AND LARGER. 24" MIN BURY DEPTH. INSTALL SLEEVES (2X) PIPE SIZE IN ALL AREAS UNDER ALL HARDSCAPE PAVING
- NEW BRASS RAINBIRD MANUFACTURER MODEL: # 44 LRC-1" QUICK COUPLING VALVE W/ LOCKING RUBBER COVER. SEE DETAIL -9, SHEET L-22
- NEW NIBCO MANUFACTURER MODEL: # T-113 GATE VALVE LINE SIZE SEE DETAIL - 8, SHEET L-22
- P EXISTING IRRIGATION PULL BOX TO REMAIN. PROTECT IN PLACE.
- M EXISTING 2" WATER METER TO REMAIN. PROTECT IN PLACE.
- BF EXISTING 2" FEBCO REDUCED PRESSURE BACKFLOW PREVENTER TO REMAIN. PROTECT IN PLACE.
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SCALE: 1" = 10'



IRRIGATION LEGEND

- EXISTING RAINBIRD 1 1/2" SIZE REMOTE CONTROL VALVE AND QUICK COUPLER (DETOUR ROAD CONSTRUCTION PHASE) REMOVE AND SALVAGE AND DELIVER TO CITY MAINTENANCE YARD
- FOR TREES NEW RAINBIRD MANUFACTURER MODEL: # 1300A-F .25 GPM ADJUSTABLE FULL CIRCLE BUBBLER ON SCHEDULE 80 RISER SEE DETAIL-1, SHEET L-23 (2) TWO BUBBLERS PER TREE .25 GPM SEE DETAIL-1, SHEET L-23
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- NEW RAINBIRD XCZ-PRB-100-COM 1" SIZE REMOTE CONTROL VALVE & CONTROL ZONE KIT WITH PRESSURE REGULATING BASKET FILTER. CONTRACTOR TO WIRE FOR PROPER CONNECTION TO EXISTING IRRIGATION CONTROLLER (A). (FOR SHRUBS) SEE DETAIL-7 SHEET L-22
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IRRIGATION LEGEND

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- NEW 150 MESH 'Y' NETAFIM MANUFACTURER DRIP FILTER WITH PRESSURE REGULATOR ASSEMBLY OR EQUAL. CONNECT TO NEW REMOTE CONTROL VALVES. SEE DETAIL-7, SHEET L-22
- NEW IRRIGATION LATERAL LINE: PVC CLASS 200 WITH SOLVENT WELD CLASS 200 FITTINGS. MIN. SIZE SHALL BE 3/4" 12" MIN. BURY DEPTH. SEE DETAIL-2, SHEET L-22
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- VALVE SIZE
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b. SEE LANDSCAPE DETAILS & NOTES NO. 3 SHEET L- 23

SEE IRRIGATION PLAN NO.1 SHEET L-18 FOR ADDITIONAL NOTES TO CONTRACTOR

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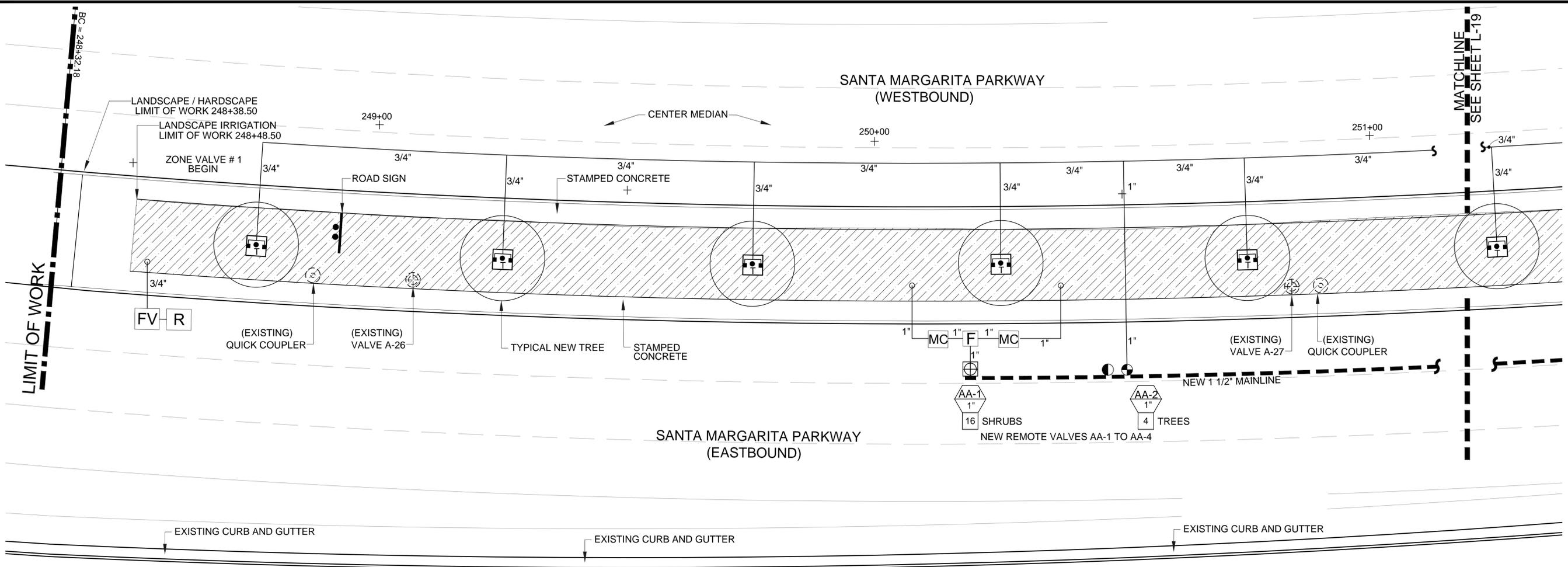
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UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

PREPARED BY FIRM: NCM ENGINEERING ADDRESS: 22362 GILBERTO, SUITE 125 RANCHO SANTA MARGARITA, CA 92688 TELEPHONE: (949)294-7358 FAX: (949)589-7448 SIGNATURE: _____ DATE: 10/28/19	REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>NO.</th><th>DESCRIPTION</th><th>DATE</th></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	NO.	DESCRIPTION	DATE										MADE BY: _____ DATE: _____ APPROVED BY: _____ DATE: _____	BENCH MARK DATA REFERENCE DRAWINGS RECOMMENDED BY <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>TITLE</th><th>BY</th><th>DATE</th></tr> <tr><td>ASST. CITY ENGINEER</td><td> </td><td> </td></tr> <tr><td>TRAFFIC</td><td> </td><td> </td></tr> <tr><td>P.W. SUPER</td><td> </td><td> </td></tr> </table>	TITLE	BY	DATE	ASST. CITY ENGINEER			TRAFFIC			P.W. SUPER			APPROVED BY: CITY OF RANCHO SANTA MARGARITA PUBLIC WORKS DEPARTMENT E. MAXIMOUS, CITY ENGINEER DATE: _____	CITY OF RANCHO SANTA MARGARITA SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR IRRIGATION PLAN NO. 2	PROJECT NO. SHEET 19 OF 42 DRAWING NO. L-19
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SCALE: 1" = 10'





IRRIGATION LEGEND

- EXISTING RAINBIRD 1 1/2" SIZE REMOTE CONTROL VALVE AND QUICK COUPLER (DETOUR ROAD CONSTRUCTION PHASE) REMOVE AND SALVAGE AND DELIVER TO CITY MAINTENANCE YARD
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IRRIGATION LEGEND

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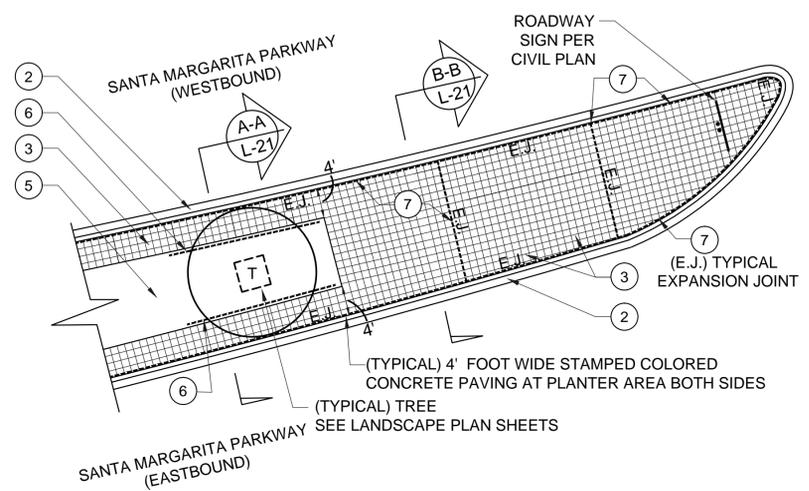
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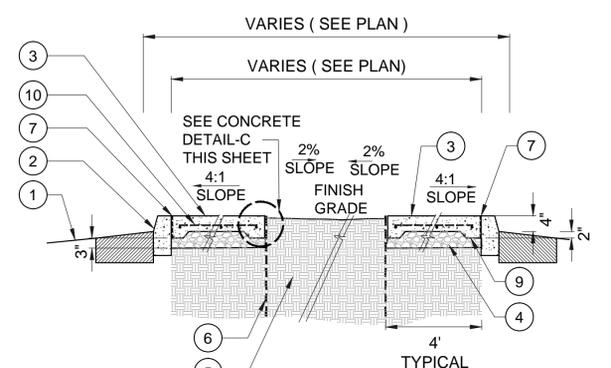
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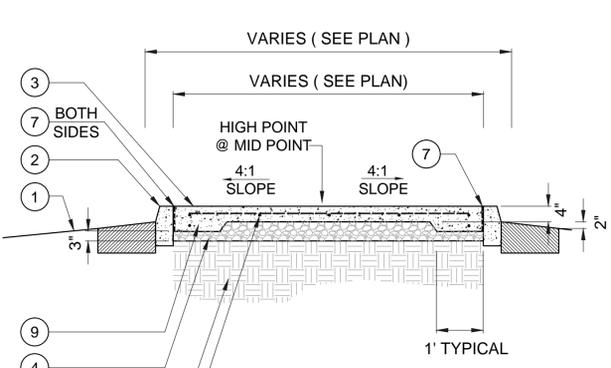
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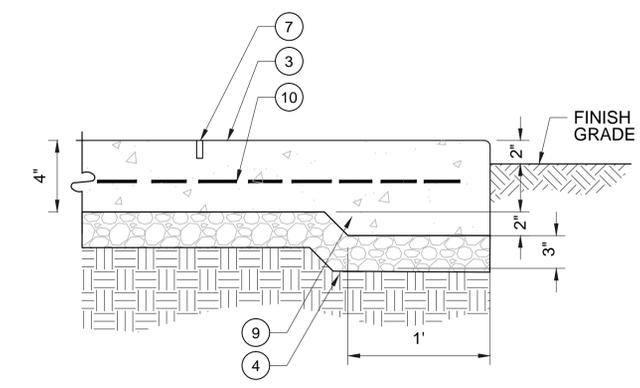
MEDIAN NOSE PARTIAL PLAN
NTS



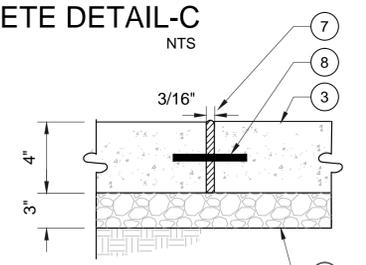
SECTION A-A
NTS



SECTION B-B
NTS



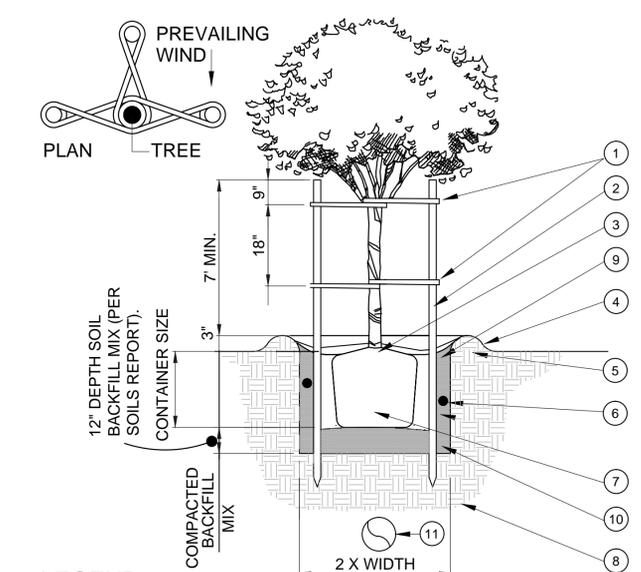
CONCRETE DETAIL-C
NTS



CONCRETE DETAIL-D
NTS

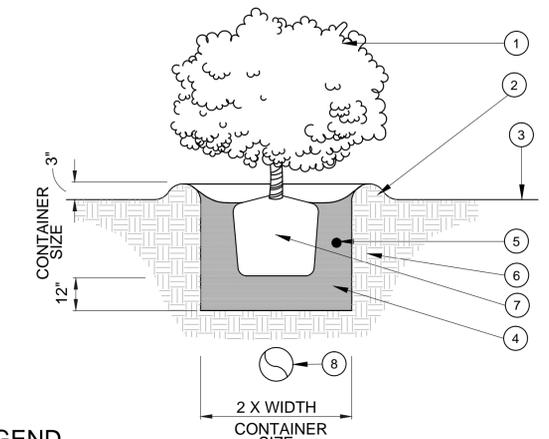
- LEGEND**
- 1 EXISTING ROADWAY
 - 2 NEW P.C.C CONCRETE CURB AND GUTTER PER CIVIL PLANS
 - 3 P.C.C.INTEGRAL COLORED STAMPED CONCRETE PAVING WITH THICKENED EDGE
PATTERN TO BE : 12"X12" TILE .
COLOR TO BE : DAVIS TERRA COTTA (#10134). POWDER DOSE RATE 4 LBS. PER 94 LBS. SACK OF CEMENT.
INSTALL # 3 BAR @ 18 " O.C. BOTHWAYS SEE CONCRETE DETAILS C & D, THIS SHEET.
 - 4 3" THICK 3/4" DIA AGGREGATE CRUSHED MATERIAL BASE COMPACT TO RELATIVE COMPACTION PER SOILS REPORT
 - 5 PLANTER AREA BACK FILL WITH SOIL PLANTER MIX PER SPECIFICATIONS. SOIL TO BE COMPACT TO A RELATIVE COMPACTION TO 85%
 - 6 INSTALL TREE DEEP ROOT BARRIER BY: DEEP ROOT COMPANY MODEL: # UB-24-2 24" DEPTH X 20" LENGTH EACH TREE BOTH SIDES OF TREE
 - 7 3/16" EXPANSION JOINT (SEE PLAN) (FULL DEPTH FELT W/ JOINT SEALANT CAULKING. COLOR TO MATCH PAVING
 - 8 INSTALL GREENSTREAK 'SPEED' DOWEL (5/8" x 18"O.C., 9" IN LENGTH) AT CONSTRUCTION JOINTS
 - 9 THICKENED EDGE (TYP) ALL SLABS.
 - 10 #3 BAR @ 18" O.C. BOTHWAYS

A STAMPED CONCRETE DETAIL NTS



- LEGEND**
- 1 FLEX STRAP RUBBER TREE CINCH TIE
 - 2 2" DIA X 10" "D" STAKE POLE .
(2) TOTAL EACH TREE. CLEAR OF ROOT BALL.
 - 3 ROOT CROWN AT ORIGINAL LINE OF SLOPE
 - 4 WATER BASIN 3" MIN. DEPTH. AFTER INITIAL WATERING BY HOSE.
 - 5 BERM FILL
 - 6 PLANT TABLETS. SEE NOTES
 - 7 TREE ROOT BALL.
 - 8 EXISTING SOIL.
 - 9 2" DEPTH AT MULCH. CLEARANCE AT ROOT CROWN.
 - 10 AMENDED BACKFILL SOIL PLANTER MIX. PER SOILS REPORT.
 - 11 EXISTING NATURAL GAS LINE. VERIFY LOCATION IN FIELD PROTECT IN PLACE.

B TREE PLANTING DETAIL NTS



- LEGEND**
- 1 SHRUB PLANT
 - 2 WATER BASIN 3" MIN. DEPTH
 - 3 FINISH GRADE
 - 4 AMENDED BACKFILL SOIL PLANTER MIX. PER SOILS REPORT.
 - 5 21 GRAM PLANT TABLET
 - 6 EXISTING SOIL
 - 7 ROOT BALL
 - 8 EXISTING NATURAL GAS LINE. VERIFY LOCATION IN FIELD PROTECT IN PLACE.

C SHRUB PLANTING DETAIL NTS

- LEGEND**
- 1 3/4" DIA. CRUSHED MATERIAL BASE COMPACT TO 85% (SEE PLAN FOR LOCATIONS)
 - 2 8"Ø X 2'-6" LONG PVC SCH 40 DRAIN PIPE
 - 3 NDS - GREEN ROUND DRAIN GRATE. MODEL: #20 AVAILABLE AT: EWING LANDSCAPE SUPPLY T (714) 432-7201

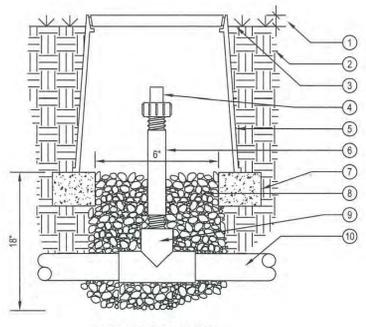
D ABS DRAIN PIPE DETAIL NTS

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UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

<p>PREPARED BY FIRM: NCM ENGINEERING ADDRESS: 22362 GILBERTO, SUITE 125 RANCHO SANTA MARGARITA, CA 92688 TELEPHONE: (949)294-7358 FAX: (949)589-7448 SIGNATURE: [Signature] DATE: 10/28/19</p>	<p>REVISIONS</p> <table border="1"> <tr><th>NO.</th><th>DESCRIPTION</th><th>DATE</th></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	NO.	DESCRIPTION	DATE							<p>MADE BY: [] DATE: [] APPROVED BY: [] DATE: []</p>	<p>BENCH MARK DATA</p>	<p>REFERENCE DRAWINGS</p>	<p>RECOMMENDED BY</p> <table border="1"> <tr><th>TITLE</th><th>BY</th><th>DATE</th></tr> <tr><td>ASST. CITY ENGINEER</td><td> </td><td> </td></tr> <tr><td>TRAFFIC</td><td> </td><td> </td></tr> <tr><td>P.W. SUPER</td><td> </td><td> </td></tr> </table>	TITLE	BY	DATE	ASST. CITY ENGINEER			TRAFFIC			P.W. SUPER			<p>APPROVED BY:</p> <p>CITY OF RANCHO SANTA MARGARITA PUBLIC WORKS DEPARTMENT</p> <p>E. MAXIMOUS, CITY ENGINEER DATE: []</p>	<p>CITY OF RANCHO SANTA MARGARITA SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR LANDSCAPE DETAILS & NOTES NO. 1</p>	<p>PROJECT NO. [] SHEET 21 OF 42 DRAWING NO. L-21</p>
NO.	DESCRIPTION	DATE																											
TITLE	BY	DATE																											
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P.W. SUPER																													

- LEGEND**
- 1" ABOVE FINISH GRADE.
 - NATIVE SOIL PER SPECIFICATIONS.
 - FINISH GRADE.
 - NETAFIM DL2000 FLUSH VALVE (FCH-H-FIPT).
 - 6" ROUND PLASTIC VALVE BOX - HEAT BRAND "FV" ON LID IN 1" HIGH CHARACTERS.
 - 3/4" SCH 80 PVC NIPPLE (LENGTH AS REQUIRED).
 - BRICK SUPPORTS (2 COMMON BRICKS REQUIRED).
 - PEA GRAVEL SUMP (6" x 18").
 - PVC TEE (SxSxT) WITH 3/4" THREADED OUTLET.
 - PVC PIPING.

NOTE: USE ONE FLUSH VALVE FOR EVERY 7 GPM PER ZONE. LOCATE AT LOW POINTS. FLUSH RATE IS 0.8 GPM. FLUSH PRESSURE IS 2 PSI. REFER TO NETAFIM PUBLICATION FOR SPECIFICATIONS.



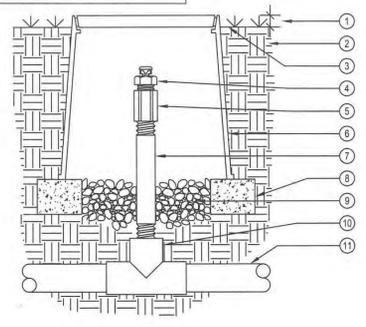
SECTION/ELEVATION
NOT TO SCALE

- NOTES:**
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
 2. DO NOT SCALE DRAWINGS.
 3. CONTRACTORS NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info REFERENCE NUMBER 065-188w.

1 DRIP CIRCUIT FLUSH VALVE DETAIL
NOT TO SCALE

- LEGEND**
- 1" ABOVE FINISH GRADE.
 - NATIVE SOIL PER SPECIFICATIONS.
 - FINISH GRADE.
 - NETAFIM DL2000 AIR/VACUUM RELIEF VALVE (YD-500-34).
 - 1/2" PVC COUPLING (T x T).
 - 6" ROUND PLASTIC VALVE BOX - HEAT BRAND "AV" ON LID IN 1" HIGH CHARACTERS.
 - 1/2" SCH 80 PVC NIPPLE (LENGTH AS REQUIRED).
 - BRICK SUPPORTS (2 COMMON BRICKS REQUIRED).
 - PEA GRAVEL SUMP (6" DEEP).
 - PVC ELL (SxT) WITH 1/2" THREADED OUTLET.
 - PVC PIPING.

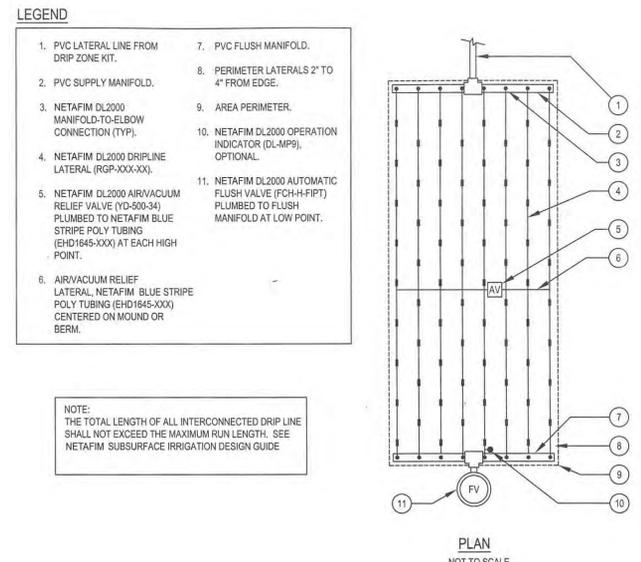
NOTE: USE ONE AIR/RELIEF VALVE FOR EVERY 7 GPM PER ZONE. LOCATE AT HIGH POINTS. REFER TO NETAFIM PUBLICATION FOR SPECIFICATIONS.



SECTION/ELEVATION
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2 DRIP CIRCUIT AIR VACUUM RELIEF VALVE DETAIL
NOT TO SCALE

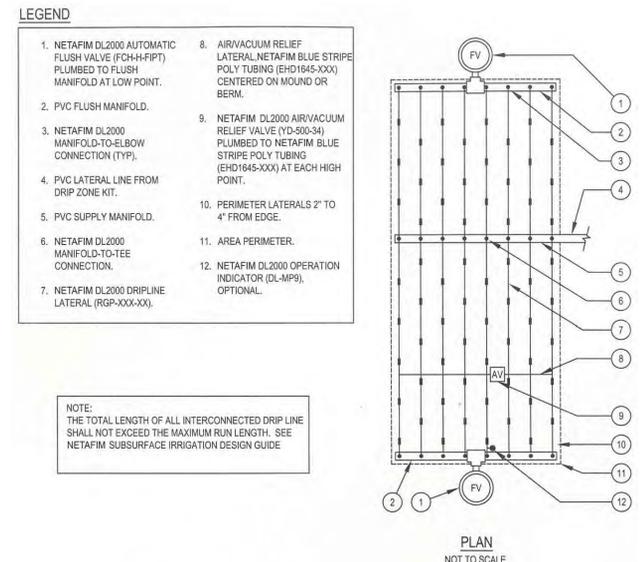


PLAN
NOT TO SCALE

NOTE: THE TOTAL LENGTH OF ALL INTERCONNECTED DRIP LINE SHALL NOT EXCEED THE MAXIMUM RUN LENGTH. SEE NETAFIM SUBSURFACE IRRIGATION DESIGN GUIDE

- NOTES:**
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 3. CONTRACTORS NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info REFERENCE NUMBER 065-188h.

5 DRIP CIRCUIT LAYOUT - END FEED DETAIL
NOT TO SCALE



PLAN
NOT TO SCALE

NOTE: THE TOTAL LENGTH OF ALL INTERCONNECTED DRIP LINE SHALL NOT EXCEED THE MAXIMUM RUN LENGTH. SEE NETAFIM SUBSURFACE IRRIGATION DESIGN GUIDE

- NOTES:**
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 3. CONTRACTORS NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info REFERENCE NUMBER 065-188g.

6 DRIP CIRCUIT LAYOUT - CENTER FEED DETAIL
NOT TO SCALE

NETAFIM DRIP TUBING MAXIMUM LENGTH OF RUN CHART

Performance Specifications (continued)

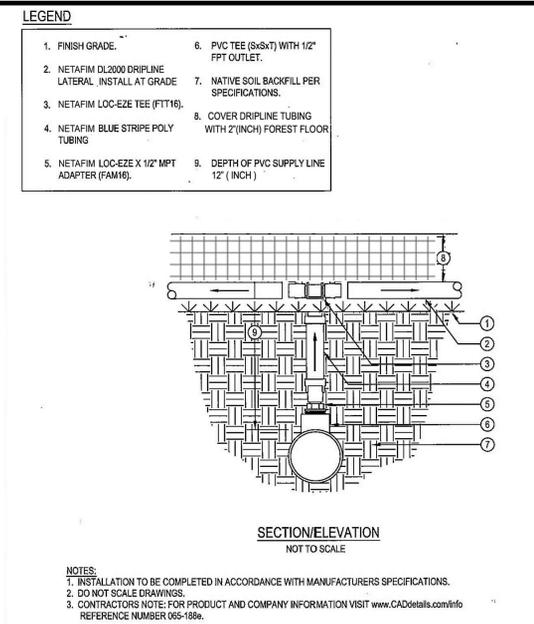
Maximum length of run

- RGP-212-XX:

250' @ 15 psi (76m @ 1.03 Bar)
360' @ 25 psi (110m @ 1.72 Bar)
400' @ 30 psi (122m @ 2.07 Bar)
460' @ 40 psi (140m @ 2.76 Bar)

DRIP CIRCUIT NOTES:

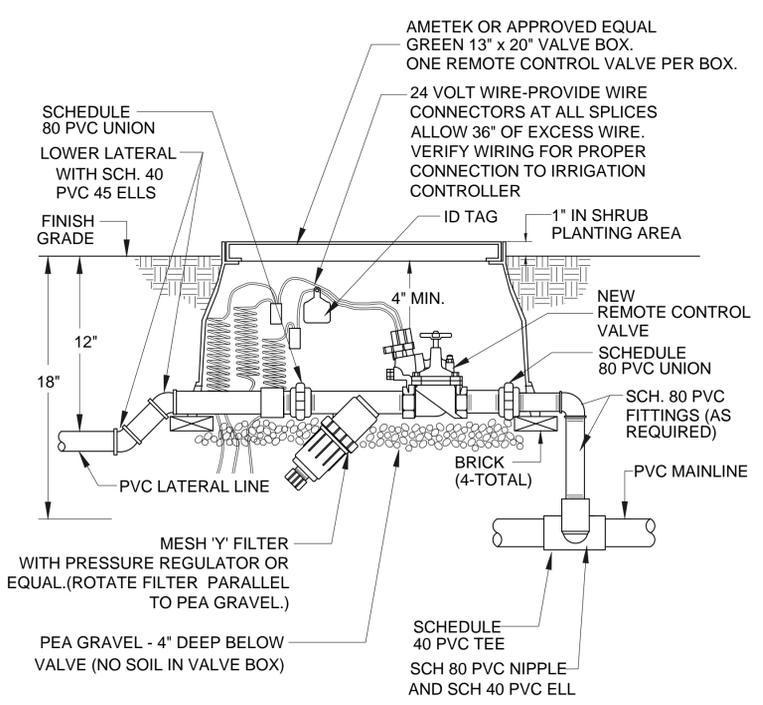
1. SURFACE DRIPLINE SHALL BE INSTALLED AT FINISH GRADE AND COVER WITH 2" THICK FOREST FLOOR MULCH
2. ALL PVC LATERALS LINES, INCLUDING PVC FEED LINES SHALL BE INSTALLED 12" BELOW GRADE.
3. INSTALL FLUSH VALVES AND AIR RELIEF VALVES AS SPECIFIED IN DETAILS.
4. SEE IRRIGATION LEGEND FOR TUBING SPECIFICATION
5. SEE NOTES AT EACH DRIP DETAIL FOR ADDITIONAL REQUIREMENTS.



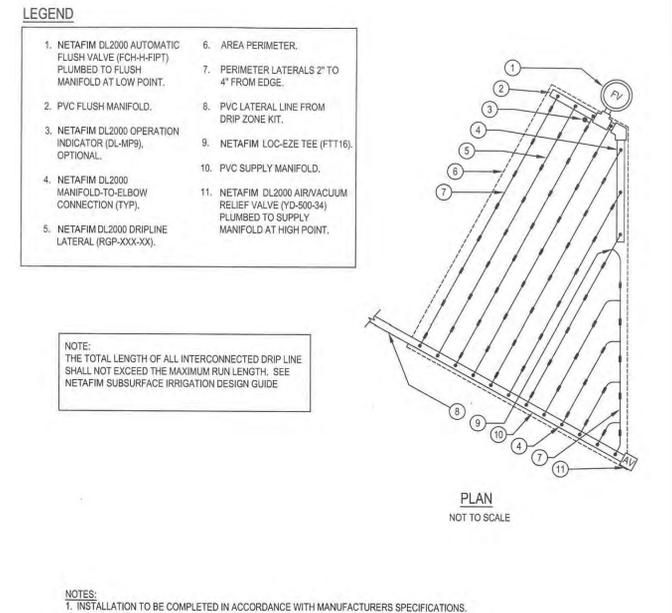
SECTION/ELEVATION
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3 DRIP CIRCUIT FEED MANIFOLD MANIFOLD CONNECTION DETAIL
NOT TO SCALE



7 REMOTE CONTROL VALVE WITH 'Y' FILTER DETAIL
NOT TO SCALE

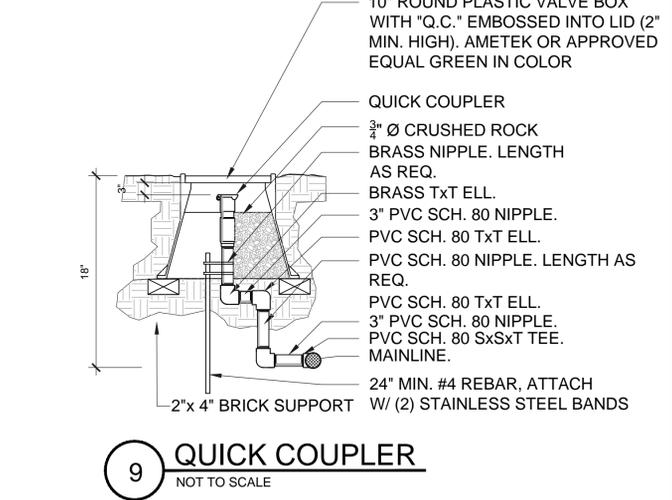


PLAN
NOT TO SCALE

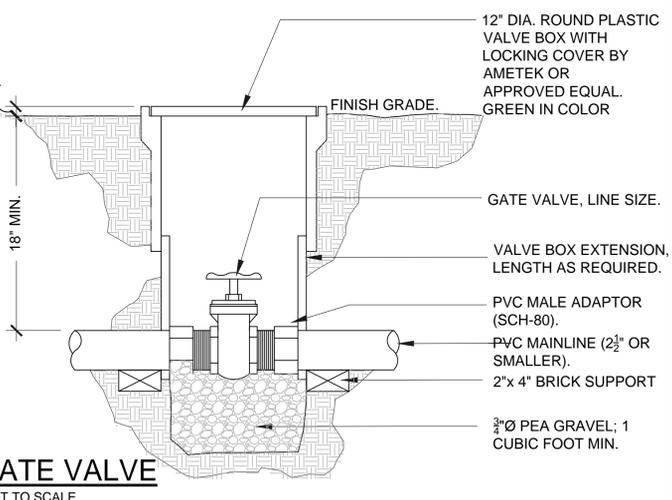
NOTE: THE TOTAL LENGTH OF ALL INTERCONNECTED DRIP LINE SHALL NOT EXCEED THE MAXIMUM RUN LENGTH. SEE NETAFIM SUBSURFACE IRRIGATION DESIGN GUIDE

- NOTES:**
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 3. CONTRACTORS NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info REFERENCE NUMBER 065-188l.

4 DRIP CIRCUIT ODD SHAPE LAYOUT END FEED DETAIL
NOT TO SCALE



9 QUICK COUPLER
NOT TO SCALE



8 GATE VALVE
NOT TO SCALE

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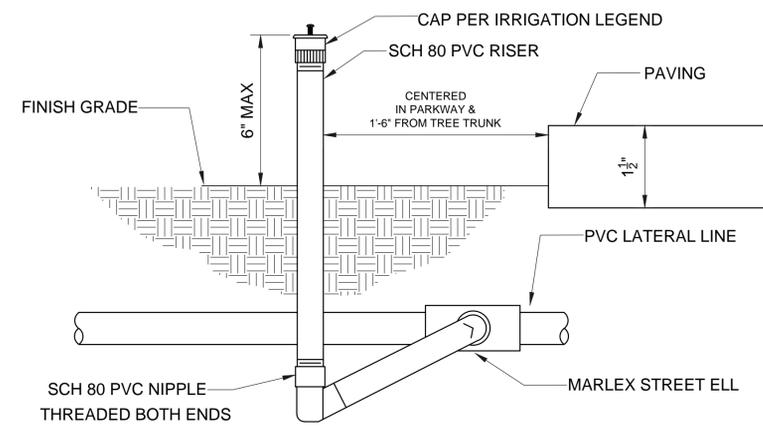
<p>PREPARED BY</p> <p>FIRM: NCM ENGINEERING</p> <p>ADDRESS: 22362 GILBERTO, SUITE 125</p> <p>RANCHO SANTA MARGARITA, CA 92688</p> <p>TELEPHONE: (949)294-7358 FAX: (949)589-7448</p> <p>SIGNATURE: <i>[Signature]</i> DATE: 10/28/19</p>	<p>REVISIONS</p>	<p>MADE BY</p> <p>DATE</p>	<p>APPROVED BY</p> <p>DATE</p>	<p>BENCH MARK DATA</p>	<p>REFERENCE DRAWINGS</p>	<p>RECOMMENDED BY</p> <table border="1"> <tr> <th>TITLE</th> <th>BY</th> <th>DATE</th> </tr> <tr> <td>ASST. CITY ENGINEER</td> <td></td> <td></td> </tr> <tr> <td>TRAFFIC</td> <td></td> <td></td> </tr> <tr> <td>P.W. SUPER</td> <td></td> <td></td> </tr> </table>	TITLE	BY	DATE	ASST. CITY ENGINEER			TRAFFIC			P.W. SUPER			<p>APPROVED BY:</p> <p>CITY OF RANCHO SANTA MARGARITA PUBLIC WORKS DEPARTMENT</p> <p>E. MAXIMOUS, CITY ENGINEER</p> <p>DATE:</p>	<p>CITY OF RANCHO SANTA MARGARITA</p> <p>SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR</p> <p>LANDSCAPE DETAILS & NOTES NO. 2</p>	<p>PROJECT NO.</p> <p>SHEET 22 OF 42</p> <p>DRAWING NO. L-22</p>
TITLE	BY	DATE																			
ASST. CITY ENGINEER																					
TRAFFIC																					
P.W. SUPER																					

LANDSCAPE PLANTING NOTES

1. MAINTAIN A QUALIFIED SUPERVISOR ON THE SITE AT ALL TIMES DURING CONSTRUCTION THROUGH COMPLETION OF PICK-UP WORK.
 2. VERIFY ALL PLANT MATERIAL QUANTITIES PRIOR TO INSTALLATION. PLANT MATERIAL QUANTITIES LISTED FOR CONVENIENCE OF CONTRACTOR. ACTUAL NUMBER OF SYMBOLS SHALL HAVE PRIORITY OVER QUANTITY DESIGNATED.
 3. FURNISH AND PAY FOR ALL CONTAINER GROWN TREES AND SHRUBS. BE RESPONSIBLE AND PAY FOR: PLANTING OF ALL PLANT MATERIALS; THE SPECIFIED GUARANTEE OF ALL PLANT MATERIALS; THE STAKING AND GUYING OF TREES AND THE CONTINUOUS PROTECTION OF ALL PLANT MATERIALS UPON THEIR ARRIVAL AT THE SITE.
 4. 2" THICK FOREST FLOOR BARK MULCH SHALL BE CONTINUOUS UNDER ALL TREES AND SHRUB MASSES.
 5. ALL PLANT MATERIAL SHALL BE SUBJECT TO APPROVAL BY THE LANDSCAPE ARCHITECT AND/OR OWNER PRIOR TO INSTALLATION.
 6. CONTRACTOR SHALL SUBMIT PHOTOGRAPHS OF ALL PLANT MATERIAL PRIOR TO DELIVERY ON SITE. ALL TREES SHALL BE SPOTTED BY THE LANDSCAPE ARCHITECT OR CITY REPRESENTATIVE.
 7. ALL SOIL PREPARATION SHALL BE INSTALLED AS PER THE SOIL AGRONOMY REPORT WITH RECOMMENDATIONS TO BE PROVIDED AND PAID FOR BY THE CONTRACTOR. THE REPORT SHALL BE IMMEDIATELY FORWARDED TO THE LANDSCAPE ARCHITECT UPON COMPLETION.
 8. ALL SOIL AMENDMENTS SHALL BE INSTALLED AS PER THE SOILS AGRONOMY REPORT WITH RECOMMENDATIONS TO BE PROVIDED AND PAID FOR BY THE CONTRACTOR. THE SOILS REPORT SHALL BE FROM AN APPROVED SOILS LABORATORY AND/OR ANY ADDITIONAL SPECIFICATION PROVIDED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF PLANT MATERIALS.
 9. THE SOIL BACKFILL MIX FOR TREES AND SHRUBS SHALL BE PLACED PER THE DETAILS ON SHEET 21.
 10. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 11. THIRTY (30) DAYS AFTER INSTALLATION ALL LANDSCAPE SHALL BE FERTILIZED WITH BEST FERTILIZER COMPANY 16-6-8 OR APPROVED EQUAL, APPLIED AT THE RATE OF SIX POUNDS (6 LBS.) PER 1,000 SQUARE FEET. FERTILIZER APPLICATION SHALL BE CONTINUED THEREAFTER AT MONTHLY INTERVALS.
 12. FERTILIZER TABLETS SHALL BE AGRIFORM, 21 GRAM TABLETS (20-10-5) IN QUANTITIES AS FOLLOWS:
 5 GALLON SHRUBS - 3
 15 GALLON TREES - 4
 BOXED TREES - 1 PER 4" OF BOX SIZE
 PLACE TABLETS AT HALF THE DEPTH OF THE ROOTBALL.
- NOTE:
 THE SOIL AGRONOMY REPORT FOR PLANTING AREA SOIL AMENDMENTS AS WELL AS TREE AND SHRUB PIT SOIL BACKFILL MIX WITH RECOMMENDATIONS TO BE PROVIDED AND PAID FOR BY THE CONTRACTOR SHALL BE CONDUCTED BY:
 a. SOIL AND PLANT LABRATORY (714)-282-8777
 b. WALLACE LABRATORIES (310)-615-0116
 c. OR APPROVED EQUAL

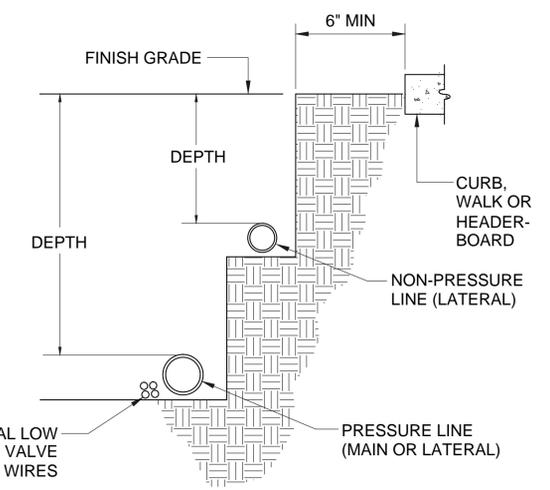
GENERAL IRRIGATION NOTES

1. DETOUR ROAD CONTRUCTION PHASE: CONTRACTOR SHALL REMOVE AND DELIVER TO CITY MAINTENANCE YARD EXISTING POP UP SPRAY HEADS AND NOZZLES, ALL MAINLINE, SLEEVES AND LATERAL PIPE LINES ARE TO BE REMOVED AND DISPOSED OFFSITE. (5) FIVE EXISTING REMOTE CONTROL VALVES AND QUICK COUPLERS SHALL BE REMOVED, SALVAGED AND DELIVERED TO CITY MAINTENANCE YARD.
2. DETOUR ROAD CONTRUCTION PHASE: EXISTING REMOTE CONTROL WIRES ARE TO BE LOCATED IN A VALVE BOX AT BACK OF SIDEWALK ALONG SANTA MARGARITA PARKWAY IN EXISTING PLANTING AREA AND SHALL BE PROTECTED IN PLACE. FOR USE IN LANDSCAPE CONSTRUCTION PHASE
3. EXISTING IRRIGATION CONTROLLER (A) SHALL REMAIN PROTECT IN PLACE. CONTRACTOR TO PROGRAM NEW REMOTE CONTROL VALVES AS SHOWN ON PLANS TO THE CONTROLLER.
4. IT IS THE CONTRACTOR RESPONSIBILITY TO ENSURE THAT ALL EXISTING REMOTE CONTROL VALVES CONNECTED TO CONTROLLER (A) ARE IN OPERATING CONDITION WITHOUT INTERRUPTION TO EXISTING PLANTINGS DURING DETOUR ROAD CONSTRUCTION AND LANDSCAPE CONSTRUCTION PERIODS. CONTRACTOR SHALL CONTINUE THE WATER SCHEDULE OF ALL SPRINKLER HEADS AND REMOTE CONTROL VALVES CONNECTED TO THE EXISTING CONTROLLER (A) SYSTEM
5. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, OR OTHER SIMILAR APPURTENANCES SHOWN IN PAVED AREAS IS FOR DESIGN AND GRAPHIC CLARIFICATION AND SHALL BE INSTALLED IN IRRIGATED PLANTING AREAS.
6. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL GRADE DIFFERENCES, LOCATION OF ALL UNDERGROUND STRUCTURES AND UTILITIES OF THE SITE. COORDINATE WORK WITH OTHER TRADES AND CONTRACTORS FOR THE LOCATION AND INSTALLATION OF ALL IRRIGATION EQUIPMENT. REPAIR AND/OR REPLACE ALL ITEMS DAMAGED BY WORK PERFORMED.
7. CONTRACTOR SHALL PROVIDE NEW MAINLINE LATERAL TIE IN AND SLEEVES AS NECESSARY FOR ALL IRRIGATION FLOOD BUBBLERS AND DRIP SYSTEM.
8. CONTRACTOR TO INSTALL NEW NETAFIM SURFACE PRESSURE COMPENSATING DRIP IRRIGATION SYSTEM
9. ALL LATERAL LINE PIPING UNDER PAVING SHALL BE PVC SCHEDULE 40 AND SHALL BE INSTALLED PRIOR TO PAVING. THE PIPING SHALL BE A MINIMUM OF 12" BELOW SUB GRADE.
10. PIPE SIZES SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS. NO SUBSTITUTIONS OF SMALLER PIPE SIZES SHALL BE PERMITTED BUT SUBSTITUTIONS OF LARGER SIZES MAY BE APPROVED. ALL DAMAGED AND REJECTED PIPE SHALL BE REMOVED FROM THE SITE AT THE TIME OF THE REJECTION.
11. DO NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM WHEN IT IS OBVIOUS THAT THE FIELD CONDITIONS VARY FROM THE DRAWINGS AND THAT UNKNOWN OBSTRUCTIONS, GRADE DIFFERENCES OR DIFFERENCES IN THE AREA DIMENSIONS EXIST THAT HAVE NOT BEEN INDICATED ON THE ENGINEERING. SUCH ITEMS SHALL BE BROUGHT TO THE ATTENTION OF THE CITY'S AUTHORIZED REPRESENTATIVE. ASSUME FULL RESPONSIBILITY FOR ANY NECESSARY REVISIONS IN THE EVENT THAT THIS NOTIFICATION IS NOT HEEDED.
12. CONTRACTOR SHALL LEACH BY MEANS OF IRRIGATION WATERING ALL LANDSCAPE PLANTING AREAS PER SOILS REPORT PRIOR TO INSTALLING NEW PLANT MATERIAL.
13. FLUSH AND ADJUST ALL SPRINKLER HEADS AND VALVES FOR THEIR OPTIMUM OPERATION.
14. THE IRRIGATION SYSTEM DESIGN IS BASED ON A MINIMUM OPERATING PRESSURE OF 20 PSI AND A MAXIMUM FLOW DEMAND OF 24 GPM. VERIFY WATER PRESSURES PRIOR TO CONSTRUCTION. REPORT ANY DIFFERENCES BETWEEN THE WATER PRESSURE SHOWN ON THE PLANS AND THE PRESSURE READING IN THE FIELD TO THE OWNER'S AUTHORIZED REPRESENTATIVE.
15. ALL IRRIGATION EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED HEREIN SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
16. INSTALL REMOTE CONTROL VALVES AND WIRING FOR DRIP IRRIGATION AS INDICATED ON PLANS CONNECT INTO EXISTING MAINLINE AND PROGRAM INTO CONTROLLER (A)
17. REFER TO THE SPECIFICATIONS FOR ADDITIONAL DETAILED INFORMATION.



NOTES:
 ALL BUBBLERS TO BE INSTALLED TRIPLE SWING JOINTS
 F.G. - 1-1/2" BELOW WALK OR CURB

1 FLOOD BUBBLER ON RISER DETAIL (TREES)
 NOT TO SCALE



NOTES:
 1. TRENCHING AND BACKFILLING SHALL BE PER STANDARD SPECIFICATIONS.
 2. MINIMUM BACKFILL RELATIVE COMPACTION SHALL BE 90%.
 3. BUNDLE CONTROL WIRES TOGETHER AND TAPE AT 10' INTERVALS.
 4. 4" MIN. HORIZONTAL DISTANCE BETWEEN PIPES IN COMMON TRENCH.

2 IRRIGATION LINE TRENCHING
 NOT TO SCALE

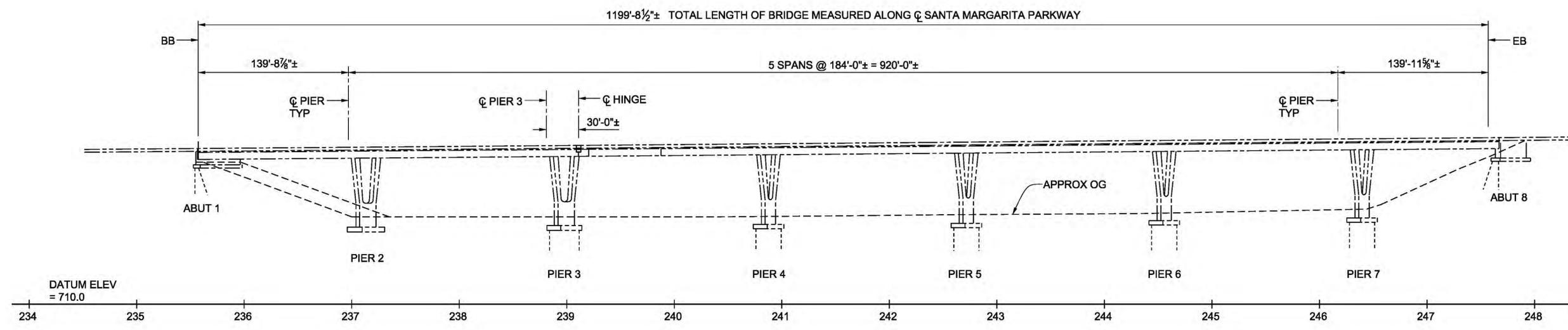
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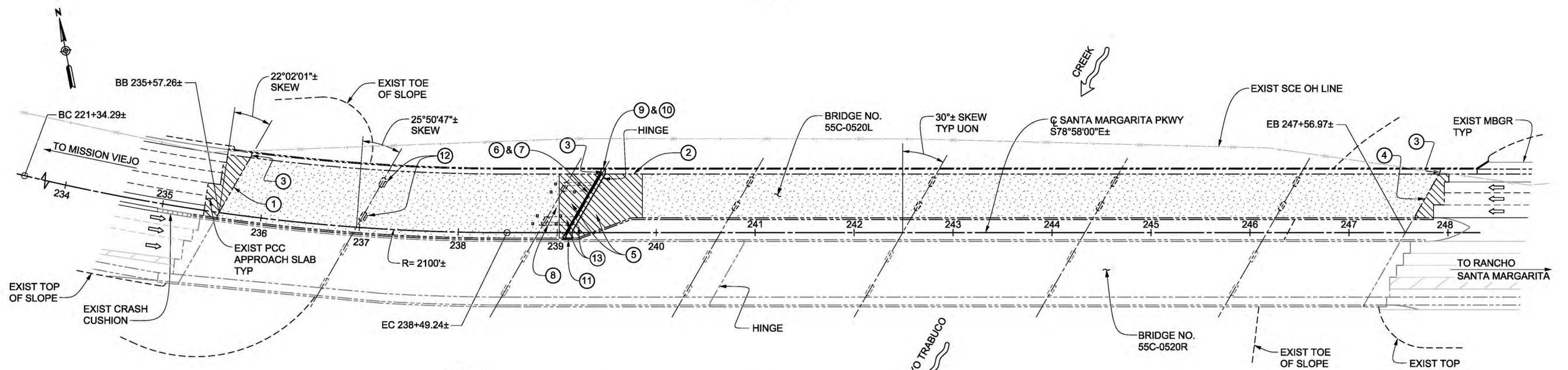
AT LEAST TWO DAYS
BEFORE YOU DIG

UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

PREPARED BY FIRM: NCM ENGINEERING ADDRESS: 22362 GILBERTO, SUITE 125 RANCHO SANTA MARGARITA, CA 92688 TELEPHONE: (949)294-7358 FAX: (949)589-7448 SIGNATURE: <i>[Signature]</i> DATE: 10/28/19	REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>										MADE BY: DATE: APPROVED BY: DATE:	BENCH MARK DATA	REFERENCE DRAWINGS	RECOMMENDED BY <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>TITLE</th><th>BY</th><th>DATE</th></tr> <tr><td>ASST. CITY ENGINEER</td><td> </td><td> </td></tr> <tr><td>TRAFFIC</td><td> </td><td> </td></tr> <tr><td>P.W. SUPER</td><td> </td><td> </td></tr> </table>	TITLE	BY	DATE	ASST. CITY ENGINEER			TRAFFIC			P.W. SUPER			APPROVED BY: CITY OF RANCHO SANTA MARGARITA PUBLIC WORKS DEPARTMENT E. MAXIMOUS, CITY ENGINEER DATE:	CITY OF RANCHO SANTA MARGARITA SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR LANDSCAPE DETAILS & NOTES NO. 3	PROJECT NO. SHEET 23 OF 42 DRAWING NO. L-23
TITLE	BY	DATE																											
ASST. CITY ENGINEER																													
TRAFFIC																													
P.W. SUPER																													



ELEVATION
1" = 50'



PLAN
1" = 50'

NOTE:
PLACE POLYESTER CONCRETE OVERLAY AFTER COMPLETING HINGE WORK.
PLACE METHACRYLATE AFTER COMPLETING POLYESTER CONCRETE OVERLAY.

LEGEND

- INDICATES EXISTING
- [Stippled Area] INDICATES LIMITS OF PREPARE CONCRETE DECK SURFACE AND TREAT BRIDGE DECK WITH HIGH MOLECULAR WEIGHT METHACRYLATE. PRIOR TO BRIDGE DECK TREATMENT, REMOVE UNSOUND CONCRETE AND PATCH WITH RAPID SETTING CONCRETE.
- [Hatched Area] INDICATES LIMITS OF PREPARE CONCRETE DECK SURFACE AND PLACE POLYESTER CONCRETE OVERLAY. PRIOR TO PLACING POLYESTER CONCRETE OVERLAY, REMOVE UNSOUND CONCRETE AND PATCH WITH RAPID SETTING CONCRETE.
- ① REMOVE JOINT SEAL ASSEMBLY & REPLACE WITH NEW JOINT SEAL MR = 2" AT ABUTMENT 1
- ② REMOVE CONCRETE DECK SURFACE
- ③ REMOVE & REPLACE SIDEWALK JOINT ARMOR
- ④ REMOVE JOINT SEAL ASSEMBLY & REPLACE WITH NEW JOINT SEAL ASSEMBLY MR = 3" AT ABUTMENT 8
- ⑤ TEMPORARY DECK OPENINGS & CLOSURES
- ⑥ REMOVE JOINT SEAL ASSEMBLY AND REPLACE WITH NEW JOINT SEAL ASSEMBLY MR = 4"
- ⑦ REMOVE ELASTOMERIC BEARING PADS AND REPLACE WITH NEW STEEL REINFORCED ELASTOMERIC BEARING PADS
- ⑧ REMOVE BAR RESTRAINERS AND REPLACE WITH NEW BAR RESTRAINERS
- ⑨ TUBULAR HANDRAILING
- ⑩ CONCRETE BARRIER, TYPE 26
- ⑪ CONCRETE BARRIER, TYPE 27 (MOD)
- ⑫ LOCATION OF ALTERNATIVE BAT HOUSING (TOTAL 2) (CENTER ON COLUMN)
- ⑬ TEMPORARY DECKING

NOTE:
FOR "TYPICAL SECTION, SEE "GENERAL PLAN NO. 2" SHEET.

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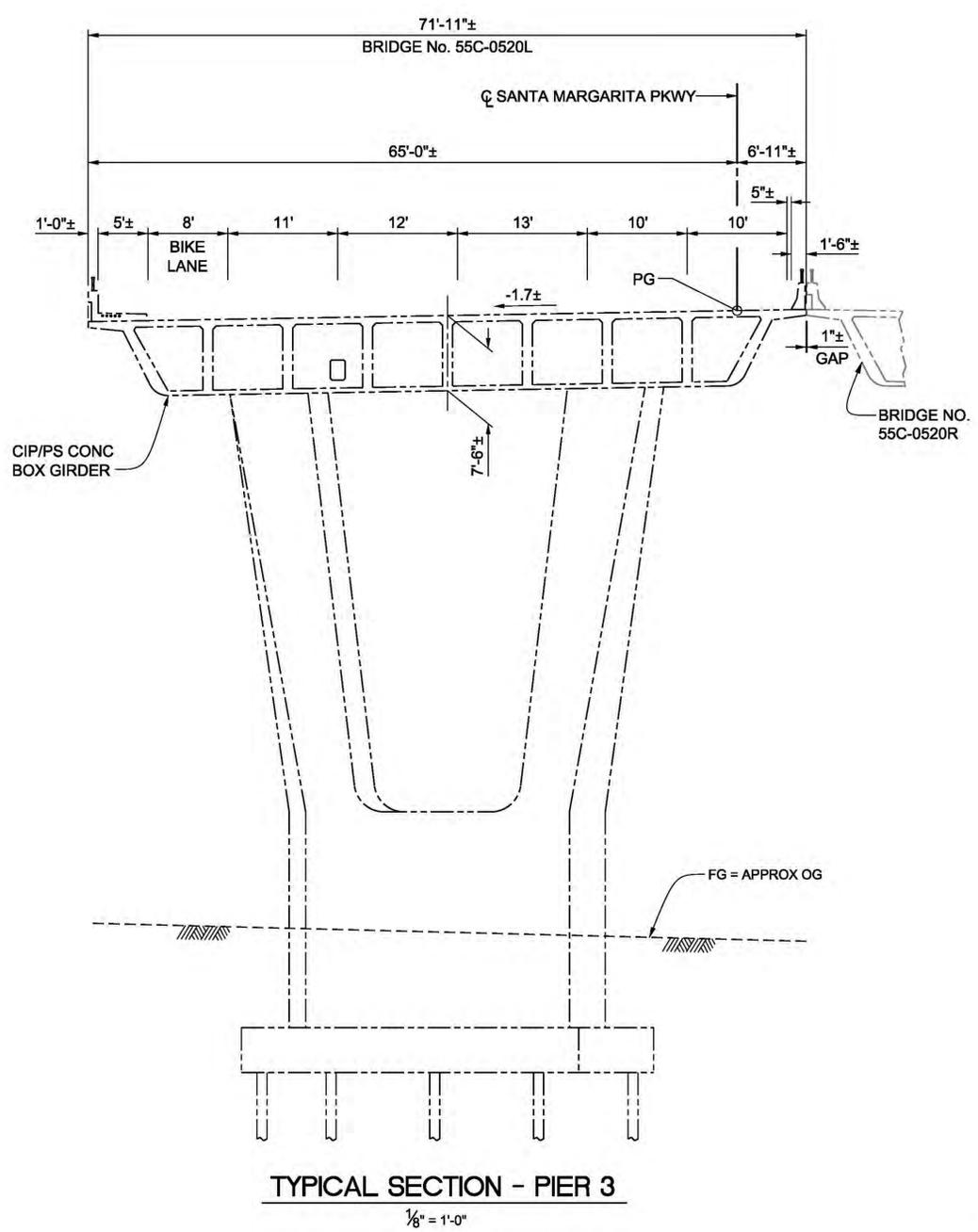
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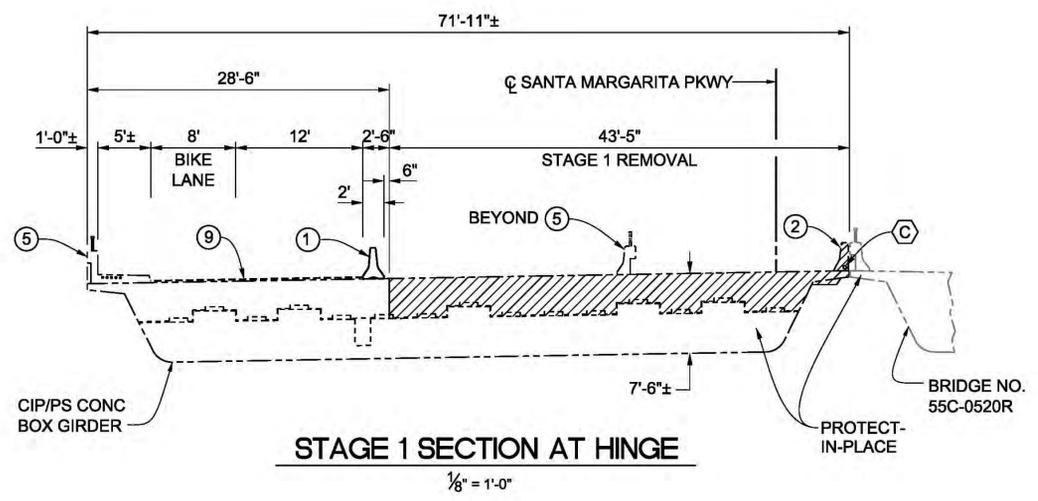
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

NOTE:
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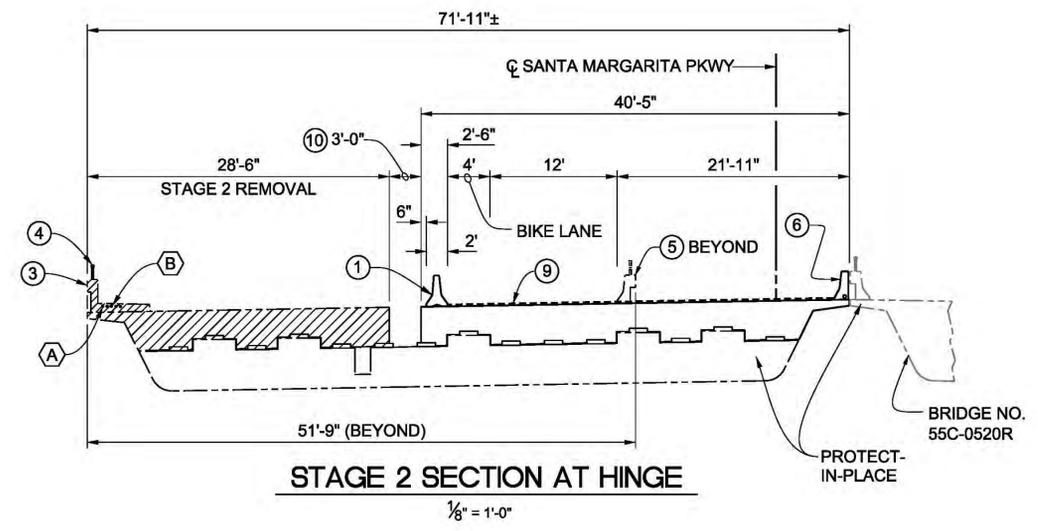
PREPARED BY FIRM: NCM ENGINEERING ADDRESS: 22362 GILBERTO, SUITE 125 RANCHO SANTA MARGARITA, CA 92688 TELEPHONE: (949)294-7358 FAX: (949)589-7448	REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>NO.</th><th>DESCRIPTION</th><th>DATE</th></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	NO.	DESCRIPTION	DATE							MADE BY DATE	APPROVED BY DATE	BENCH MARK DATA	REFERENCE DRAWINGS	RECOMMENDED BY <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>TITLE</th><th>BY</th><th>DATE</th></tr> <tr><td>ASST. CITY ENGINEER</td><td> </td><td> </td></tr> <tr><td>TRAFFIC</td><td> </td><td> </td></tr> <tr><td>P.W. SUPER</td><td> </td><td> </td></tr> </table>	TITLE	BY	DATE	ASST. CITY ENGINEER			TRAFFIC			P.W. SUPER			APPROVED BY: CITY OF RANCHO SANTA MARGARITA PUBLIC WORKS DEPARTMENT BRENDAN DUGAN, CITY ENGINEER DATE:	CITY OF RANCHO SANTA MARGARITA SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR GENERAL PLAN NO. 1	PROJECT NO. SHEET 24 OF 42 DRAWING NO. S1
NO.	DESCRIPTION	DATE																												
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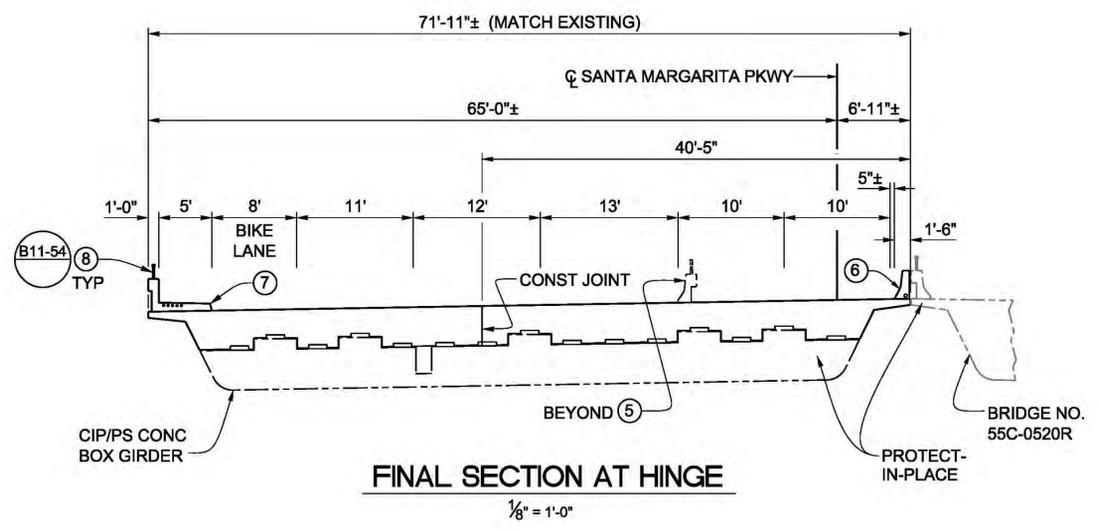
TYPICAL SECTION - PIER 3
1/8" = 1'-0"



STAGE 1 SECTION AT HINGE
1/8" = 1'-0"



STAGE 2 SECTION AT HINGE
1/8" = 1'-0"



FINAL SECTION AT HINGE
1/8" = 1'-0"

LEGEND
 LIMITS OF BRIDGE REMOVAL (PORTION)
 INDICATES EXISTING STRUCTURE

EXISTING UTILITY:
 (A) 1- 2"± SIGNALIZATION CONDUIT (PROTECT-IN-PLACE)
 (B) 4- 2"± CABLE TV CONDUIT (PROTECT-IN-PLACE)
 (C) 1- 1"± LIGHT FIXTURE CONDUIT (PROTECT-IN-PLACE)

NOTES:
 (1) TEMP RAILING TYPE K, SEE "ROAD PLANS"
 (2) REMOVE CONCRETE BARRIER TYPE 27
 (3) REMOVE CONCRETE BARRIER TYPE 26
 (4) REMOVE TUBULAR HAND RAILING UP TO ADJACENT SPLICE
 (5) EXISTING CONCRETE BARRIER TYPE 25
 (6) CONCRETE BARRIER TYPE 27 (MOD)
 (7) CONCRETE BARRIER TYPE 26
 (8) TUBULAR HAND RAILING
 (9) TEMPORARY DECKING OVER INCOMPLETE WORK DURING THE STAGED CONSTRUCTION. FOR TEMPORARY DECKING DESIGN LOADING, SEE "GENERAL NOTES" SHEET.
 (10) SPLICE ZONE

NOTE:
FOR STAGE CONSTRUCTION DETAILS SEE "ROAD PLANS".

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GENERAL NOTES LOAD FACTOR DESIGN

DESIGN: BRIDGE DESIGN SPECIFICATIONS
1983 AASHTO WITH INTERIMS AND REVISIONS BY CALTRANS

DEAD LOAD: INCLUDES 35 psf FOR FUTURE WEARING SURFACE.
HS20-44 OR ALTERNATIVE AND PERMIT DESIGN LOAD

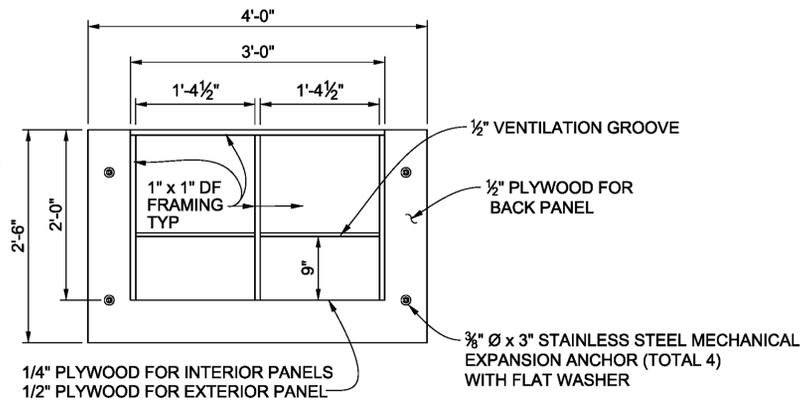
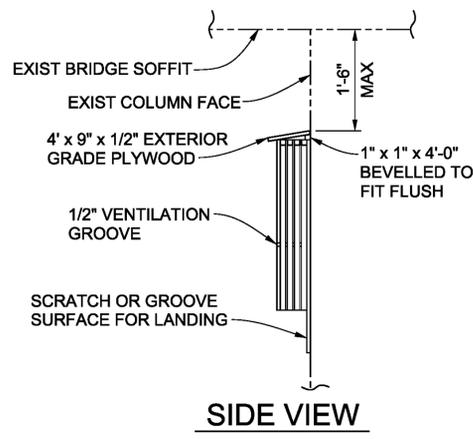
REINFORCED CONCRETE: $f_y = 60,000$ psi
 $f'_c = 4,000$ psi, UNLESS OTHERWISE NOTED
 $n = 8$

TRANSVERSE DECK SLABS: $f_s = 20,000$ psi
 $f'_c = 1,200$ psi
 $n = 10$
(WORKING STRESS DESIGN)

CONCRETE BARRIER: $f_y = 60,000$ psi
 $f'_c = 3,600$ psi
 $n = 8$

INDEX TO PLANS

DRAWING No.	TITLE
S1	GENERAL PLAN NO. 1
S2	GENERAL PLAN NO. 2
S3	GENERAL NOTES
S4	TEMPORARY TOWER DETAILS
S5	BRIDGE REMOVAL DETAILS
S6	ABUTMENT DETAILS
S7	HINGE DETAILS NO. 1
S8	HINGE DETAILS NO. 2
S9	BAR RESTRAINER DETAILS NO. 1
S10	BAR RESTRAINER DETAILS NO. 2
S11	DECK OVERLAY DETAILS
S12	STRIP JOINT SEAL ASSEMBLY DETAILS
S13	JOINT ARMOR DETAILS
S14	CONCRETE BARRIER DETAILS
S15	TEMPORARY DECK OPENINGS
S16	LOG OF TEST BORINGS NO. 1
S17	LOG OF TEST BORINGS NO. 2
S18	LOG OF TEST BORINGS NO. 3
S19	LOG OF TEST BORINGS NO. 4

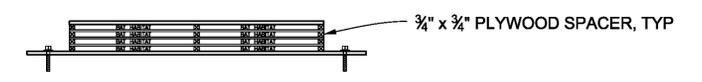


FRONT VIEW

NOTE: ROOF NOT SHOWN IN FRONT VIEW FOR CLARITY

CONSTRUCTION NOTES:

- ALL PLYWOOD SHALL BE 4 PLY MINIMUM EXTERIOR GRADE ACX, BCX, T1-11, OR CEDAR
- ALL SEAMS SHALL BE CAULKED PRIOR TO STAINING
- ALL INTERIOR FACES SHALL RECEIVE TWO (2) COATS OF DARK BROWN, EXTERIOR GRADE, WATER BASED STAIN OR PAINT. ALL EXTERIOR FACES SHALL RECEIVE THREE (3) COATS OF DARK BROWN EXTERIOR GRADE STAIN OR PAINT.
- EACH ASSEMBLY SHALL BE FABRICATED WITH EXTERIOR GRADE GALVANIZED OR STAINLESS STEEL SCREWS.



BOTTOM VIEW

BAT HABITAT DETAILS

NO SCALE

2015 CALTRANS STANDARD PLANS

THE FOLLOWING STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLANS ARE PART OF THESE CONTRACT DRAWINGS

- 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)
- RSP A10B LEGEND - LINES AND SYMBOLS (SHEET 2 OF 5)
- A10E LEGEND - LINES AND SYMBOLS (SHEET 5 OF 5)
- B0-5 BRIDGE DETAILS
- B0-13 BRIDGE DETAILS
- B6-21 JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
- RSP B11-51 TUBULAR HAND RAILING
- RSP B11-54 CONCRETE BARRIER TYPE 26
- RSP T-65 TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY FENCE HIGH-VISIBILITY FENCE)

- STANDARD PLAN SHEET NO.
- DETAIL NO.
- SECTION DESIGNATION

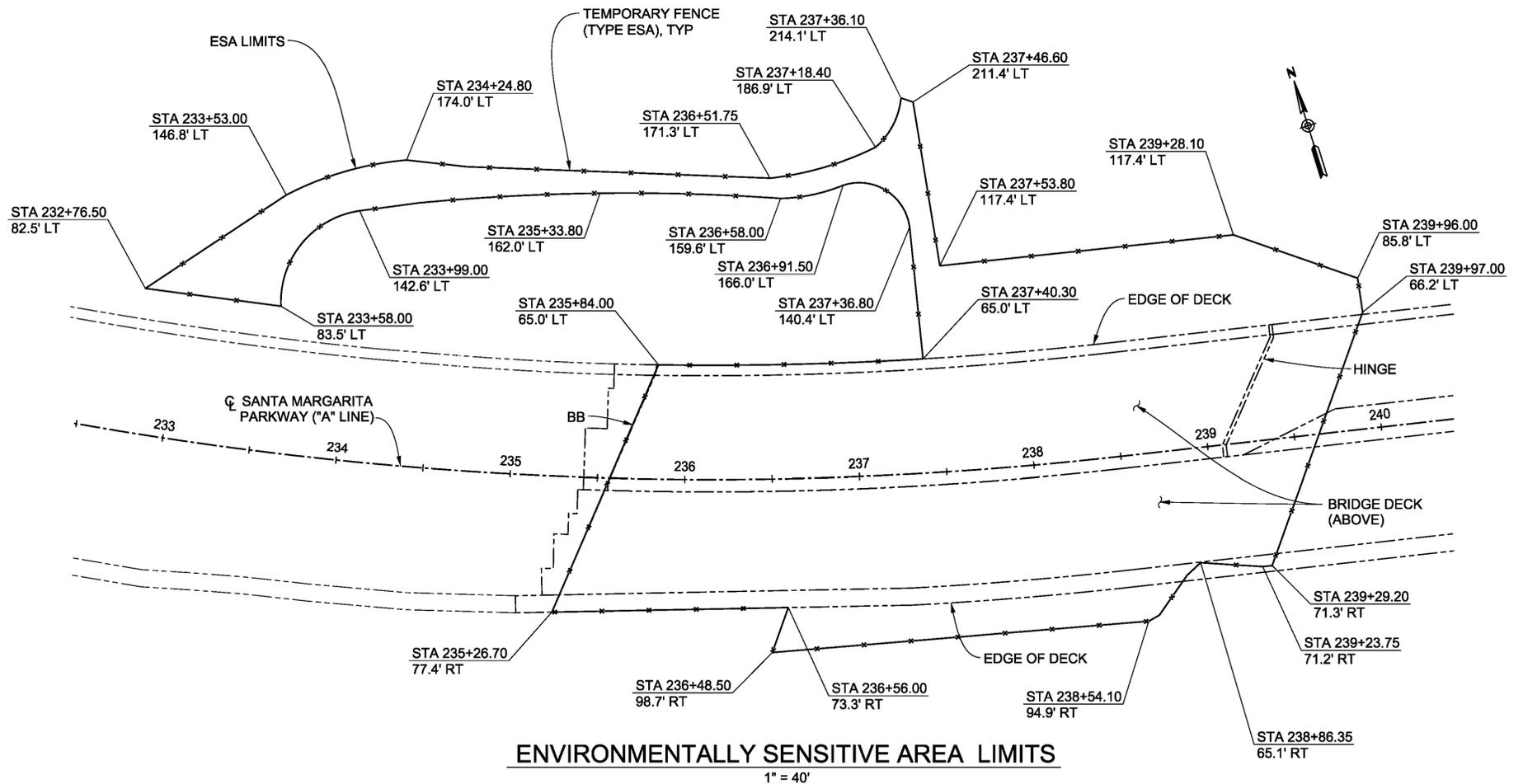
- #### LEGEND
- INDICATES EXISTING
 - x-x- INDICATES ESA LIMITS

ABBREVIATIONS

UNO UNLESS NOTED OTHERWISE

TEMPORARY DECKING DESIGN LOADING:

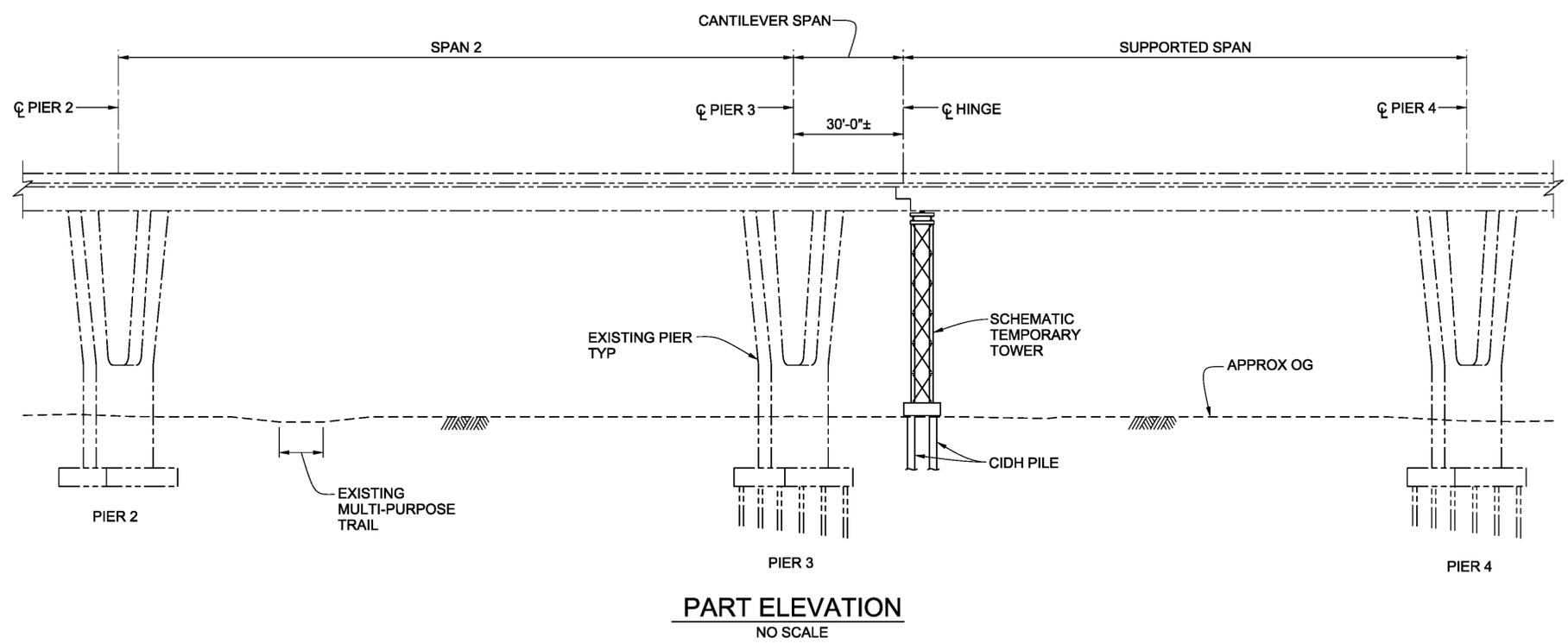
- MOMENT DEMAND PER FOOT = 2600 LBS-FT/FT
 - FOR STEEL PLATE SYSTEMS:
 - A. ANCHOR BOLT SHEAR PER FOOT = 2800 LBS/FT
 - B. ANCHOR BOLT TENSION = 5130 LBS
 - C. MAXIMUM ANCHOR BOLT SPACING = 1.0 FT
- NOTES:
1. ALL FORCES SHOWN ABOVE HAVE THE LOAD FACTOR OF 1.0.
2. ALL FORCES ARE BASED ON 2'-0" CLEAR SPAN OF BLOCKOUT OPENING.



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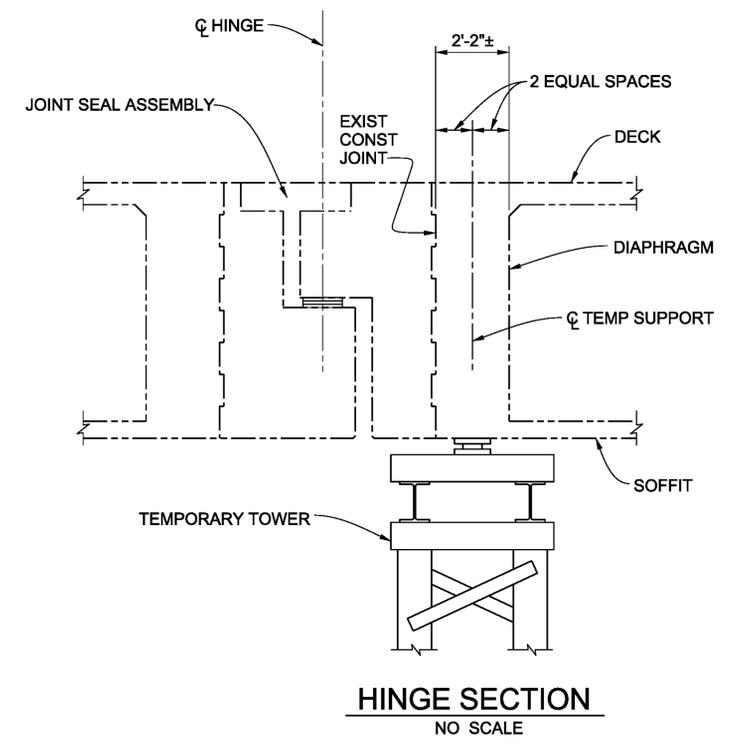
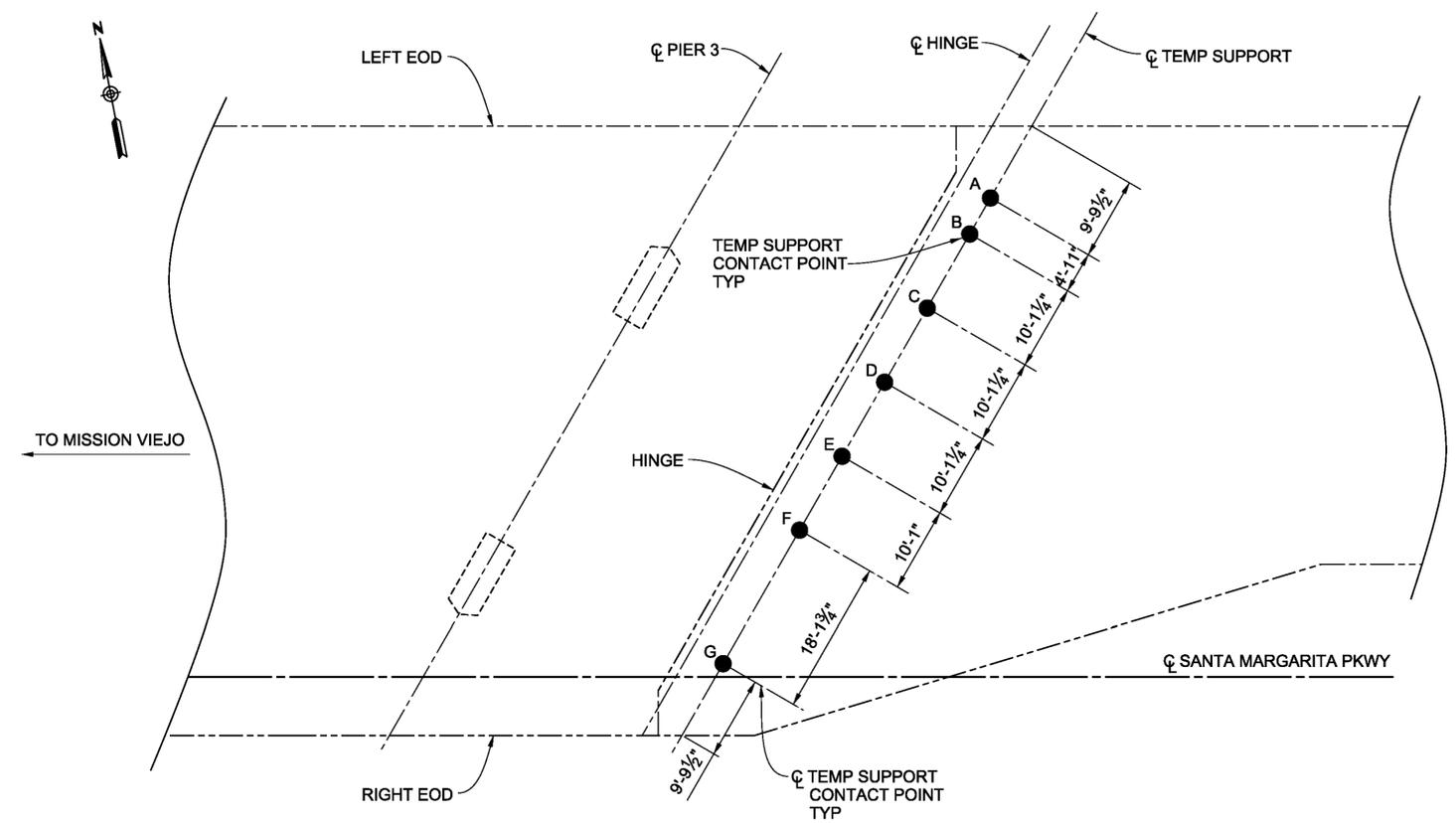


NOTES:

1. ALL FOOTINGS FOR TEMPORARY SUPPORTS SHALL BE CAST-IN-DRILLED HOLE CONCRETE PILING.
2. TEMPORARY SUPPORT CONTACT POINTS SHALL BE CENTERED UNDER THE GIRDERS UNLESS OTHERWISE NOTED.
3. THE DIFFERENTIAL VERTICAL DISPLACEMENT BETWEEN JACKS SHALL NOT EXCEED 1/16".
4. THE JACKING FORCE SHALL BE APPLIED TO ALL JACKS SIMULTANEOUSLY ACROSS THE ENTIRE WIDTH OF THE SUPERSTRUCTURE.
5. RECORD HINGE ELEVATIONS PER SPECIFICATIONS & SEE "NOTE 2" ON "HINGE DETAILS NO. 2" SHEET.
6. PERMIT DESIGN VEHICLES ARE NOT ALLOWED ON THE BRIDGE DURING THE STAGED CONSTRUCTION.

TEMPORARY SUPPORT TABLE			
LOCATION	* DEAD LOAD REACTION (KIPS)	* LL + I REACTION (KIPS)	* MINIMUM LATERAL TEMPORARY SUPPORT DESIGN LOAD (KIPS)
A	325	100	32
B	225	100	22
C	220	100	22
D	235	100	23
E	250	100	25
F	265	100	26
G	275	100	27

* LOADS SHOWN ARE UNFACTORED.



LEGEND

--- INDICATES EXISTING STRUCTURE

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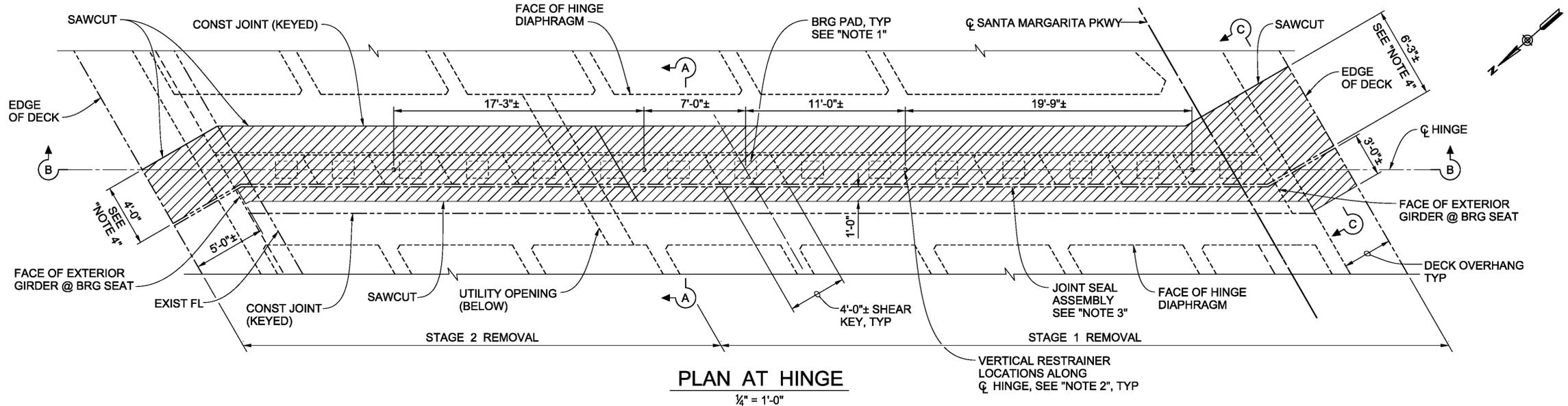
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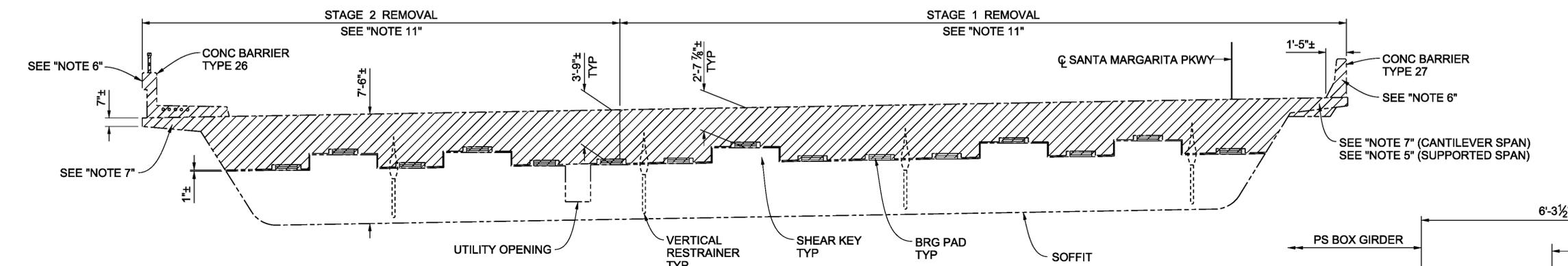
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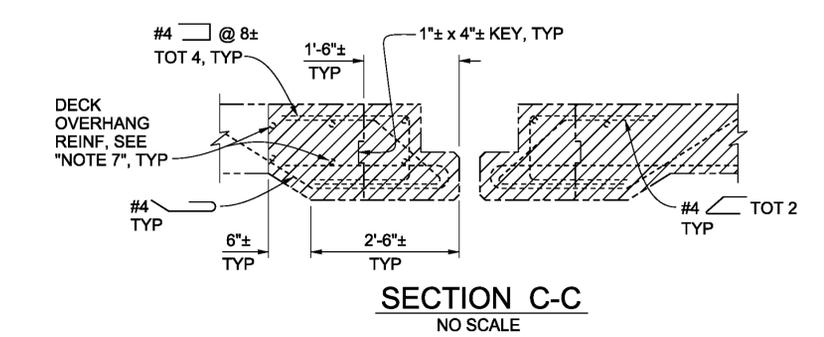
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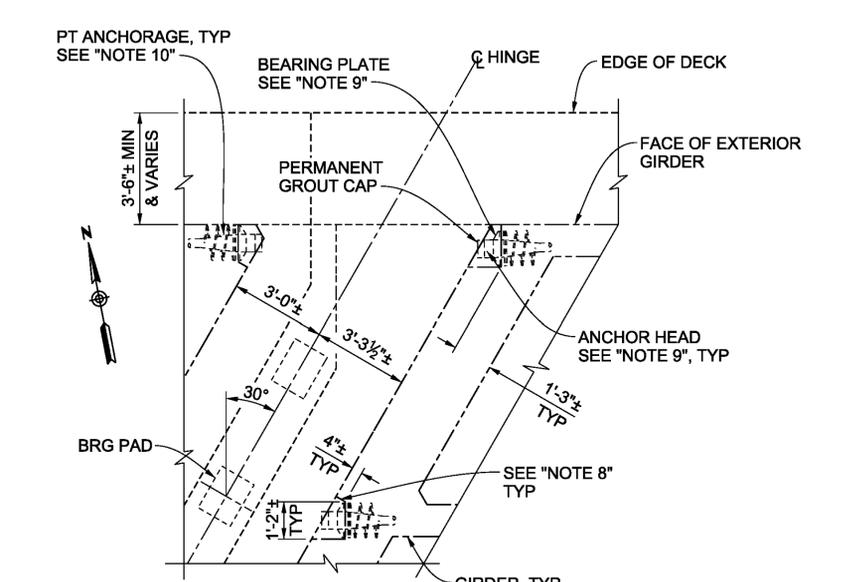
PLAN AT HINGE
 1/4" = 1'-0"



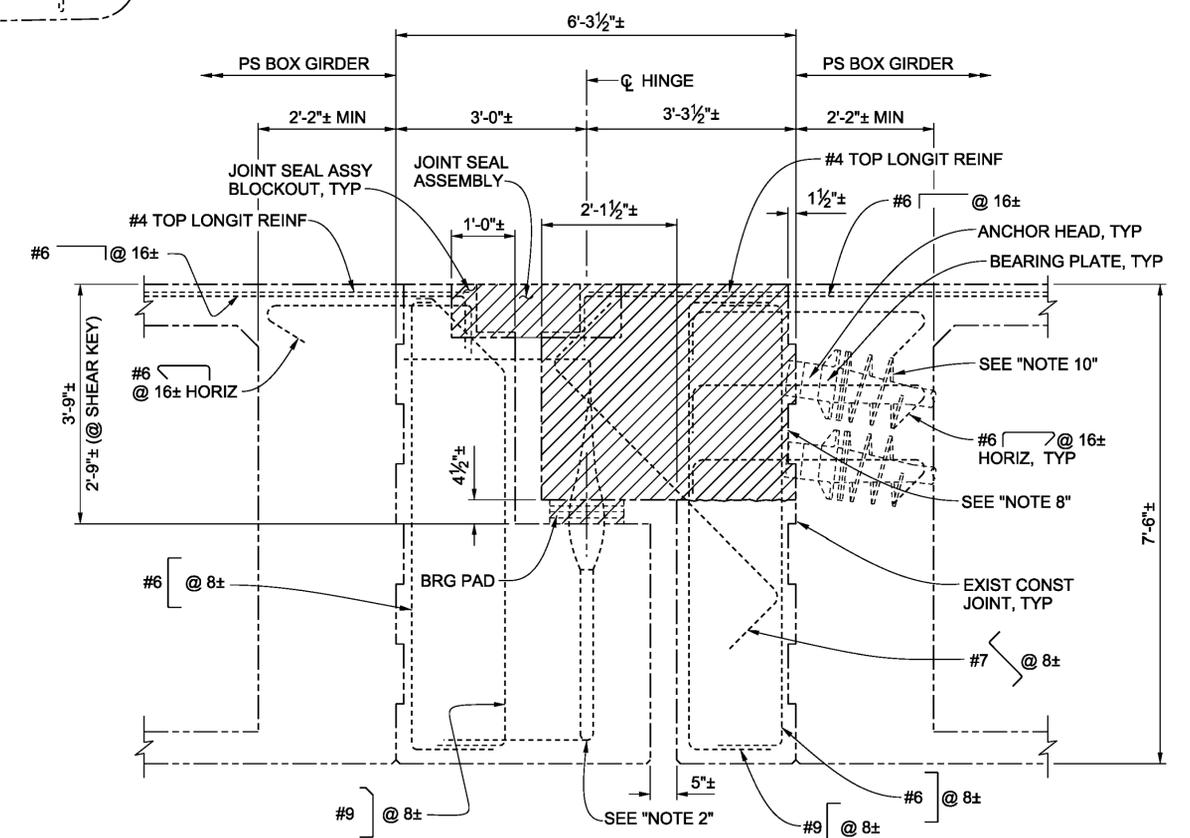
SECTION B-B
 1/4" = 1'-0"



SECTION C-C
 NO SCALE



PART PLAN PRESTRESSING ANCHORAGE ASSEMBLIES
 1/8" = 1'-0"



SECTION A-A
 1/4" = 1'-0"

- LEGEND**
- LIMITS OF BRIDGE REMOVAL (PORTION)
 - INDICATES EXISTING

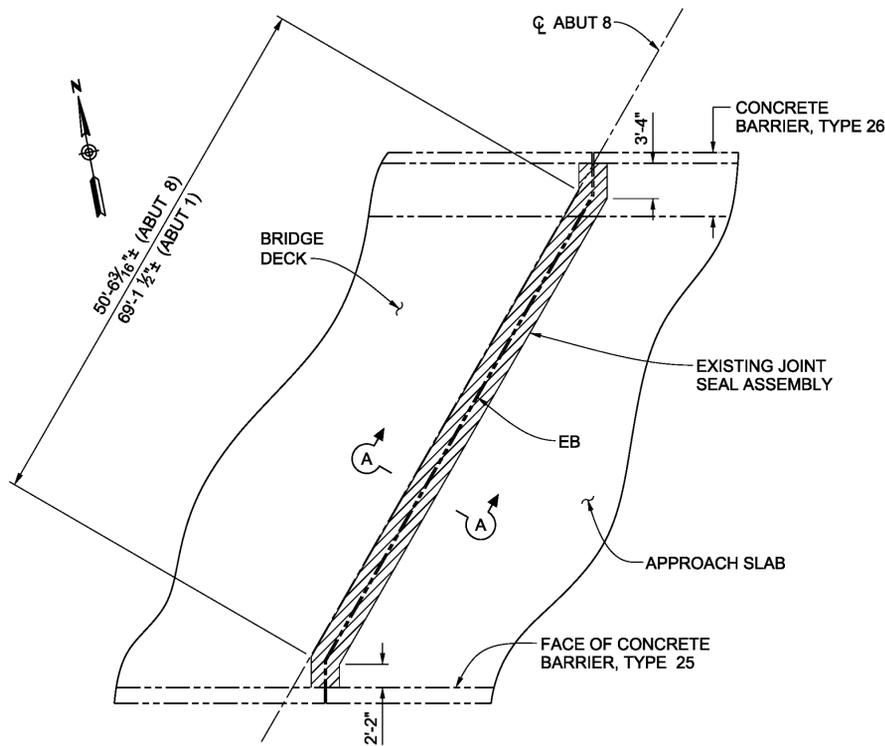
- NOTES:**
- REMOVE ELASTOMERIC BEARING PAD.
 - EXISTING VERTICAL SEISMIC RESTRAINER AT CL HINGE TOTAL 4. CUT CABLES OFF 2" MINIMUM BELOW SEAT FACE AND REMOVE 1/8" HARDBOARD & 1" EXPANDED POLYSTYRENE AND PATCH HOLE WITH CONCRETE.
 - REMOVE JOINT SEAL ASSEMBLY.
 - REMOVE CONCRETE BARRIER. REMOVAL LIMIT TO MATCH EXISTING HINGE CONSTRUCTION JOINT LOCATION.
 - PROTECT IN PLACE EXISTING DECK LONGITUDINAL REINFORCING.
 - PROTECT 1'-6" MIN EXTENSION OF EXISTING LONGITUDINAL BARRIER REINFORCEMENT IN PLACE, MEASURED FROM LIMITS OF REMOVAL.
 - PROTECT IN PLACE EXISTING DECK LONGITUDINAL AND TRANSVERSE REINFORCING.
 - PROTECT IN PLACE EXISTING POST-TENSIONING ANCHORAGE ZONE CONCRETE.
 - PROTECT IN PLACE EXISTING POST-TENSIONING ANCHOR HEAD AND BEARING PLATE.
 - SCHEMATIC POST-TENSIONING ANCHORAGE SHOWN. ACTUAL NUMBERS OF POST-TENSIONING ANCHORAGE VARY.
 - FOR "STAGE 1 AND STAGE 2 SECTION AT HINGE" DETAILS, SEE "GENERAL PLAN NO. 2" SHEET.

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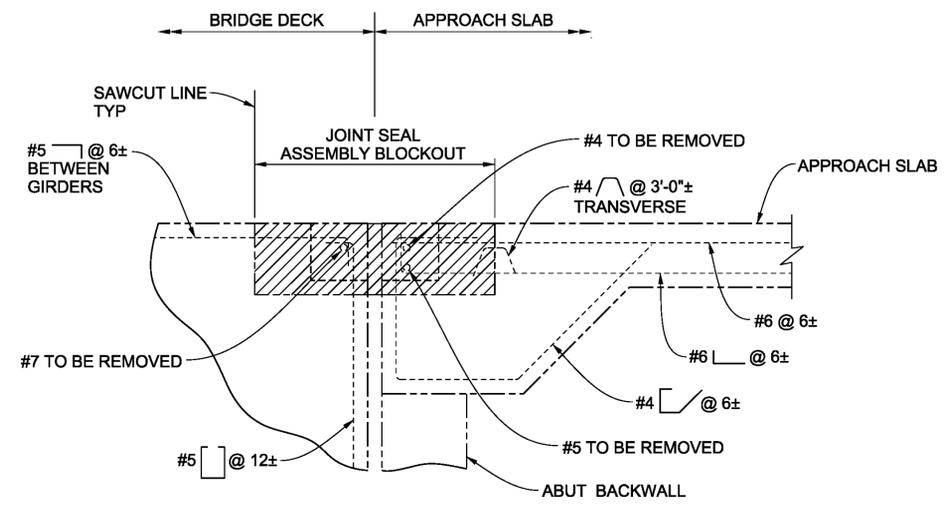
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PLAN AT ABUTMENT 8
1/8" = 1'-0"

NOTE: ABUTMENT 8 SHOWN, ABUTMENT 1 SIMILAR

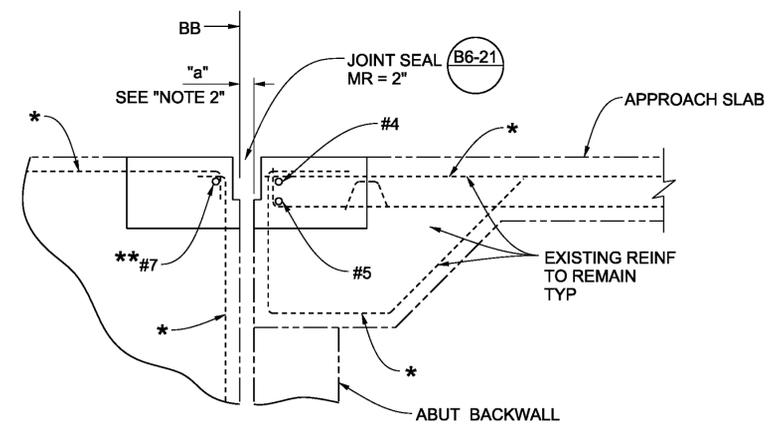


SECTION A-A (REMOVAL)
1" = 1'-0"

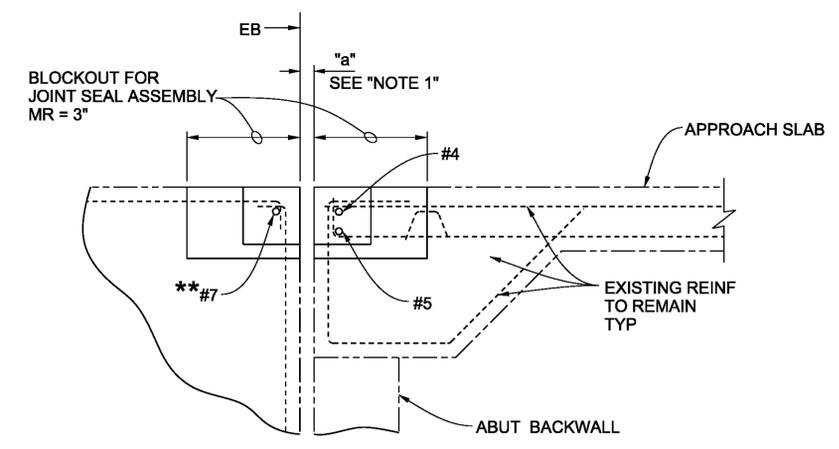
NOTE:
ALL EXISTING REINFORCEMENT SHOWN
IS TO BE PROTECTED IN PLACE, UON.

- LEGEND**
- LIMITS OF BRIDGE REMOVAL (PORTION)
 - INDICATES EXISTING
 - * ADJUST EXISTING REINF TO CLEAR JOINT SEAL ABUTMENT
 - ** EXTEND TO EDGE OF DECK, WITH 2" MINIMUM CLEAR COVER

- NOTES:**
1. FOR "a" DIMENSIONS, SEE "STRIP JOINT SEAL ASSEMBLY DETAILS" SHEET.
 2. FOR "a" DIMENSIONS, SEE (B6-21)



JOINT SEAL TYPICAL SECTION AT ABUTMENT 1
1" = 1'-0"



JOINT SEAL ASSEMBLY TYPICAL SECTION AT ABUTMENT 8
1" = 1'-0"

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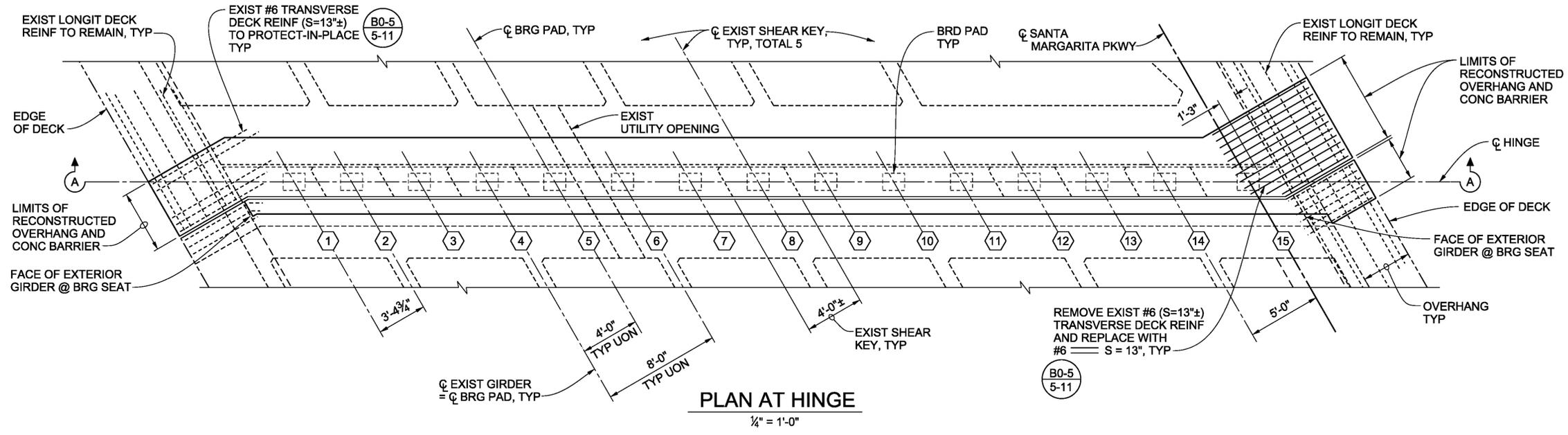
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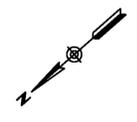
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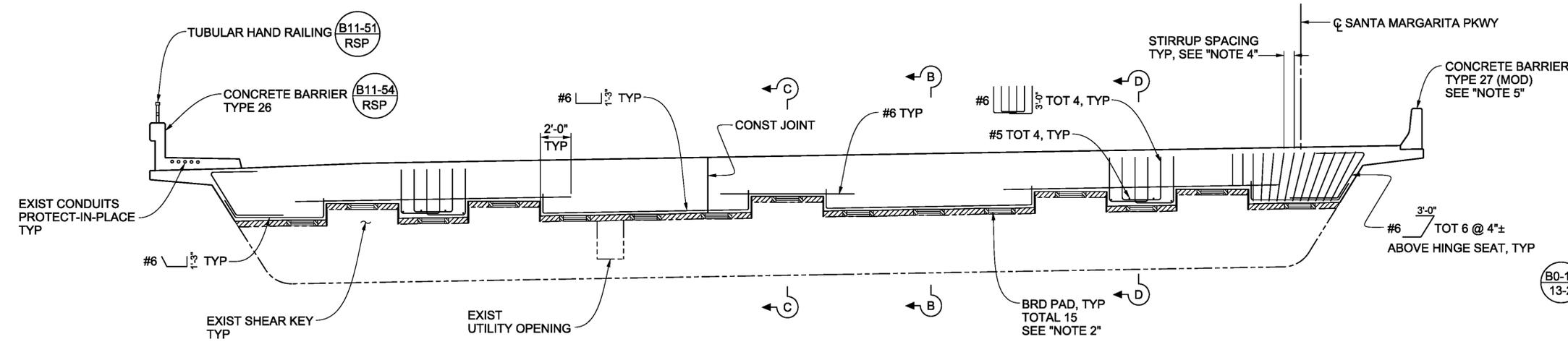


PLAN AT HINGE
1/4" = 1'-0"

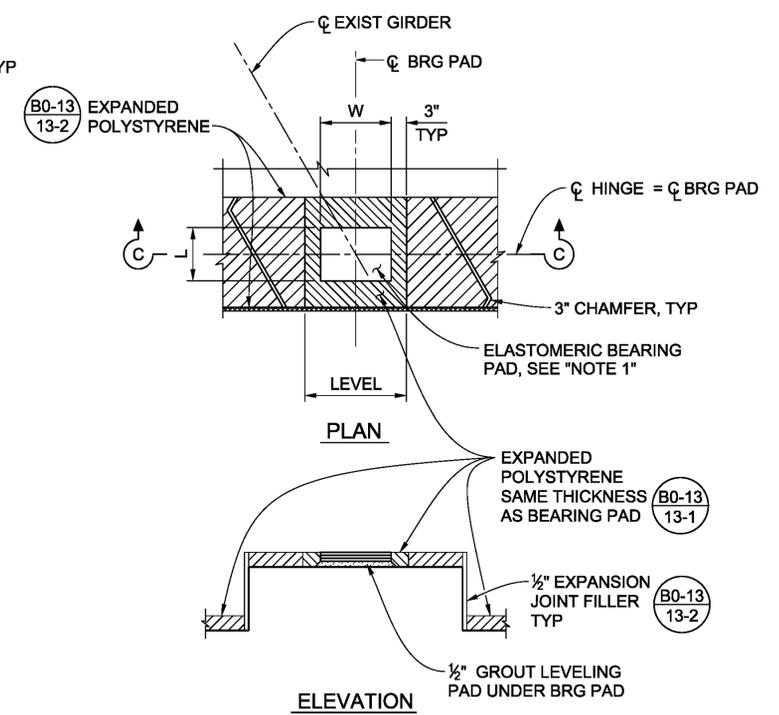


NOTES:

1. FOR DIMENSIONS "W", "L" AND "T" (THICKNESS) OF BEARING PAD, SEE "BEARING PAD TABLE"
2. REMOVE BEARING PAD AND REPLACE WITH NEW BEARING PAD. NEW BEARING PADS SHALL BE LOCATED AT FRAME 1 ϕ GIRDER AND ϕ BAY EXCEPT AT EXTERIOR BEARING PAD. PROVIDE GROUT LEVELING PAD WITH LEVEL BEARING SURFACE IN BOTH DIRECTIONS.
3. FOR SECTIONS B-B, C-C, AND D-D, SEE "HINGE DETAILS NO. 2" SHEET.
4. FOR STIRRUP SPACING, SEE "HINGE DETAILS NO. 2" SHEET.
5. FOR CONCRETE BARRIER TYPE 27 (MOD) DETAILS, SEE "CONCRETE BARRIER DETAILS" SHEET.
6. FOR CONSTRUCTION JOINT LOCATION, SEE "GENERAL PLANS NO. 2" SHEET.



SECTION A-A
1/4" = 1'-0"



TYPICAL BEARING PAD DETAIL
NO SCALE

BEARING PAD TABLE				
LOCATION	REINF, TYPE	LENGTH "L"	WIDTH "W"	THICKNESS "T"
① & ②	STEEL REINFORCED	14"	20"	4 1/2"*
③ THRU ⑮	STEEL REINFORCED	14"	16"	4 1/2"*

* BEARING PAD THICKNESS "T" SPECIFIED IS FOR ELASTOMER ONLY.

DIGALERT

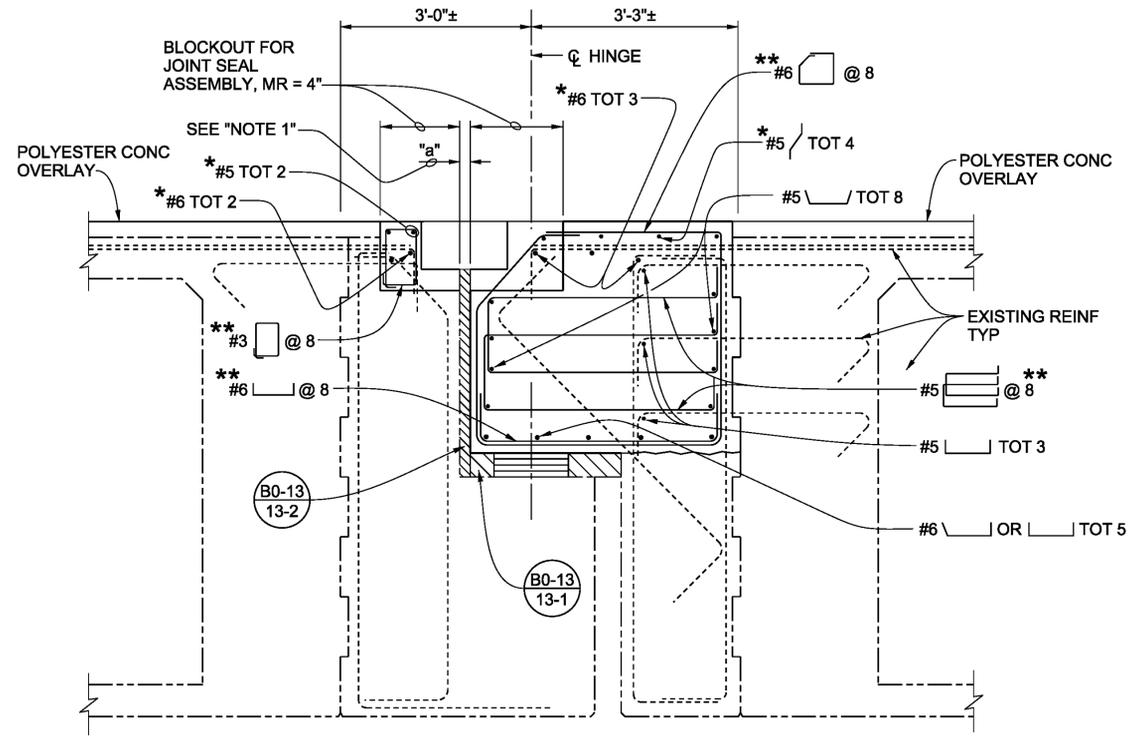
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AT LEAST TWO DAYS BEFORE YOU DIG

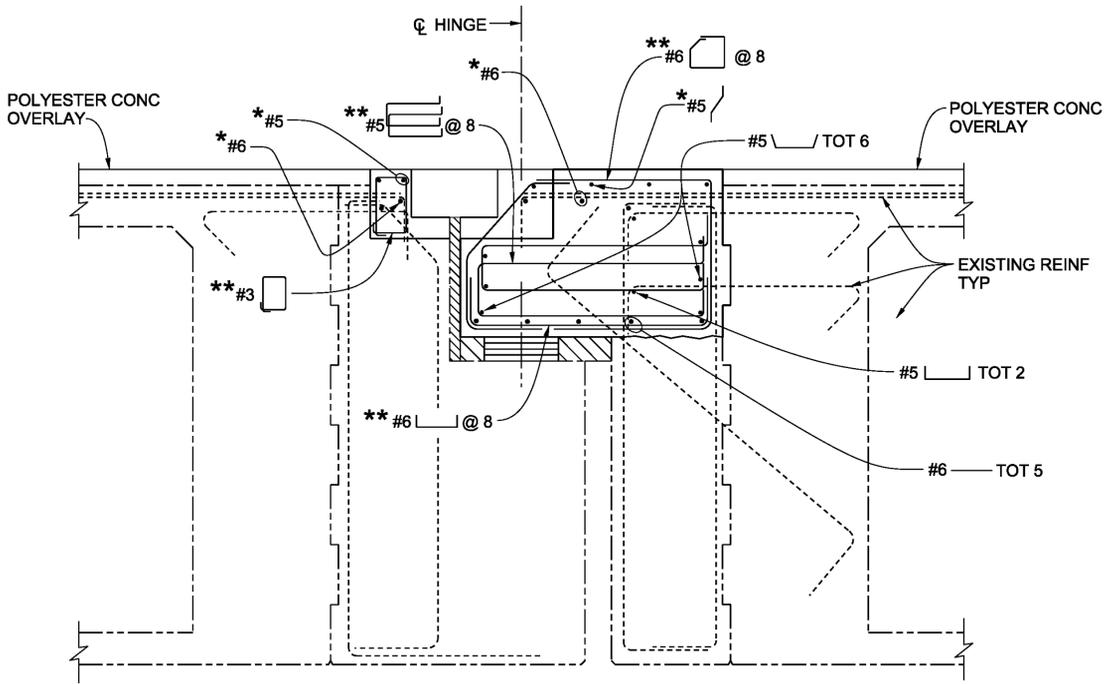
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

PREPARED BY FIRM: NCM ENGINEERING ADDRESS: 22362 GILBERTO, SUITE 125 RANCHO SANTA MARGARITA, CA 92688 TELEPHONE: (949)294-7358 FAX: (949)589-7448 DATE: 10/28/19	REVISIONS	MADE BY DATE APPROVED BY DATE	BENCH MARK DATA	REFERENCE DRAWINGS	RECOMMENDED BY TITLE BY DATE ASST. CITY ENGINEER TRAFFIC P.W. SUPER	APPROVED BY: CITY OF RANCHO SANTA MARGARITA PUBLIC WORKS DEPARTMENT BRENDAN DUGAN, CITY ENGINEER DATE:	CITY OF RANCHO SANTA MARGARITA SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR HINGE DETAILS NO. 1	PROJECT NO. SHEET 30 OF 42 DRAWING NO. S7
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SECTION B-B
 $\frac{3}{4}'' = 1'-0''$



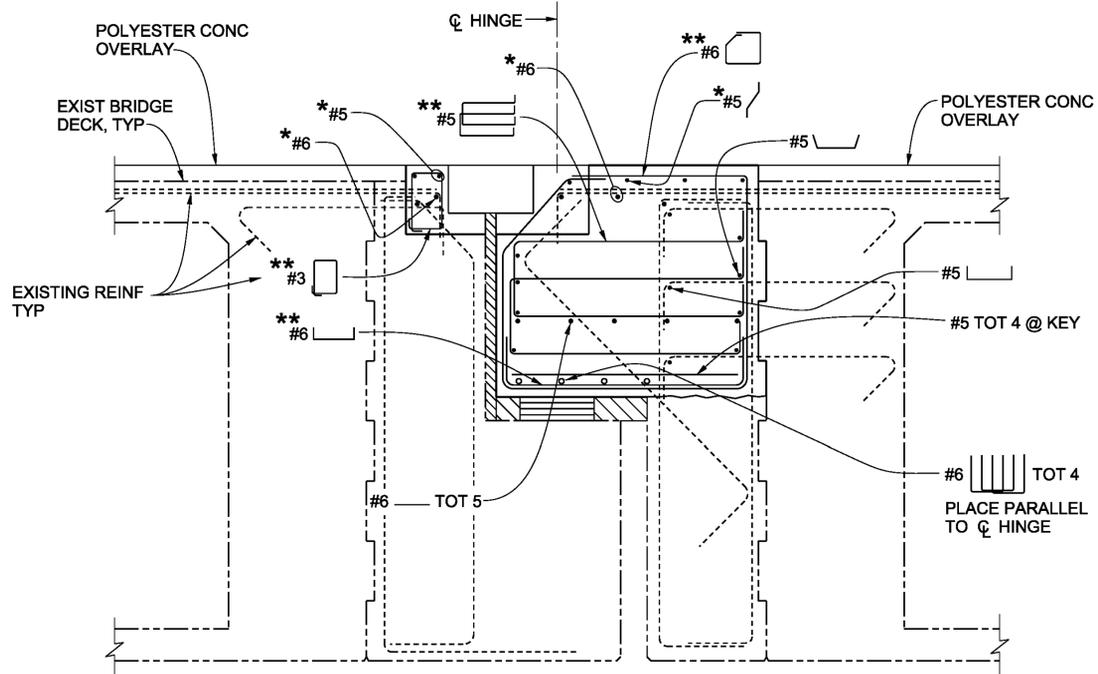
SECTION C-C
 $\frac{3}{4}'' = 1'-0''$

* EXTEND TO EDGE OF DECK WITH 2" MINIMUM CLEAR COVER.

NOTE: FOR INFORMATION NOT SHOWN, SEE "SECTION A-A" ON "BRIDGE REMOVAL DETAILS" SHEET.

NOTE: FOR INFORMATION NOT SHOWN, SEE "SECTION A-A" ON "BRIDGE REMOVAL DETAILS" SHEET.

** REINFORCEMENT SHALL BE PLACED PARALLEL TO CL STRUCTURE AND SPACED ALONG CL HINGE



SECTION D-D
 $\frac{3}{4}'' = 1'-0''$

NOTE: FOR INFORMATION NOT SHOWN, SEE "SECTION A-A" ON "BRIDGE REMOVAL DETAILS" SHEET.

NOTES:

1. FOR "a" DIMENSIONS, SEE "STRIP JOINT SEAL ASSEMBLY DETAILS" SHEET.
2. CONCRETE FINISHED SURFACE TO MATCH POLYESTER CONCRETE ELEVATIONS, SEE "DECK OVERLAY DETAILS" SHEET. DETERMINE REQUIRED HEIGHT ABOVE EXISTING DECK BEFORE JACKING OF SUPERSTRUCTURE.
3. FOR REINFORCEMENT INFORMATION NOT SHOWN, SEE "SECTION B-B" ON THIS SHEET, UNLESS OTHERWISE NOTED.

LEGEND

--- INDICATES EXISTING

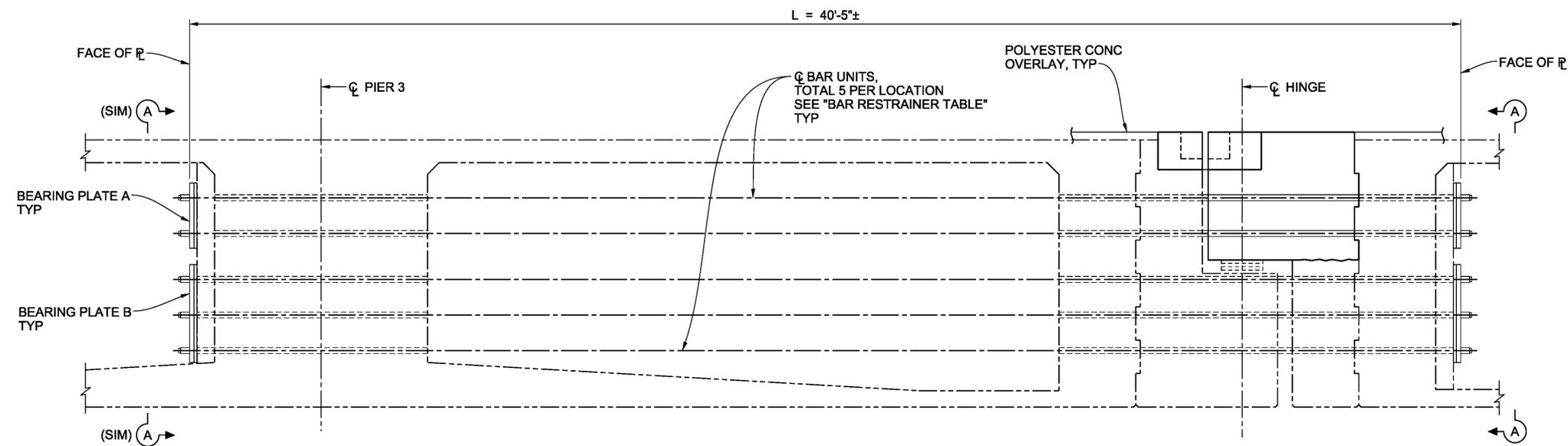
REGISTERED PROFESSIONAL ENGINEER
 DAVID KIM
 No. 72263
 Exp. 6/30/20
 CIVIL
 STATE OF CALIFORNIA

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NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

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TITLE	BY	DATE																											
ASST. CITY ENGINEER																													
TRAFFIC																													
P.W. SUPER																													



LONGITUDINAL HINGE RESTRAINER
NO SCALE

RESTRAINER UNIT INSTALLATION PROCEDURE

1. INSTALL SPHERICAL WASHERS, DISC SPRINGS, NUT AND WASHERS ON THE SIDE OF RESTRAINERS AS SHOWN IN "HINGE SIDE" DETAIL. DISC SPRINGS SHALL BE INSTALLED FRONT TO FRONT AS SHOWN IN "DISC SPRING" DETAIL ON "BARRIER RESTRAINER DETAILS NO. 2" SHEET.
2. PLACE ONLY NUT AND WASHER ON PIER SIDE OF RESTRAINERS. PLACE THREAD LOCKING SYSTEM ON PIER SIDE BAR PRIOR TO INSTALLING NUT AND WASHER.
3. TIGHTEN NUT ON THE BAR FROM THE HINGE SIDE OF RESTRAINER UNTIL THE DISC SPRINGS COLLAPSE AND THERE IS NO DISC GAP REMAINING BETWEEN THE DISCS. THE BAR SHOULD BE APPROXIMATELY STRAIGHT WITH NO SAG.
4. PLACE THREAD LOCKING SYSTEM ON HINGE SIDE BAR AFTER TIGHTENING THE BAR BUT BEFORE BACKING OFF THE NUT. THEN BACK OFF THE NUT AT HINGE SIDE A DISTANCE EQUAL TO THE SLACK AMOUNT SHOWN IN THE BAR RESTRAINER SLACK TABLE.

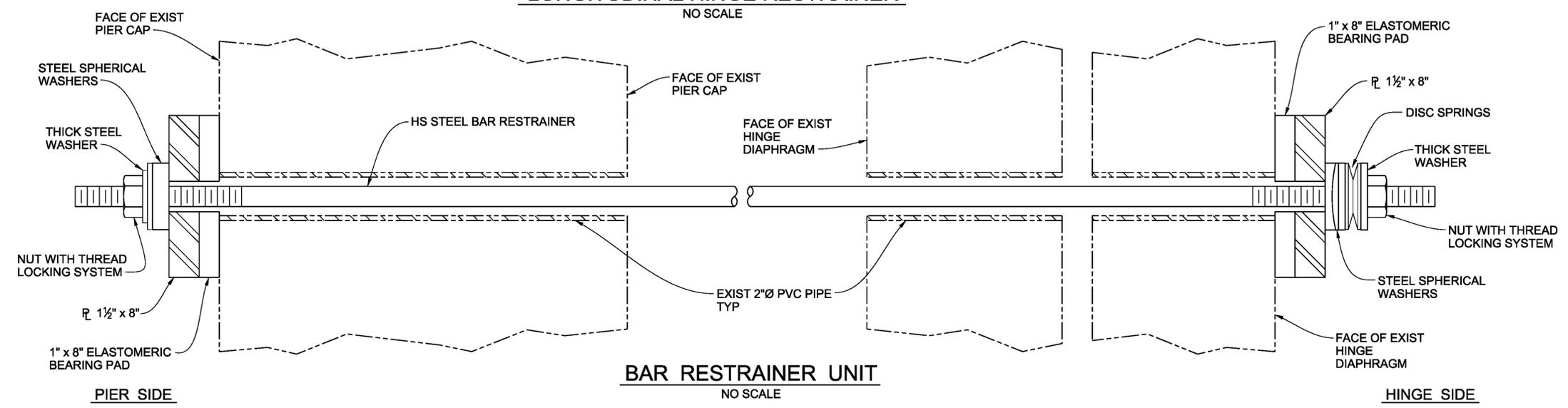
NOTE:
IF THE BAR NEEDS TO BE SECURED FROM TURNING WHILE TIGHTENING, USE DOUBLE NUT LOCKING TECHNIQUE ON THE BAR TO PROTECT THREADS.

BAR RESTRAINER SLACK TABLE

SLACK LENGTH (in)		
SUMMER	FALL-SPRING	WINTER
2	3	4

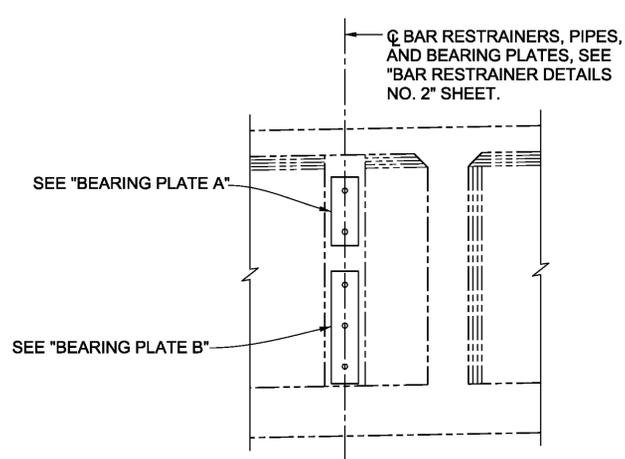
BAR RESTRAINER TABLE

DIA (in) RESTRAINER	NUMBER OF RESTRAINERS
1	30

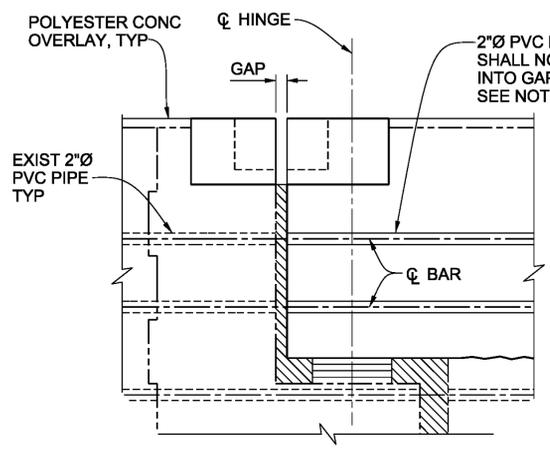


BAR RESTRAINER UNIT
NO SCALE

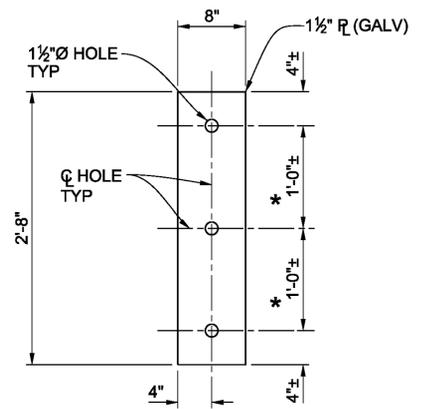
- NOTES**
- A. RESTRAINER UNITS TO BE ON TANGENT ALIGNMENT.
 - B. ANCHORAGE SURFACE MUST BE PERPENDICULAR TO THE GIRDER.
 - C. SEE "STRIP JOINT ASSEMBLY DETAILS" SHEET FOR JOINT OPENINGS.
 - D. CONTRACTOR MUST INSTALL RESTRAINERS IN THE EXISTING FORMED HOLES WITH VERTICAL ARRANGEMENT.
 - E. THE ENDS OF PIPE SHALL BE COVERED OR CAPPED TO PREVENT CONCRETE AND DEBRIS FROM ENTERING THE PIPE UNTIL HINGE CONCRETE IS PLACED.
 - F. CARE SHOULD BE TAKEN TO ALIGN THE PIPES ON EACH SIDE OF THE HINGE AND PIER.
 - G. ALL ENDS OF PIPES MUST BE FLUSH WITH OR SLIGHTLY RECESSED FROM THE CONCRETE.
 - H. FOR HARDWARE DETAILS, SEE "BAR RESTRAINER DETAILS NO. 2" SHEET.



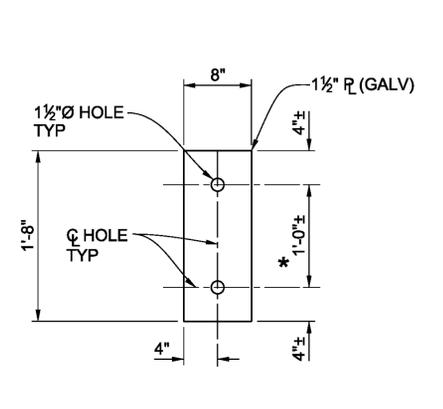
VIEW A-A
NO SCALE



HINGE DETAIL
NO SCALE



BEARING PLATE B
NO SCALE



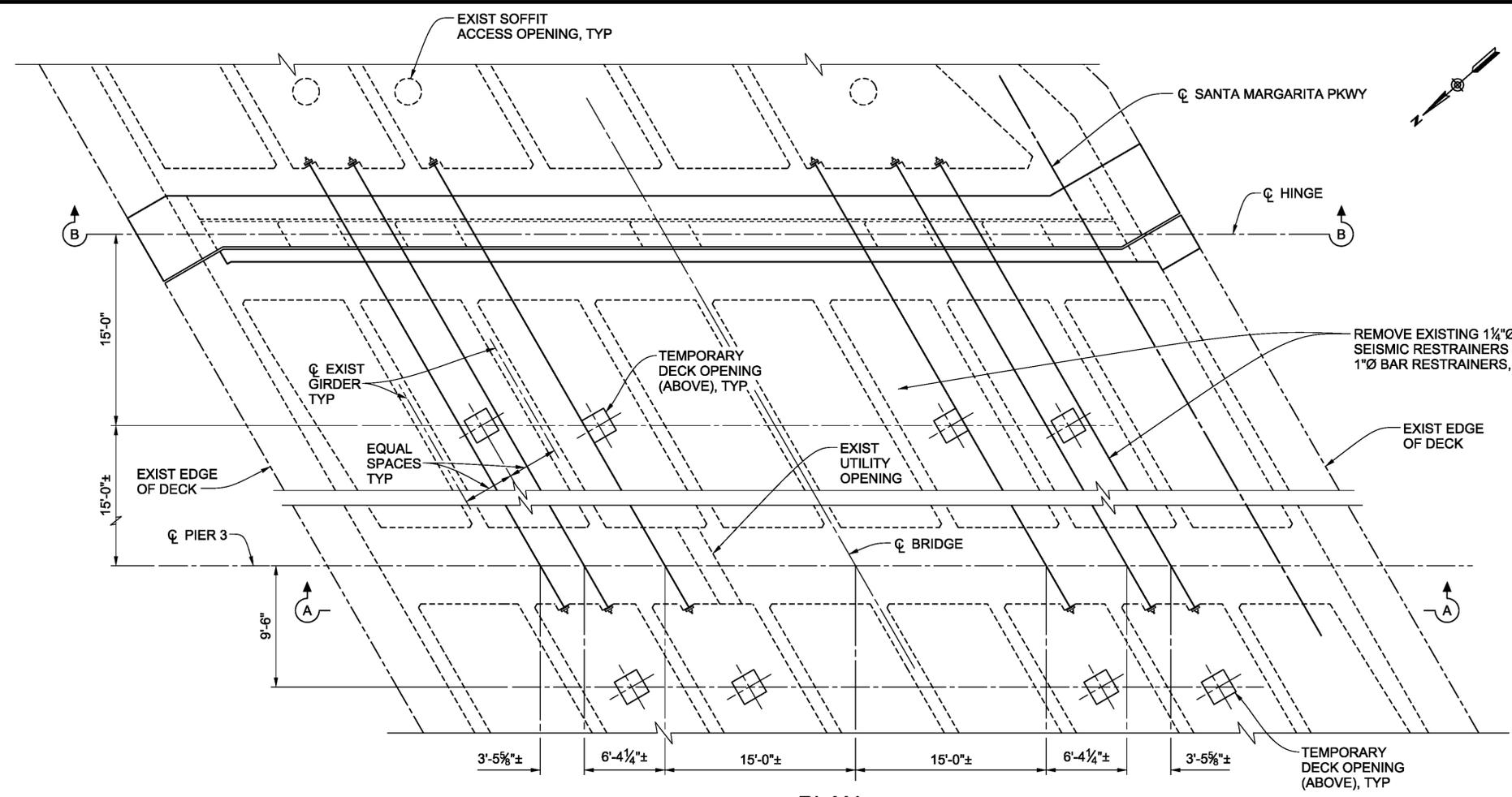
BEARING PLATE A
NO SCALE

* DIMENSIONS TO MATCH EXISTING RESTRAINER HOLE OPENINGS

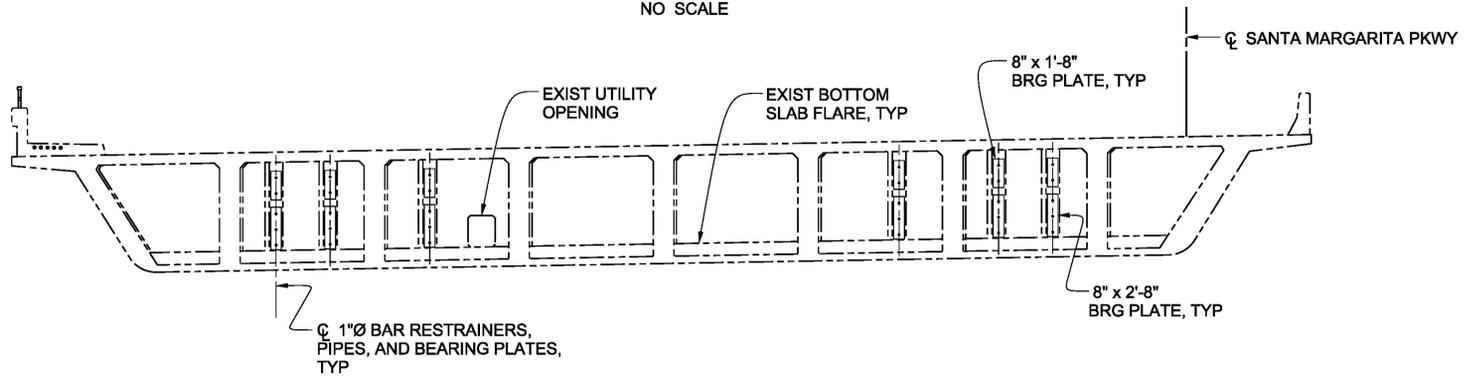
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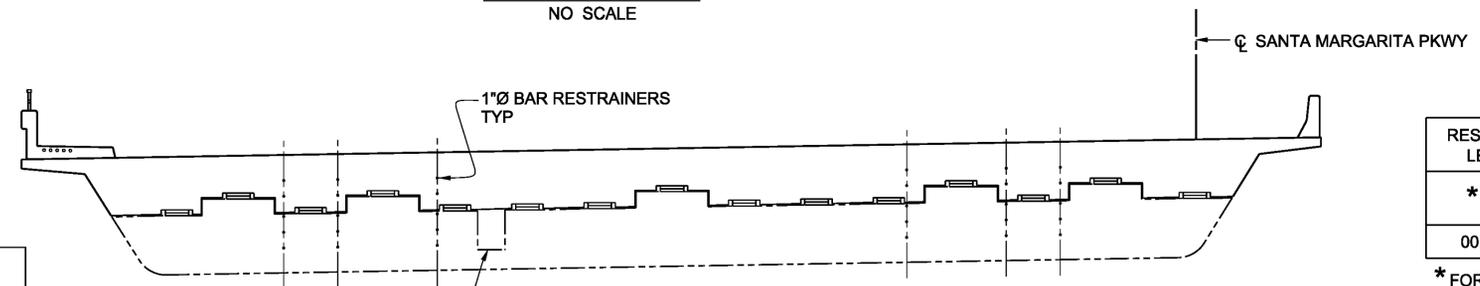
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PLAN
NO SCALE



SECTION A-A
NO SCALE



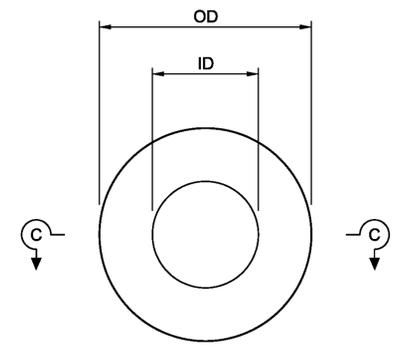
SECTION B-B
NO SCALE

NOTE

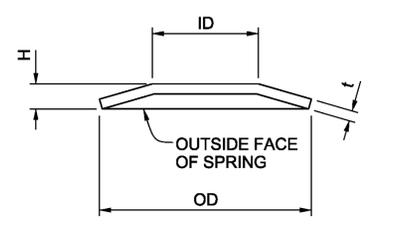
1. ALL EXPOSED, NON-PAINTED HARDWARE MUST BE GALVANIZED. DIMENSIONS SHOWN ARE BEFORE GALVANIZING EXCEPT AS NOTED.

LEGEND

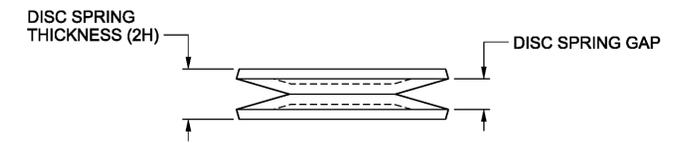
--- INDICATES EXISTING



END VIEW



SECTION C-C
(SINGLE DISC)



ASSEMBLED SPRING
BEFORE NUT TIGHTENING

DISC SPRING
NO SCALE

NOTE: FOR DIMENSIONS NOT SHOWN SEE TABLE

DISC SPRING AND WASHER DIMENSIONS
ALL DIMENSIONS ARE INCHES UNLESS OTHERWISE NOTED

RESTRAINER LENGTH	DISC SPRING					SPHERICAL WASHER			THICK WASHER		
	* L (ft)	ID	OD	t	H	COLOR CODE	ID	OD	NOMINAL THICKNESS	ID	OD
00.0 - 47.0	1.25	2.5	0.12	0.180	YELLOW	1.31	2.5	0.5	1.16	2.25	0.25

* FOR LIMITS OF LENGTH L (ft), USE EFFECTIVE LENGTH OF BAR RESTRAINER, FROM FACE-TO-FACE OUTER SURFACES OF ANCHORAGE PLATE OR BEARING BAR.

NOTE: ALL OD AND ID DIMENSIONS FOR WASHERS AND DISC SPRINGS SHALL MEET THE DIMENSIONAL TOLERANCES FOR HARDEN STEEL WASHERS, ASTM F436.

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

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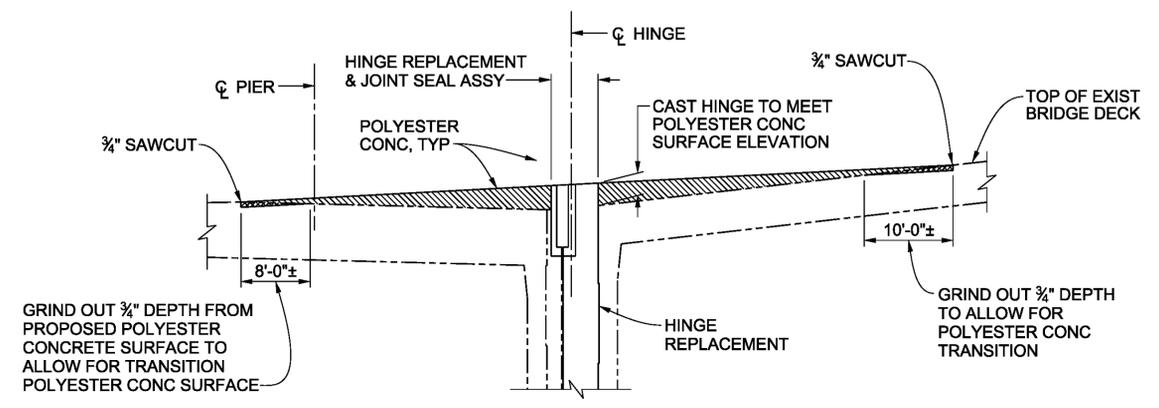
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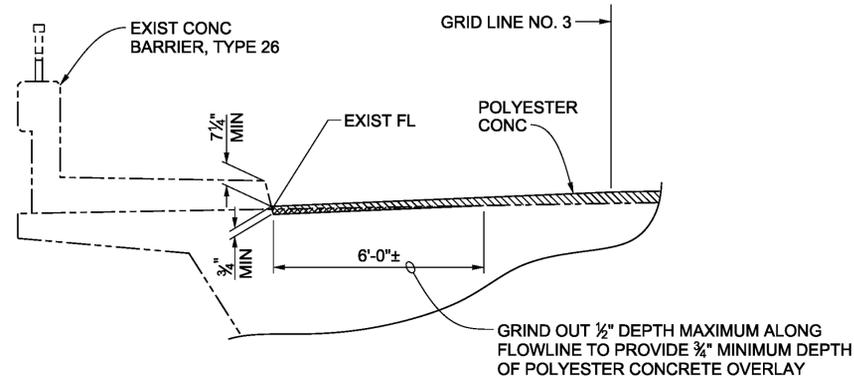
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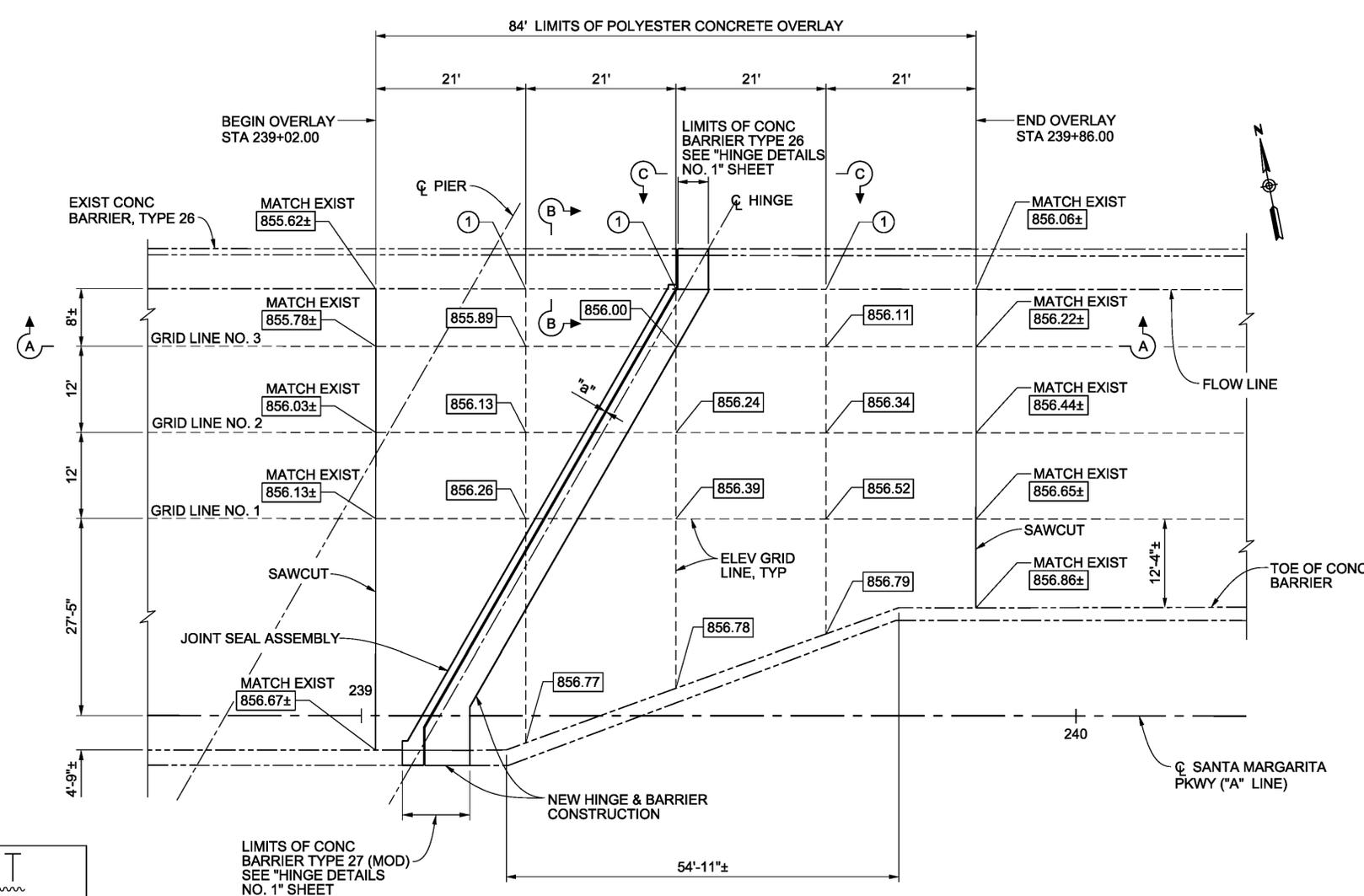
SECTION A-A
NO SCALE



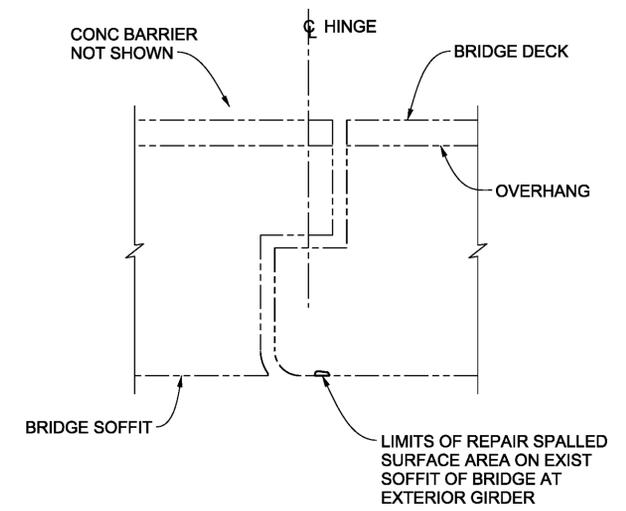
SECTION B-B
NO SCALE

LEGEND

- INDICATES EXISTING
- [Hatched Box] LIMITS OF GRIND EXISTING BRIDGE DECK
- [Hatched Box] LIMITS OF POLYESTER CONCRETE
- [Box with xxx.xx] INDICATES POLYESTER CONCRETE OVERLAY ELEVATION



PLAN
1" = 10'



SECTION C-C
SPALL REPAIR DETAIL
NO SCALE

NOTE:
SPALL REPAIR ON BRIDGE DECK SURFACE TO BE PERFORMED AT LOCATIONS ON THE BRIDGE DECK WHERE REINFORCING IS EXPOSED OR A SPALL HAS DIMENSIONS GREATER THAT 3/4" IN PLAN VIEW & IS AT LEAST 3/4" DEEP AT ANY POINT.

- NOTES:**
- ① ADJUST POLYESTER CONCRETE OVERLAY CROSS SLOPE BETWEEN GRID LINE NO. 3 & FLOWLINE TO MAINTAIN 7 1/2" MINIMUM CURB HEIGHT & 3/4" MINIMUM POLYESTER CONCRETE OVERLAY THICKNESS
 - ② ELEVATIONS BETWEEN POINTS SHOWN CAN BE LINEARLY INTERPOLATED. ELEVATIONS SHOWN ARE BASED ON FINAL CONDITIONS, NOT WHILE SUPER STRUCTURE IS TEMPORARILY SUPPORTED ON JACKS.

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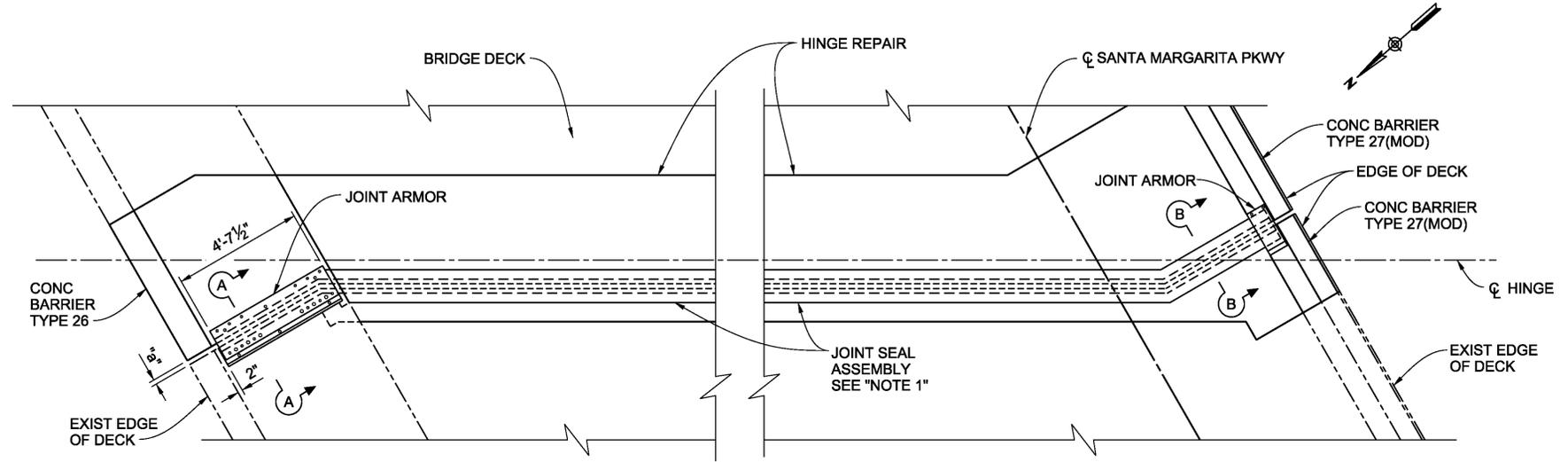
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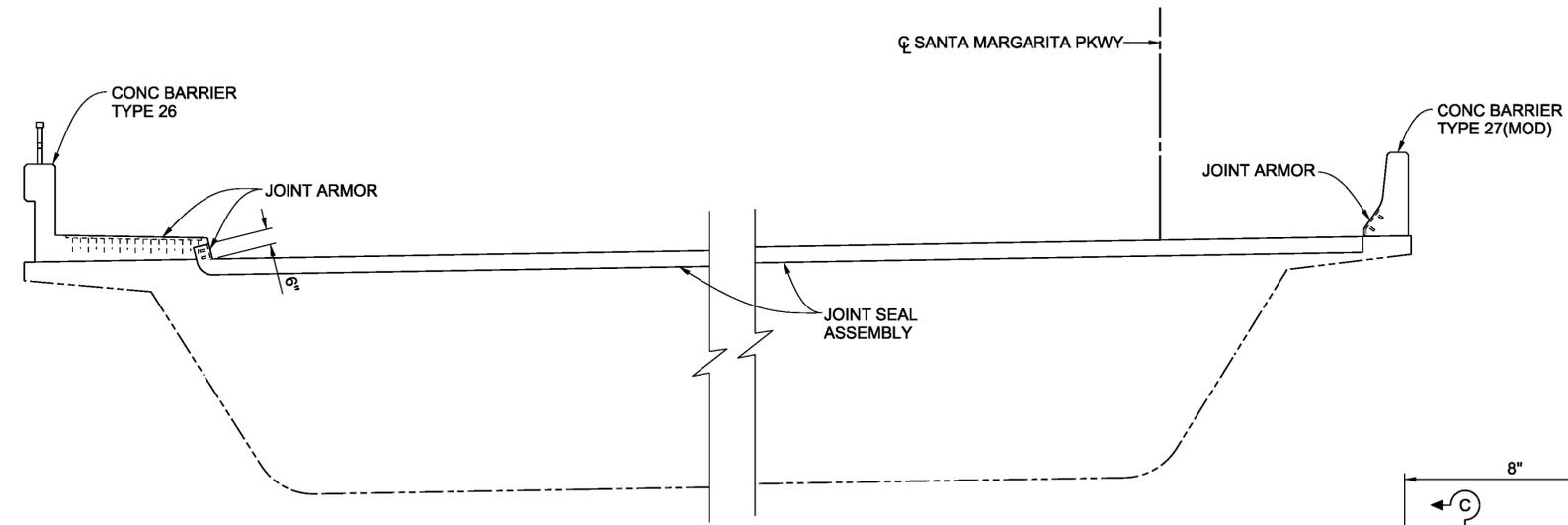
<p>PREPARED BY</p> <p>FIRM: NCM ENGINEERING</p> <p>ADDRESS: 22362 GILBERTO, SUITE 125 RANCHO SANTA MARGARITA, CA 92688</p> <p>TELEPHONE: (949)294-7358 FAX: (949)589-7448</p> <p>DATE: 10/28/19</p>	<p>REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>NO.</th><th>DESCRIPTION</th><th>DATE</th></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	NO.	DESCRIPTION	DATE										<p>MADE BY</p> <p>DATE</p>	<p>APPROVED BY</p> <p>DATE</p>	<p>BENCH MARK DATA</p>	<p>REFERENCE DRAWINGS</p>	<p>RECOMMENDED BY</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>TITLE</th><th>BY</th><th>DATE</th></tr> <tr><td>ASST. CITY ENGINEER</td><td> </td><td> </td></tr> <tr><td>TRAFFIC</td><td> </td><td> </td></tr> <tr><td>P.W. SUPER</td><td> </td><td> </td></tr> </table>	TITLE	BY	DATE	ASST. CITY ENGINEER			TRAFFIC			P.W. SUPER			<p>APPROVED BY:</p> <p>CITY OF RANCHO SANTA MARGARITA PUBLIC WORKS DEPARTMENT</p> <p>BRENDAN DUGAN, CITY ENGINEER</p> <p>DATE: </p>	<p>CITY OF RANCHO SANTA MARGARITA</p> <p>SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR</p> <p>DECK OVERLAY DETAILS</p>	<p>PROJECT NO.</p> <p>SHEET 34 OF 42</p> <p>DRAWING NO. S11</p>
NO.	DESCRIPTION	DATE																															
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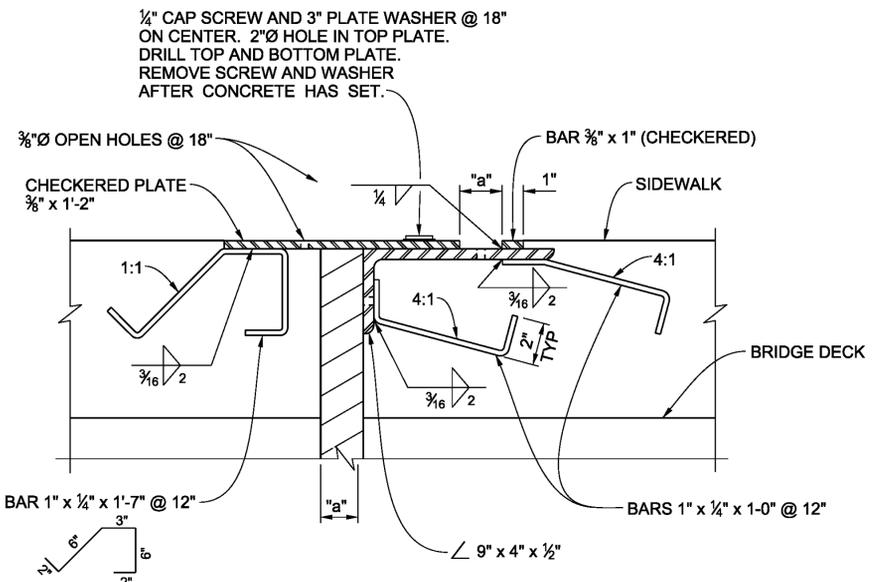
PART PLAN AT HINGE JOINT
3/8" = 1'-0"

LEGEND
- - - - - INDICATES EXISTING

- NOTES:**
1. FOR JOINT SEAL ASSEMBLY DETAILS, SEE "STRIP JOINT SEAL ASSEMBLY DETAILS" SHEET.
 2. INSERT ASSEMBLY OR EXPANSION ANCHORAGE FOR 3/8" x 1 3/4" BOLTS. USE INSTALLATION BOLTS EXTENDED 1/2" MINIMUM PAST NUT AND COAT WITH BOND BREAKER. AFTER CONCRETE HAS CURED, REMOVE INSTALLATION BOLTS, INSTALL HS BOLTS AND SHEET NEOPRENE.

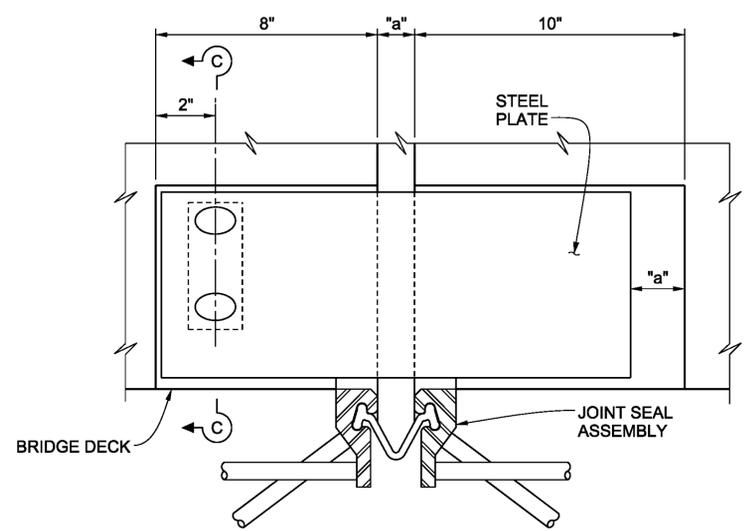


PART TYPICAL SECTION
3/8" = 1'-0"

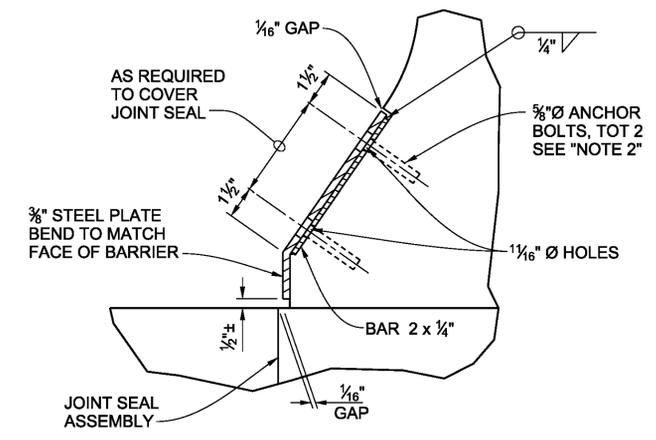


SECTION A-A
NO SCALE

JOINT INFORMATION			"a" DIMENSIONS		
LOCATION	MOVEMENT RATING (MR)	SKEW	WINTER	FALL - SPRING	SUMMER
ABUTMENT 1	2"	22°02'01"	1 1/4"	1"	1/2"
ABUTMENT 8	3"	30°00'00"	3"	2 1/4"	1 1/2"
HINGE	4"	30°00'00"	4"	3"	2"



VIEW B-B
NO SCALE



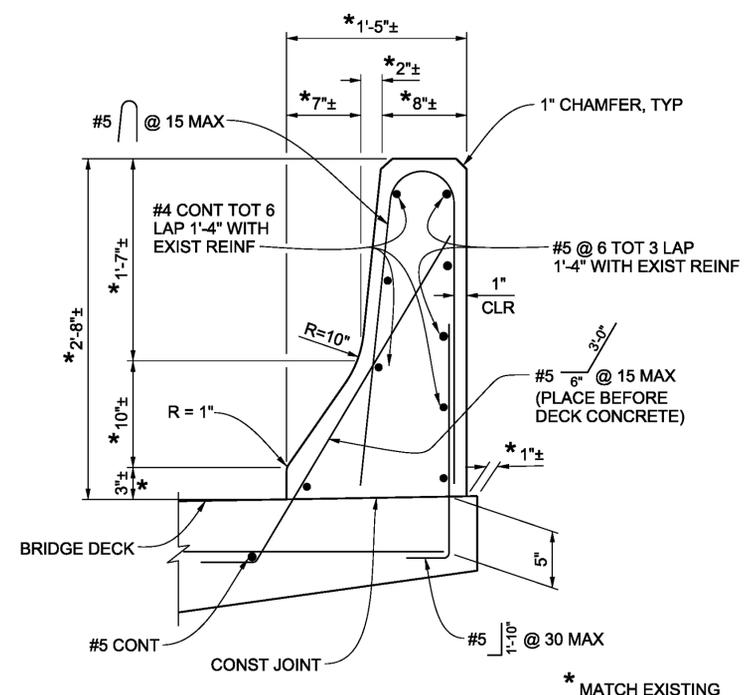
SECTION C-C
NO SCALE

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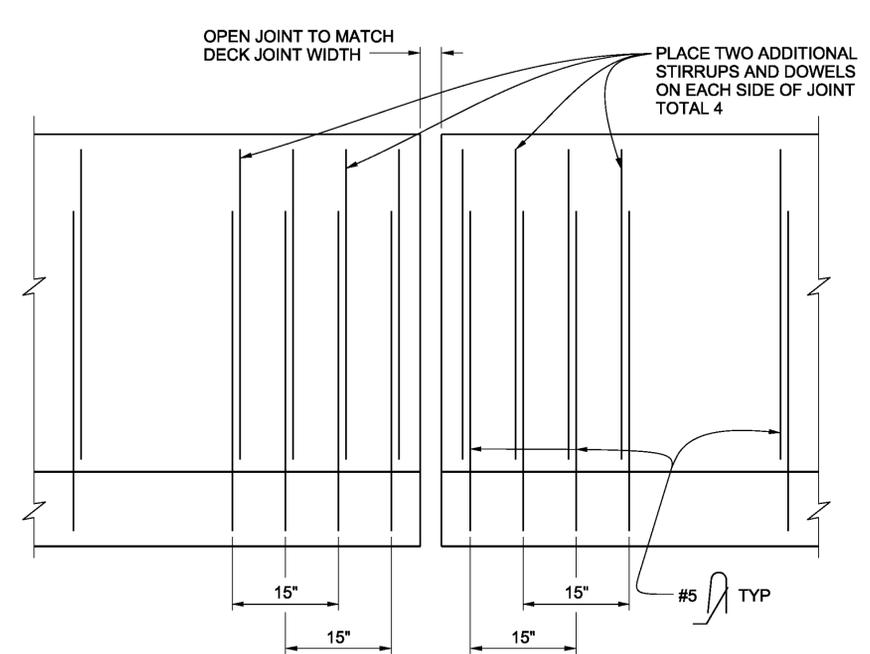
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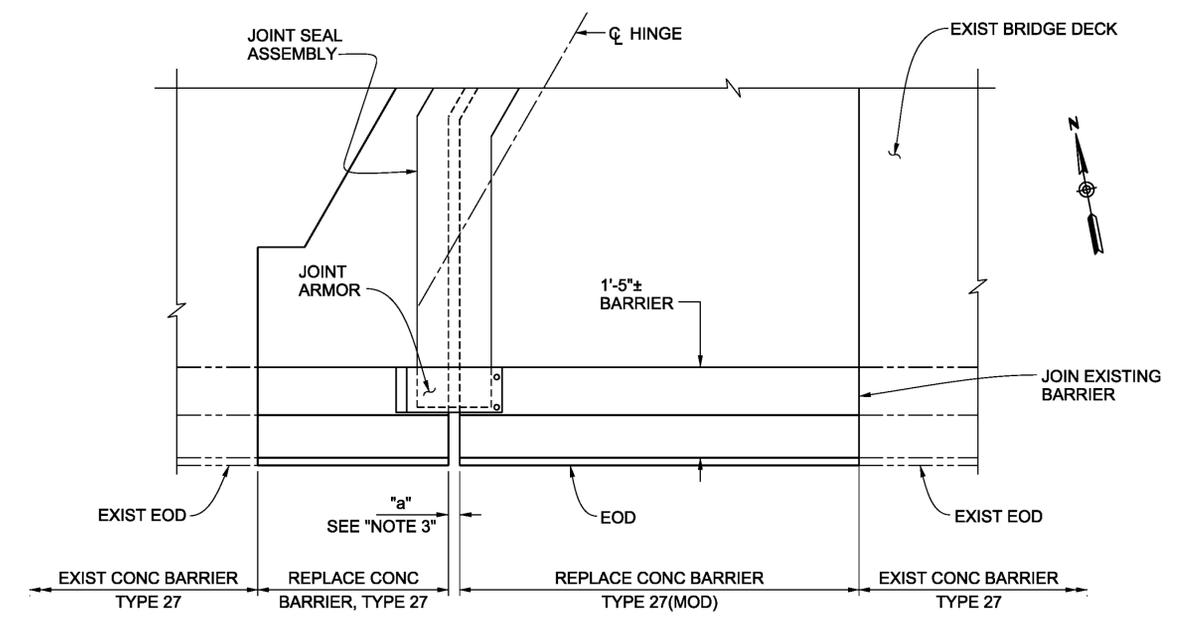
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NO.	DESCRIPTION	DATE																



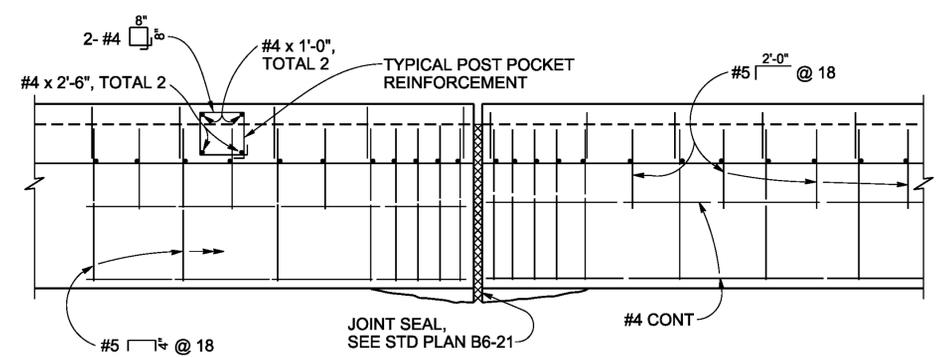
TYPE 27(MOD) - BARRIER SECTION
1 1/2" = 1'-0"



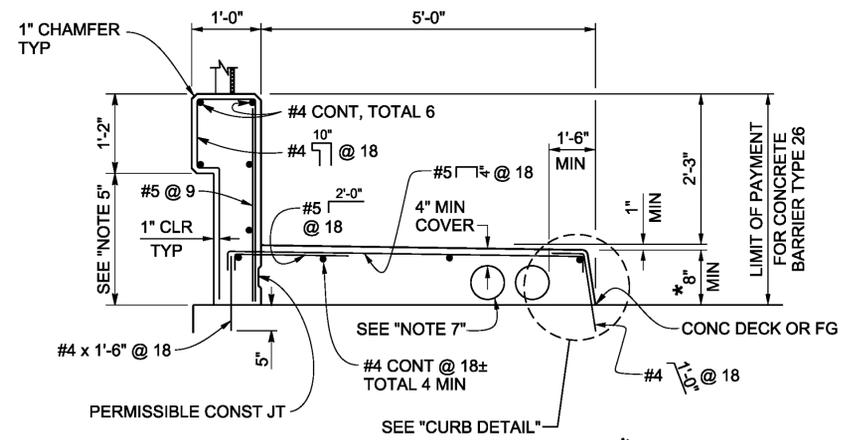
TYPE 27(MOD) BARRIER ELEVATION @ JOINT
NO SCALE
SEE "NOTE 2"



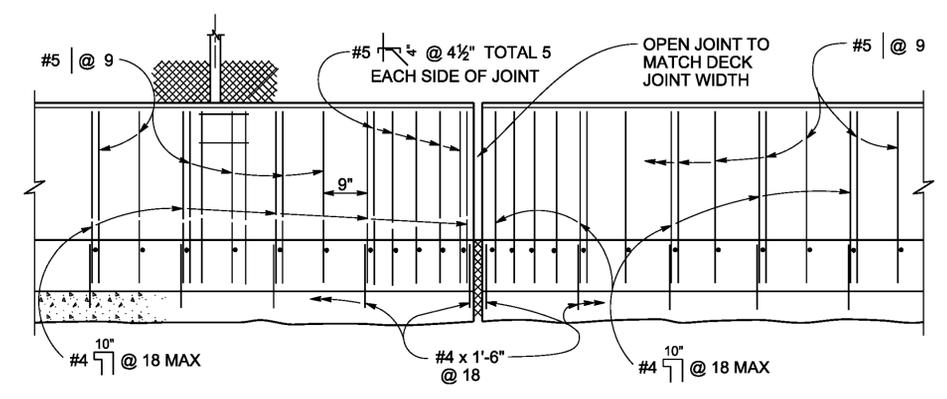
TYPE 27(MOD) BARRIER PLAN @ JOINT
3/4" = 1'-0"



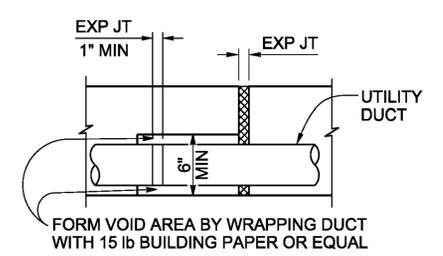
TYPE 26 BARRIER PLAN



TYPE 26 BARRIER TYPICAL SECTION

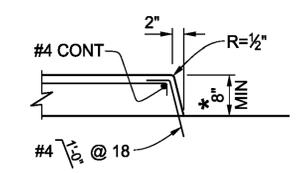


DECK OR WALL JOINT TYPE 26 BARRIER ELEVATION

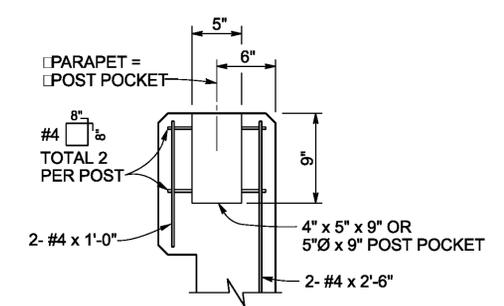


UTILITY DUCT EXPANSION JOINT

* CURB FACE AND SIDEWALK SURFACE TO MATCH EXISTING TYPE 26 DIMENSIONS WITH POLYESTER CONCRETE OVERLAY



CURB DETAIL



POST ANCHORAGE DETAIL

NOTES:

- CLEARANCE TO REINFORCING STEEL IN RAILING TO BE 1". LONGITUDINAL REINFORCEMENT TO STOP AT EXPANSION JOINTS, AND BE CONTINUOUS AT CONSTRUCTION JOINTS. HAIRPIN STIRRUPS TO BE ROTATED TO MEET CLEARANCE.
- RAIL JOINTS SHALL BE LOCATED AT DECK JOINTS.
- FOR "a" DIMENSIONS, SEE "STRIP JOINT SEAL ASSEMBLY DETAILS" SHEET.
- FOR HAND RAILING NOTES AND DETAILS NOT SHOWN, SEE STANDARD PLAN RSP B11-51.
- DIMENSIONS WILL VARY WITH CROSS SLOPE AND WITH CERTAIN THICKNESSES OF SURFACING. SEE PROJECT PLANS.
- CLEARANCE TO REINFORCING STEEL IN CURB AND RAILING TO BE 1" EXCEPT AS NOTED. LONGITUDINAL REINFORCEMENT TO STOP AT ALL EXPANSION JOINTS.
- PROVIDE OPENINGS FOR UTILITY CONDUITS TO MAINTAIN THE EXISTING UTILITY ALIGNMENTS.

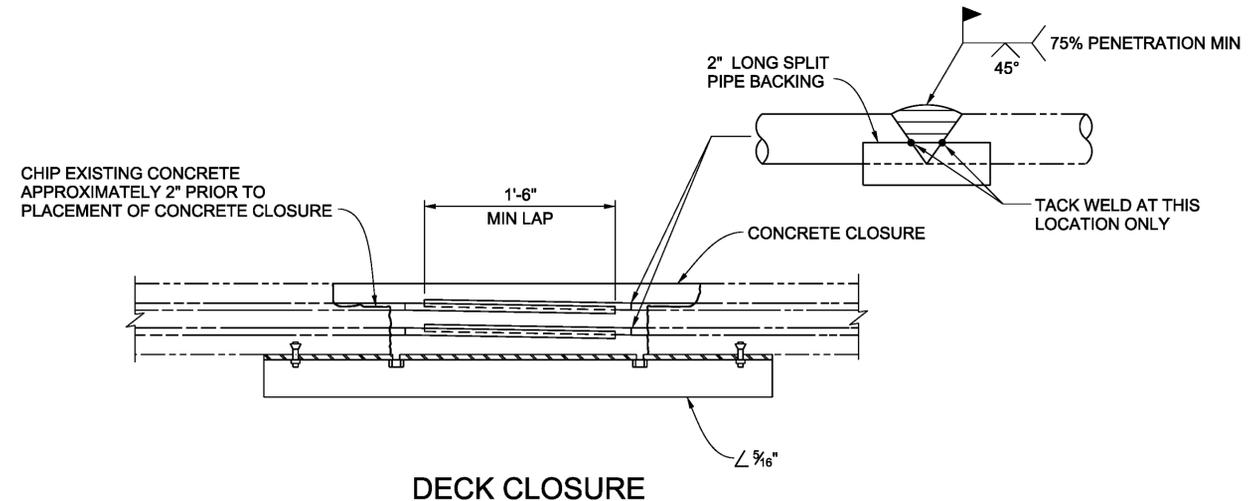
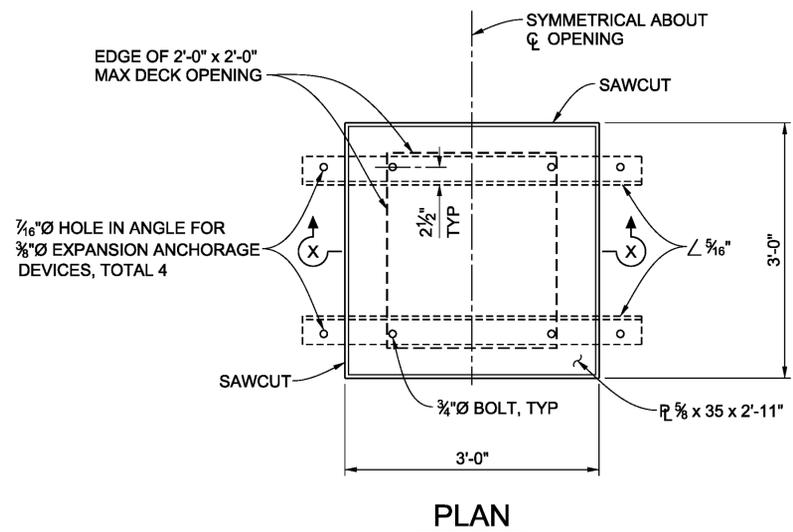
LEGEND

--- INDICATES EXISTING

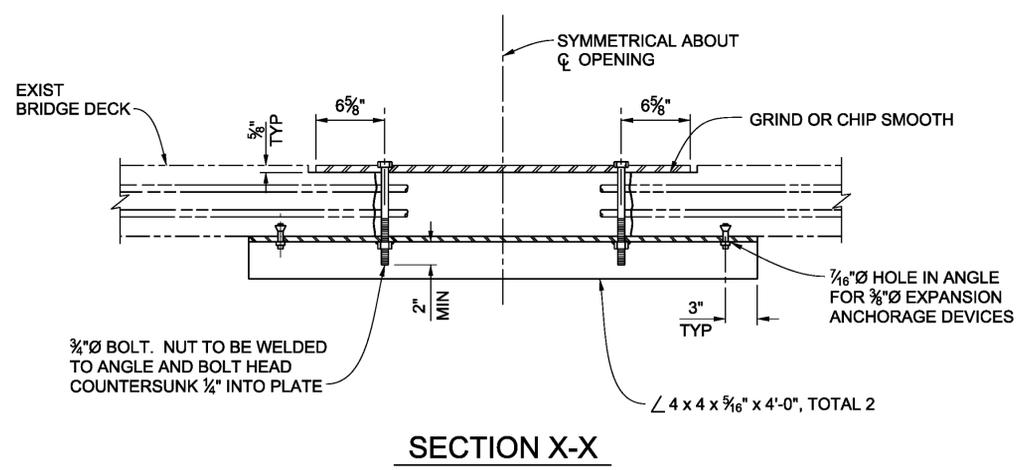
DIGALERT
REGISTERED PROFESSIONAL ENGINEER
DAVID KIM
No. 72263
Exp. 6/30/20
CIVIL
STATE OF CALIFORNIA
DIAL TOLL FREE 1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

PREPARED BY FIRM: NCM ENGINEERING ADDRESS: 22362 GILBERTO, SUITE 125 RANCHO SANTA MARGARITA, CA 92688 TELEPHONE: (949)294-7358 FAX: (949)589-7448 DATE: 10/28/19	REVISIONS (Empty table for revisions)	MADE BY (Empty table for made by)	APPROVED BY (Empty table for approved by)	BENCH MARK DATA (Empty table for bench mark data)	REFERENCE DRAWINGS (Empty table for reference drawings)	RECOMMENDED BY TITLE: ASST. CITY ENGINEER BY: (Empty) DATE: (Empty)	APPROVED BY: CITY OF RANCHO SANTA MARGARITA PUBLIC WORKS DEPARTMENT BRENDAN DUGAN, CITY ENGINEER DATE: (Empty)	CITY OF RANCHO SANTA MARGARITA SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR CONCRETE BARRIER DETAILS	PROJECT NO. SHEET 37 OF 42 DRAWING NO. S14
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NOTE:
REPLACE DECK REINFORCEMENT.
BUTT WELD TO EXISTING REINFORCEMENT.



TEMPORARY DECK COVER PLATE
NO SCALE

LEGEND
- - - - INDICATES EXISTING

REGISTERED PROFESSIONAL ENGINEER
DAVID KIM
No. 72263
Exp. 6/30/20
CIVIL
STATE OF CALIFORNIA

DIGALERT
DIAL TOLL FREE
1-800-422-4133
AT LEAST TWO DAYS
BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

NOTE:
DETAILS COPIED FROM CALTRANS xs7-110
SHEET DATED JULY 2014 & MODIFIED

PREPARED BY NCM ENGINEERING 22362 GILBERTO, SUITE 125 RANCHO SANTA MARGARITA, CA 92688 TELEPHONE: (949)294-7358 FAX: (949)589-7448 10/28/19	REVISIONS BY DATE APPROVED BY DATE	BENCH MARK DATA	REFERENCE DRAWINGS	RECOMMENDED BY TITLE BY DATE ASST. CITY ENGINEER TRAFFIC P.W. SUPER	APPROVED BY: CITY OF RANCHO SANTA MARGARITA PUBLIC WORKS DEPARTMENT BRENDAN DUGAN, CITY ENGINEER DATE:	CITY OF RANCHO SANTA MARGARITA SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR TEMPORARY DECK OPENINGS	PROJECT NO. SHEET 38 OF 42 DRAWING NO. S15
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UNIFIED SOIL CLASSIFICATION

PI	CH	MH	OL	CL	ML	SC	SM	SP	SW	GC	GM	GP	GM	GW
<p>Classification of earth materials shown on this sheet is based on field inspection and should not be construed to imply laboratory analysis unless so stated.</p> <p>Moisture Content (%) vs. Plasticity Index (PI) chart showing regions for various soil types.</p>														

LEGEND OF PENETRATION TEST

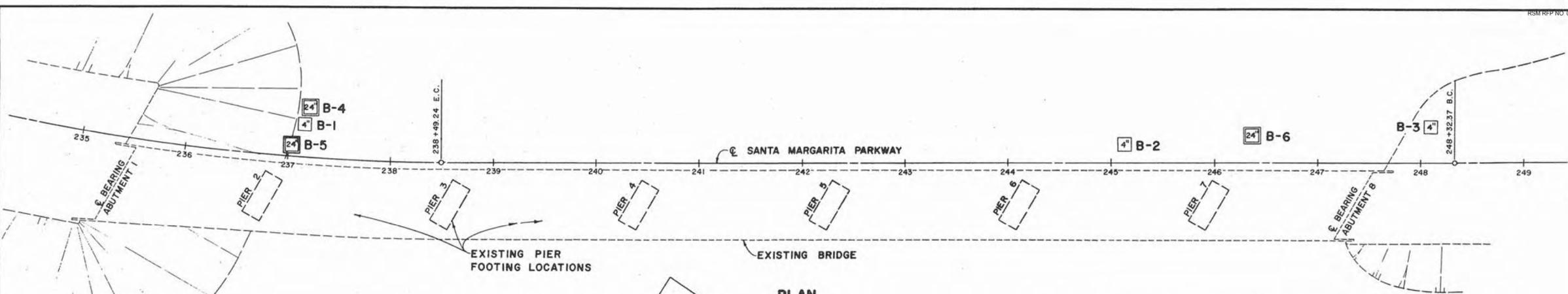
Penetration (lb/in ²)	Soil Type
0-5	Very soft
5-10	Soft
10-20	Stiff
20-30	Very stiff
30-40	Hard
40-50	Very hard

LEGEND OF BORING

Rotary Boring (Wet) symbols: Bulk Sample, Core, Castings, etc.

LEGEND OF SIZES & TYPES:

Auger Boring (Dry) symbols: 1/2" Dia, 3/4" Dia, 1" Dia, etc.



TEST BORING LOG B-1

ELEVATION 794.8 BORING B-1

DEPTH (FEET)	TYPE	DESCRIPTION
0-5	SC	NATIVE: Brown fine to medium CLAYEY SAND with GRAVEL and scattered cobbles in upper two feet ... decreasing CLAY with depth
5-10	SM	Grayish brown fine SILTY SAND
10-15	TV	Weathered gray fine friable SANDSTONE
15-20	TV	Brown SANDY SILTSTONE
20-25	TV	Gray SANDSTONE
25-30	TV	Brown SANDSTONE
30-35	TV	... mottled reddish brown and gray with varying amounts of SAND
35-40	TV	Brown SANDY SILTSTONE

NOTES:
 1. Casing installed to about 10 feet.
 2. Caving to 14' after casing removed.
 3. Boring backfilled 3/8/88.
 4. Possible seepage at about 6 feet.

LOGGED BY GPH DATE 3/7/88

TEST BORING LOG B-2

ELEVATION 796.4 BORING B-2

DEPTH (FEET)	TYPE	DESCRIPTION
0-5	SM	NATIVE: Brown fine to medium SILTY SAND with GRAVEL and cobbles ... decreasing SILT content with depth ... increasing GRAVEL and cobbles
5-10	SM	disturbed
10-15	SM	... SANDY GRAVEL layer
15-20	TV	Brown weathered SANDY MUDSTONE
20-25	TV	Brown MUDSTONE
25-30	TV	Gray fine to medium SANDSTONE

NOTES:
 1. Caving below 7 feet.
 2. Casing installed to 25' was pulled to 17' after drilling.
 3. Groundwater measured at 14', 13.5 hours and 15 days after drilling.
 4. Boring open to 35' after removing casing.
 * Pitcher sample taken

LOGGED BY GPH DATE 3/14/88

TEST BORING LOG B-3

ELEVATION 860.7 BORING B-3

DEPTH (FEET)	TYPE	DESCRIPTION
0-5	SM	FILL: Brown fine to medium SILTY SAND with GRAVEL and cobbles
5-10	SM	Reddish-brown fine SILTY SAND
10-15	SM	Brown CLAYEY SILT with minor amounts of SAND
15-20	SM	NATIVE: Tan fine to coarse GRAVELLY SAND with varying amounts of SILT and CLAY ... with increased GRAVEL and scattered cobbles
20-25	SM	... increased GRAVEL and cobble content
25-30	CL	Brown SANDY CLAY
30-35	SM	Reddish brown fine CLAYEY SAND with GRAVEL and scattered cobbles
35-40	SM	Tan fine to coarse GRAVELLY SAND with scattered cobbles and varying amounts of CLAY
40-45	SM	... increased GRAVEL and cobble content
45-50	SM	Brown CLAYEY SILT with varying amounts of SAND and scattered GRAVEL
50-55	SM	Light brown fine SILTY SAND
55-60	SM	Gray fine SAND with SILT nodules ... scattered GRAVEL and cobbles between 53.5' and 55' ... with SILTY SAND interlayers
60-65	SM	Tan GRAVELLY SAND with cobbles
65-70	SM	Weathered brown SILTY SANDSTONE

NOTES:
 1. Boring open to 50' after caving overnight.
 2. Boring backfilled 3/16/88.

LOGGED BY GPH DATE 3/15/88

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST: 12 COUNTY: ORA ROUTE: POST MILES - TOTAL PROJECT: Sheet No. 39 of 42

DATE: 10/28/19

SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR

LOG OF TEST BORINGS NO. 1

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

DRAWING NO. S16

As-Built Vertical Datum: NGVD29



McDANIEL ENGINEERING COMPANY, INC.

3000 OLD TOWN AVE., SUITE 207E, SAN DIEGO, CA 92110 619-592-1000

APPROVED BY: [Signature] R.C.E. EXPIRES: 9-30-91 DATE: 6-28-89

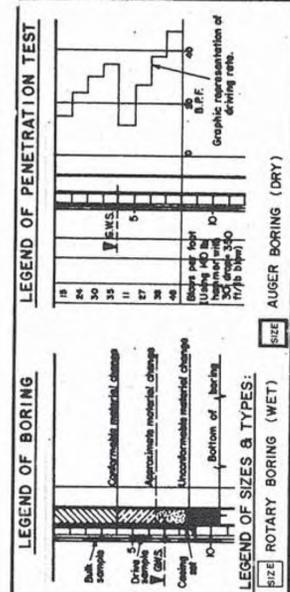
SANTA MARGARITA PARKWAY BRIDGE OVER ARROYO TRABUCO - WIDENING

LOG OF TEST BORINGS - I

AS BUILT 3-93 SW

SHEET 43 OF 57 SHEETS

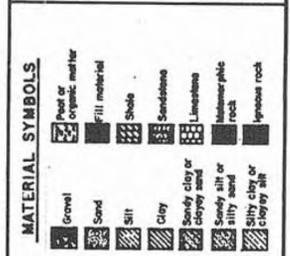
DATE: 10/28/19



CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

SP	Consistency
0-5	Very soft
6-10	Soft
11-20	Stiff
21-35	Very stiff
36-70	Hard
>70	Very hard



UNIFIED SOIL CLASSIFICATION

PI	OH	CH	MH	OL	CL	ML	SC	SM	SP	SW	GC	GM	GP	GM
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

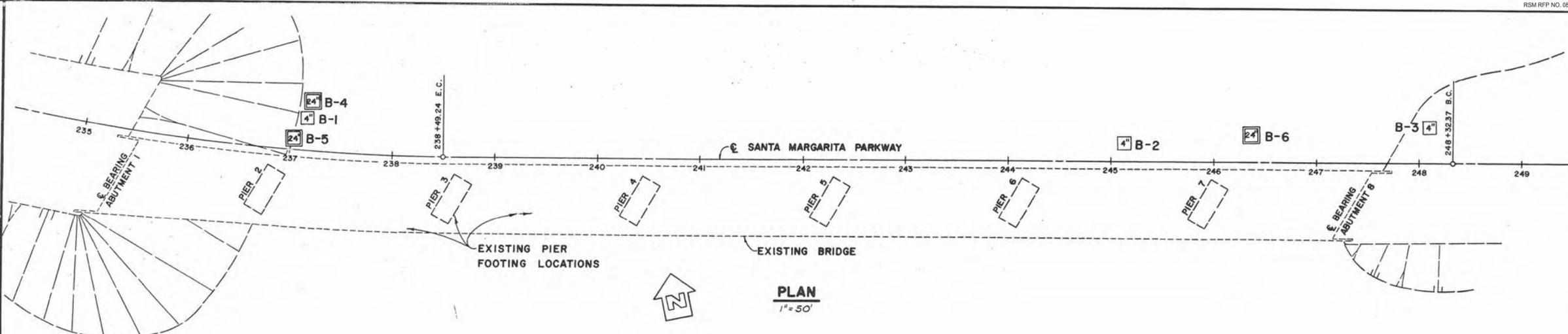
LABORATORY CLASSIFICATION CRITERIA

W_p and L_p greater than 4 for SP & SC and 5 for SM, GP, GM, GC, GM, GP, GM.

U_c and U_m - Check gravel or sand and meeting requirements for SP, SM, SC, GC, GM, GP, GM, GC, GM, GP, GM.

U_c and U_m - After heavy health above "X" line with P.L. greater than 7.

U_c and U_m - After heavy health above "X" line with P.L. greater than 7.



TEST BORING LOG B-4

TYPE 24" Bucket Auger ELEVATION 795.4 BORING B-4

DEPTH IN FEET	DESCRIPTION
0-5	NATIVE: Light brown SANDY SILT with scattered GRAVEL and some CLAY
5-10	Brown SANDY CLAY with occasional fine to coarse GRAVEL and 3"-6" cobbles ... one 16" and one 22" boulder
10-15	Massive SANDY CLAY
15-20	WEATHERED BEDROCK: Weathered grey fine SANDSTONE
20-25	... scattered light brown SANDY SILT-STONE
25-30	Light brown SANDY SILTSTONE
30-35	Olive-grey fine SANDSTONE

NOTES:
1) No groundwater encountered.
2) Boring open to 20'.
3) Backfilled 5/31/88.

LOGGED BY JBS DATE 5/31/88

TEST BORING LOG B-5

TYPE 24" Bucket Auger ELEVATION 795.0 BORING B-5

DEPTH IN FEET	DESCRIPTION
0-5	Brown SANDY SILT with GRAVEL and scattered 3"-8" cobbles ... increasing CLAY, 18" boulder.

NOTES:
1) Boring stopped due to refusal at six feet.
2) No groundwater encountered.

LOGGED BY JBS DATE 5/31/88

TEST BORING LOG B-6

TYPE 24" Bucket Auger ELEVATION 798.5 BORING B-6

DEPTH IN FEET	DESCRIPTION
0-5	FILL: Brown SANDY SILT with scattered GRAVEL ... 15" boulder, increasing CLAY with depth, wood debris
5-10	NATIVE: Brown fine to coarse GRAVELLY SAND with varying amounts of SILT, scattered cobbles and boulders ... decreasing GRAVEL and cobbles
10-15	Brown fine to coarse SILTY SAND
15-20	Grey fine to medium SAND
20-25	Brown SANDY CLAY with GRAVEL
25-30	WEATHERED BEDROCK: Grey fine SILTY SANDSTONE with scattered GRAVEL
30-35	BEDROCK: Grey-pink fine to medium SANDSTONE

NOTES:
1) Groundwater seepage at 12.5'.
2) Total depth of boring 23' caved to 19'.
3) Backfilled 6/1/88.

LOGGED BY JBS DATE 6/1/88

TEST BORING LOG B-4

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

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DIST	COUNTY	ROUTE	POST MILES - TOTAL PROJECT	Sheet No.	Total Sheets
12	ORA				

DATE 10/28/19

SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR

LOG OF TEST BORINGS NO. 2

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

BRIDGE No. 55C0520L Sheet 40 of 42



McDANIEL ENGINEERING COMPANY, INC.

3000 OLD TOWN AVE., SUITE 207B, SAN DIEGO, CA 92110 (619)606-1000

APPROVED BY: [Signature]

R.C.E. C 34295 EXPIRES 9-30-11 DATE 6-28-89

SANTA MARGARITA PARKWAY BRIDGE OVER ARROYO TRABUCO - WIDENING

LOG OF TEST BORINGS-2

DESIGNED BY WMA
DRAWN BY OMC
CHECKED BY CCC
FIELD BOOK

AS BUILT 3-93 SLH

SHEET 44 of 57

JOB NO. 1192-45700

TYPE	36" BACKHOE BUCKET	ELEVATION	794.5 feet	BORING	TP-1
ML	FILL	Brown SANDY SILT with fine to coarse GRAVEL approximately 8 percent COBBLES <1", water line at 1'			
ML	NATIVE	Dark brown SANDY SILT			
SM	NATIVE	Light brown fine to coarse SILTY SAND, with 30-40 percent GRAVEL and 15 percent COBBLES 3-10", three 15" boulders			
GH	NATIVE	Light brown fine to medium CLAYEY SAND			
BAG 1					
BAG 2					
BAG 3					
BULK 1					
BULK 2					
BULK 3					
NOTES: 1. Bedrock refusal at 12.1'. 2. No groundwater encountered. 3. Trench had little or no caving during digging, after 3 hours about 1'-2" had caved. 4. Backfilled and compacted 6/23/89.					
THIS BORING LOG SUMMARY APPLIES ONLY AT THE TIME AND LOCATION INDICATED. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND TIMES. LOGGED BY JBS DATE 6-23-89					

TEST PIT - 1

TYPE	36" BACKHOE BUCKET	ELEVATION	794.5 feet	BORING	TP-2
ML	FILL	Light brown SANDY SILT with approximately 20-30 percent GRAVEL			
ML	NATIVE	Rip rap boulders 10"-30" diameter with approximately 15 percent fine to coarse GRAVELLY SAND and 30 percent 3-10" COBBLES			
SM	NATIVE	Rip rap up to 40" across Gneiss at 8'-8"			
GH	NATIVE	Light brown fine to medium CLAYEY SAND			
BAG 1					
BAG 2					
BAG 3					
BULK 1					
BULK 2					
BULK 3					
NOTES: 1. Bedrock refusal at 17'. 2. No groundwater encountered. 3. Trench had very heavy caving in the rip rap from 2-7' and trench was 1-2' wider on the sides. No further caving after 2 1/2 hours. 4. Backfilled 6/23/89.					
THIS BORING LOG SUMMARY APPLIES ONLY AT THE TIME AND LOCATION INDICATED. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND TIMES. LOGGED BY JBS DATE 6-23-89					

TEST PIT - 2

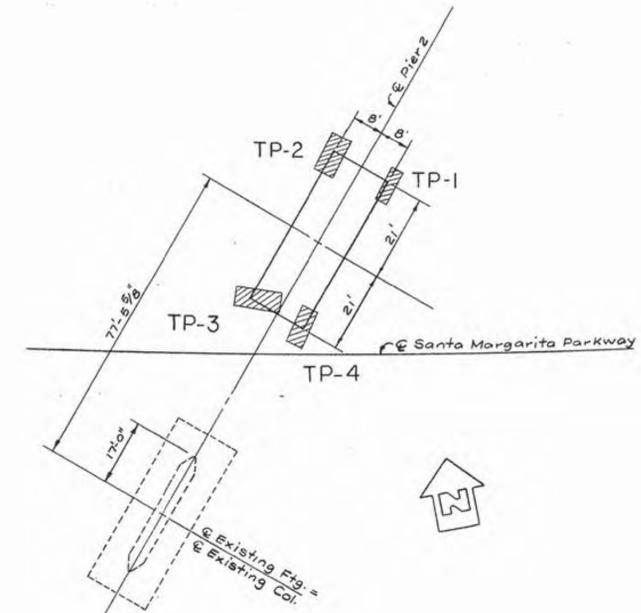
TYPE	36" BACKHOE BUCKET	ELEVATION	795.5 feet	BORING	TP-3
ML	FILL	Brown fine to medium SILTY SAND with scattered fine GRAVEL			
ML	NATIVE	Rip rap boulders 10-20" most approximately 24" with 15 percent fine to coarse GRAVEL			
SM	NATIVE	Dark brown fine to coarse GRAVELLY SAND, 30-40 percent GRAVEL <3" diameter, some 6"-10" COBBLES, medium, some SILT			
GH	NATIVE	Increasing COBBLES 1"-10" approximately 30-30 percent			
BAG 1					
BAG 2					
BAG 3					
BULK 1					
BULK 2					
BULK 3					
NOTES: 1. Bedrock refusal at 19'. 2. After 1 hour water level rose to 17" depth. 3. Very heavy caving 2-6' and some caving 6-10', approximately 1' wider on sides. 4. Backfilled and compacted 6/23/89.					
THIS BORING LOG SUMMARY APPLIES ONLY AT THE TIME AND LOCATION INDICATED. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND TIMES. LOGGED BY JBS DATE 6-23-89					

TEST PIT - 3

TYPE	36" BACKHOE BUCKET	ELEVATION	795.0 feet	BORING	TP-4
ML	FILL	Brown fine to coarse GRAVELLY SAND with SILT, approximately 30-30 percent GRAVEL, 10-25 percent COBBLES 3-10", one 14" boulder			
ML	NATIVE	Scattered rip rap up to 36" diameter from 2-6'			
SM	NATIVE	Brown fine to coarse GRAVELLY SAND with scattered COBBLES 3-12" approximately 30-40 percent GRAVEL and 10-30 percent COBBLES			
GH	NATIVE	Brown fine to coarse GRAVELLY SAND with scattered COBBLES 3-12" approximately 30-40 percent GRAVEL and 10-30 percent COBBLES			
BAG 1					
BAG 2					
BAG 3					
BULK 1					
BULK 2					
BULK 3					
NOTES: 1. Bedrock refusal at 17.5'. 2. After 1/2 hour water level rose to 17" depth. 3. Caving throughout depth of trench, approximately 1' wider on sides. 4. Backfilled and compacted 6/23/89.					
THIS BORING LOG SUMMARY APPLIES ONLY AT THE TIME AND LOCATION INDICATED. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND TIMES. LOGGED BY JBS DATE 6-23-89					

TEST PIT - 4

GEOTECHNICAL INVESTIGATION PERFORMED BY:
MOORE & TABER
 GEOTECHNICAL ENGINEERS & GEOLOGISTS
 4530 East La Palma Avenue
 Anaheim, California 92807
 Telephone (714) 779-2591



LOCATION OF TEST PITS
 1" = 20'

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES					
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DIST	COUNTY	ROUTE	POST MILES - TOTAL PROJECT	Sheet No.	Total Sheets
12	ORA				
 GEOTECHNICAL PROFESSIONAL DATE 10/28/19					
SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR LOG OF TEST BORINGS NO. 3					
NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA.					
As-Built Vertical Datum: NGVD29				DRAWING NO. S18	
BRIDGE No.		Sheet		of	
55C0520L		41		42	



McDANIEL ENGINEERING COMPANY, INC.
 2000 OLD TOWN AVE., SUITE 207B, SAN DIEGO, CA 92110 (619) 502-1030

APPROVED BY:  R.C.E. EXPIRES DATE
 C 34299 9-30-91 6-28-89

DESIGNED BY: WMA
 DRAWN BY: RLA
 CHECKED BY: C.C.C.
 FIELD BOOK

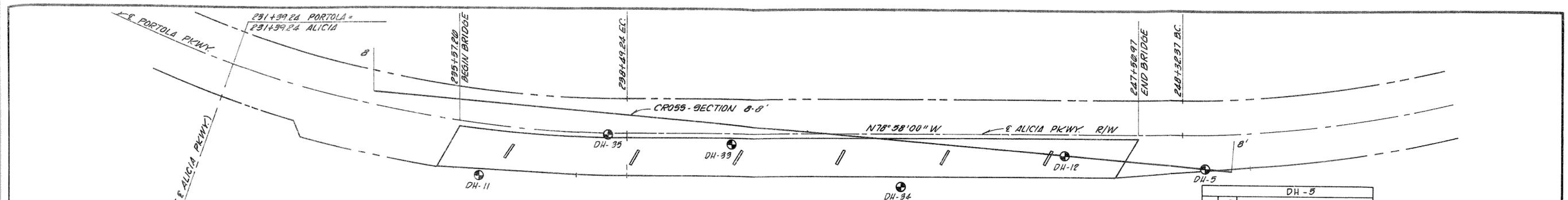
SANTA MARGARITA PARKWAY BRIDGE OVER ARROYO TRABUCO - WIDENING

LOG OF TEST BORINGS - 3

AS BUILT 3-93 SLH

SHEET 45 OF 57 SHEETS

DR. 19-15799



SOIL BORING LOCATION MAP
SCALE 1"=80'

DEPTH IN FEET	SYMBOL	ENGINEERING CLASSIFICATION AND DESCRIPTION
0-5	[Symbol]	CLAYEY SAND (SC)
5-10	[Symbol]	COBBLES PRESENT ABUNDANT COBBLES AND BOULDERS
10-15	[Symbol]	SANDY CLAY (CL) CLAYEY SAND (SC) ABUNDANT COBBLES
15-20	[Symbol]	SANDSTONE (R)
20-25	[Symbol]	CLAYSTONE (R) 4" THICK BENTONITE LAYER
25-30	[Symbol]	CLAYEY SANDSTONE (R)
30-35	[Symbol]	BOTTOM OF DRILL HOLE AT 26 FEET. NO WATER, SLIGHT CAVING AT 3 FEET.
0-5	[Symbol]	SILTY SAND (SM)
5-10	[Symbol]	GRAVELLY SAND (SP) ABUNDANT COBBLES
10-15	[Symbol]	ABUNDANT PEBBLES
15-20	[Symbol]	ABUNDANT PEBBLES
20-25	[Symbol]	ABUNDANT PEBBLES, SOME COBBLES
25-30	[Symbol]	ABUNDANT COBBLES
30-35	[Symbol]	SAND (SW)
35-40	[Symbol]	SILTY SAND (SM)
40-45	[Symbol]	SAND (SP) GRAVELLY SAND (SP) PEBBLES
45-50	[Symbol]	SAND (SP) SOME GRAVEL
50-55	[Symbol]	BOTTOM OF DRILL HOLE AT 40 FEET, WATER AT 16 FEET, NO CAVING
55-60	[Symbol]	SAND (SW)
60-65	[Symbol]	BOTTOM OF DRILL HOLE AT 45 FEET WATER AT 14 FEET, NO CAVING
0-5	[Symbol]	SAND (SP) ABUNDANT PEBBLES, SOME COBBLES ABUNDANT COBBLES
5-10	[Symbol]	ABUNDANT PEBBLES
10-15	[Symbol]	ABUNDANT PEBBLES
15-20	[Symbol]	CLAYEY SAND (SC)
20-25	[Symbol]	SANDY SILT (ML) ROOTS, PEBBLES COBBLES
25-30	[Symbol]	SAND (SW)
30-35	[Symbol]	SANDSTONE (R) SOME PEBBLES
35-40	[Symbol]	CLAYEY SANDSTONE (R)
40-45	[Symbol]	SILTY SAND (SM)
45-50	[Symbol]	BOTTOM OF DRILL HOLE AT 28 FEET, NO WATER, SLIGHT CAVING AT 5 FEET
50-55	[Symbol]	CLAYEY SAND (SC)
55-60	[Symbol]	SAND (SW) CLAYEY SAND (SC)
60-65	[Symbol]	SAND (SP)
65-70	[Symbol]	BOTTOM OF DRILL HOLE AT 65 FEET WATER AT 9 FEET, NO CAVING
0-5	[Symbol]	ENGINEERING CLASSIFICATION AND DESCRIPTION
5-10	[Symbol]	SILTY SAND (SM) ABUNDANT COBBLES AND BOULDERS
10-15	[Symbol]	SILTY SAND (SM) ABUNDANT PEBBLES SOME COBBLES AND BOULDERS
15-20	[Symbol]	COBBLES AND BOULDERS PREDOMINANTLY SLATE
20-25	[Symbol]	CLAYEY SAND (SC) ABUNDANT COBBLES AND PEBBLES
25-30	[Symbol]	CLAYEY SAND (SC)
30-35	[Symbol]	SANDY SILT (ML)
35-40	[Symbol]	SAND (SW) SOME GRAVEL
40-45	[Symbol]	ROUNDED COBBLES AND PEBBLES
45-50	[Symbol]	SANDY SILT (ML) SILTY CLAY (CL)
50-55	[Symbol]	SAND (SW)
55-60	[Symbol]	SOME PEBBLES
60-65	[Symbol]	COBBLES, PEBBLES, BOULDERS, GRAVEL
65-70	[Symbol]	ABUNDANT COBBLES AND BOULDERS



BOTTOM OF DRILL HOLE AT 70 FEET NO WATER, NO CAVING
1/2 0 1 2
3 inches on original drawing

SYMBOLS FOR EARTH MATERIALS

COBBLES	[Symbol]	SANDSTONE	[Symbol]
GRAVEL	[Symbol]	SILTSTONE	[Symbol]
SAND	[Symbol]	SHALE	[Symbol]
SILT	[Symbol]	CLAYSTONE	[Symbol]
CLAY	[Symbol]	GRANITE	[Symbol]

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST	COUNTY	ROUTE	POST MILES - TOTAL PROJECT	Sheet No.	Total Sheets
12	ORA				

[Signature] 10/28/19
DATE

SANTA MARGARITA PARKWAY BRIDGE
HINGE REPAIR
LOG OF TEST BORINGS NO. 2

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

DRAWING NO. S19

As-Built Vertical Datum: NGVD29

BRIDGE No.	Sheet	of
55C0520L	42	42



PLAN

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY

ALICIA PARKWAY BRIDGE
SOIL BORING LOG

MARK	DATE	DESCRIPTION	PREPARED UNDER SUPERVISION OF	DATE	SHEET
			Lawrence R. Wetzstein	1/19/18	47
DESIGNED		DATE	DWG. NO.	OF	
LDT		JAN. 18		57	
DRAWN		CHECKED			
PGE		LRT			

**Appendix C – Required Contract Provisions for Federal-Aid Construction Contracts
(LAPM Exhibit 12-G)**

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

- 1. DISADVANTAGED BUSINESS ENTERPRISES (DBE)..... 2**
 - A. DBE COMMITMENT SUBMITTAL..... 2**
 - B. GOOD FAITH EFFORTS SUBMITTAL 3**
 - C. EXHIBIT 15-G - CONSTRUCTION CONTRACT DBE COMMITMENT..... 3**
 - D. SUBCONTRACTOR AND DISADVANTAGED BUSINESS ENTERPRISE RECORDS 4**
 - E. PERFORMANCE OF DISADVANTAGED BUSINESS ENTERPRISES..... 4**
- 2. BID OPENING..... 5**
- 3. BID RIGGING 5**
- 4. CONTRACT AWARD 5**
- 5. CONTRACTOR LICENSE 5**
- 6. CHANGED CONDITIONS 5**
 - A. DIFFERING SITE CONDITIONS 5**
 - B. SUSPENSIONS OF WORK ORDERED BY THE ENGINEER..... 6**
 - C. SIGNIFICANT CHANGES IN THE CHARACTER OF WORK 6**
- 7. BEGINNING OF WORK, TIME OF COMPLETION AND LIQUIDATED DAMAGES..... 6**
- 8. BUY AMERICA..... 7**
- FURNISH STEEL AND IRON MATERIALS TO BE INCORPORATED INTO THE WORK WITH CERTIFICATES OF COMPLIANCE. STEEL AND IRON MATERIALS MUST BE PRODUCED IN THE U.S. EXCEPT 7**
- 9. QUALITY ASSURANCE 7**
- 10. PROMPT PAYMENT OF FUNDS WITHHELD TO SUBCONTRACTORS 7**
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- 12. FEMALE AND MINORITY GOALS..... 20**
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- 14. USE OF UNITED STATES-FLAG VESSELS (CARGO PREFERENCE ACT)..... 22**
- 15. FEDERAL TRAINEE PROGRAM 22**

1. DISADVANTAGED BUSINESS ENTERPRISES (DBE)

Under 49CFR26.13(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 49CFR26 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.

Take necessary and reasonable steps to ensure that DBEs have opportunity to participate in the contract (49CFR26).

To ensure equal participation of DBEs provided in 49CFR26.5, the Agency shows a contract goal for DBEs.

Make work available to DBEs and select work parts consistent with available DBE subcontractors and suppliers.

Meet the DBE goal shown elsewhere in these special provisions or demonstrate that you made adequate good faith efforts to meet this goal.

It is your responsibility to verify that the DBE firm is certified as DBE at date of bid opening. For a list of DBEs certified by the California Unified Certification Program, go to: http://www.dot.ca.gov/hq/bep/find_certified.htm.

All DBE participation will count toward the California Department of Transportation's federally mandated statewide overall DBE goal.

Credit for materials or supplies you purchase 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. 49CFR26.55 defines "manufacturer" and "regular dealer."

You receive credit towards the goal if you employ a DBE trucking company that performs a commercially useful function as defined in 49CFR26.55(d)(1) 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 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. DBE Commitment Submittal

Submit the Exhibit 15-G *Construction Contract DBE Commitment*, included in the Bid book. If the form is not submitted with the bid, remove the form from the Bid book before submitting your bid.

If the DBE Commitment form is not submitted with the bid, all bidders must complete and submit Exhibit 15-G to the Agency. The DBE Commitment form must be received by the Agency within five (5) days of bid opening.

Submit written confirmation from each DBE stating that it is participating in the contract. Include confirmation with the DBE Commitment form. A copy of a DBE's quote will serve as written confirmation that the DBE is participating in the contract.

If you do not submit the DBE Commitment form within the specified time, the Agency will find your bid nonresponsive.

b. Good Faith Efforts Submittal

Exhibit 15-H: Proposer/Contractor Good Faith Efforts is due to the local agency within five (5) days of bid opening. Days means calendar days. In computing any period of time described in this part, the day from which the period begins to run is not counted, and when the last day of the period is a Saturday, Sunday, or federal holiday, the period extends to the next day that is not a Saturday, Sunday, or federal holiday. Similarly, in circumstances where the recipient's offices are closed for all or part of the last day, the period extends to the next on which the agency is open. Only good faith efforts directed towards obtaining participation and meeting or exceeding the DBE contract goal will be considered.

Submittal of good faith efforts documentation within the specified time protects your eligibility for award of the contract in the event the Agency finds that the DBE goal has not been met.

Good faith efforts documentation must include the following information and supporting documents, as necessary:

1. Items of work you have made available to DBE firms. Identify those items of work you might otherwise perform with your own forces and those items that have been broken down into economically feasible units to facilitate DBE participation. For each item listed, show the dollar value and percentage of the total contract. It is your responsibility to demonstrate that sufficient work to meet the goal was made available to DBE firms.
2. Names of certified DBEs and dates on which they were solicited to bid on the project. Include the items of work offered. Describe the methods used for following up initial solicitations to determine with certainty if the DBEs were interested, and the dates of the follow-up. Attach supporting documents such as copies of letters, memos, facsimiles sent, telephone logs, telephone billing statements, and other evidence of solicitation. You are reminded to solicit certified DBEs through all reasonable and available means and provide sufficient time to allow DBEs to respond.
3. Name of selected firm and its status as a DBE for each item of work made available. Include name, address, and telephone number of each DBE that provided a quote and their price quote. If the firm selected for the item is not a DBE, provide the reasons for the selection.
4. Name and date of each publication in which you requested DBE participation for the project. Attach copies of the published advertisements.
5. Names of agencies and dates on which they were contacted to provide assistance in contacting, recruiting, and using DBE firms. If the agencies were contacted in writing, provide copies of supporting documents.
6. List of efforts made to provide interested DBEs with adequate information about the plans, specifications, and requirements of the contract to assist them in responding to a solicitation. If you have provided information, identify the name of the DBE assisted, the nature of the information provided, and date of contact. Provide copies of supporting documents, as appropriate.
7. List of efforts made to assist interested DBEs in obtaining bonding, lines of credit, insurance, necessary equipment, supplies, and materials, excluding supplies and equipment that the DBE subcontractor purchases or leases from the prime contractor or its affiliate. If such assistance is provided by you, identify the name of the DBE assisted, nature of the assistance offered, and date assistance was provided. Provide copies of supporting documents, as appropriate.
8. Any additional data to support demonstration of good faith efforts.

The Agency may consider DBE commitments from other bidders when determining whether the low bidder made good faith efforts to meet or exceed the DBE goal.

c. Exhibit 15-G - Construction Contract DBE Commitment

Complete and sign Exhibit 15-G *Construction Contract DBE Commitment* included in the contract documents regardless of whether DBE participation is reported.

Provide written confirmation from each DBE that the DBE is participating in the Contract. A copy of a DBE's quote serves as written confirmation. If a DBE is participating as a joint venture partner, please submit a copy of the joint venture agreement.

d. Subcontractor and Disadvantaged Business Enterprise Records

Use each DBE subcontractor as listed on Exhibit 12-B *Bidder's List of Subcontractors (DBE and Non-DBE)*, and Exhibit 15-G *Construction Contract DBE Commitment* form unless you receive authorization for a substitution.

The Agency requests the 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 business (see Exhibit 9-F: Monthly Disadvantaged Business Enterprise Payment)

If you are a DBE contractor, include the date of work performed by your own forces and the corresponding value of the work.

Before the 15th of each month, submit a Monthly DBE Trucking Verification form.

If a DBE is decertified before completing its work, the DBE must notify you in writing of the decertification date. If a business becomes a certified DBE before completing its work, the business must notify you in writing of the certification date. Submit the notifications. On work completion, complete a Disadvantaged Business Enterprises (DBE) Certification Status Change, Exhibit 17-O, form. Submit the form within 30 days of contract acceptance.

Upon work completion, complete Exhibit 17-F *Final Report – Utilization of Disadvantaged Business Enterprises (DBE), First-Tier Subcontractors*. 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.

e. Performance of Disadvantaged Business Enterprises

DBEs must perform work or supply materials as listed in the Exhibit 15-G *Construction Contract DBE Commitment* form, included in the Bid.

Do not terminate or substitute a listed DBE for convenience and perform the work with your own forces or obtain materials from other sources without authorization from the Agency.

The Agency authorizes a request to use other forces or sources of materials if the bidder shows any of the following justifications:

1. Listed DBE fails or refuses to execute a written contract based on plans and specifications for the project.
2. You stipulated that a bond is a condition of executing the subcontract and the listed DBE fails to meet your bond requirements.
3. Work requires a contractor's license and listed DBE does not have a valid license under Contractors License Law.
4. Listed DBE fails or refuses to perform the work or furnish the listed materials.
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.
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. Agency determines other documented good cause.

Notify the original DBE of your intent to use other forces or material sources and provide the reasons. Provide the DBE with 5 days to respond to your notice and advise you and the Agency of the reasons why the use of other forces or sources of materials should not occur. Your request to use other forces or material sources must include:

1. One or more of the reasons listed in the preceding paragraph.
2. Notices from you to the DBE regarding the request.
3. Notices from the DBEs to you regarding the request.

If a listed DBE is terminated or substituted, you must make good faith efforts to find another DBE to substitute for the original DBE. The substitute DBE must perform at least the same amount of work as the original DBE under the contract to the extent needed to meet or exceed the DBE goal.

The contractor or consultant shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the contractor or subconsultant obtains the agency's written consent. Unless the agency's 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*.

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 (Public Contract Code § 10164).

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

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. Steel and iron materials must be produced in the U.S. 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 does not exceed the greater of 0.1 percent of the total bid or \$2,500, materials produced outside the U.S. may be used.

Production includes:

1. Processing steel and iron materials, including smelting or other processes that alter the physical form or shape (such as rolling, extruding, machining, bending, grinding, and drilling) or chemical composition;
2. Coating application, including epoxy coating, galvanizing, and painting, that protects or enhances the value of steel and iron materials.

9. QUALITY ASSURANCE

The Agency uses a Quality Assurance Program (QAP) to ensure a material is produced to comply with the Contract.

You may examine the records and reports of tests the Agency performs if they are available at the job site.

Schedule work to allow time for QAP.

10. PROMPT PAYMENT OF FUNDS WITHHELD 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 prime contractor, or subcontractor, shall return all monies withheld in retention from a subcontractor 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, unless as agreed to in writing by the prime contractor and subcontractor, pursuant to Section 7108.5 of the Business and Professions Code. Any violation of this provision shall subject the violating prime contractor or subcontractor to the penalties, sanctions and other remedies specified in Section this code. 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.

11. FORM FHWA-1273 REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONTRACTS

(Excluding ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS)

[The following 10 pages must be physically inserted into the contract without modification.]

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

FHWA-1273 -- Revised May 1, 2012

- I. General
- II. Nondiscrimination
- III. No 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. Compliance with Government wide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

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 (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).

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.

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). 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 bid proposal or request for proposal 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).

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.
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. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 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 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, 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 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, 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 230, 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 (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 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 35 and 29 CFR 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.
- 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, 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."

FHWA-1273 -- Revised May 1, 2012

2. EEO Officer: The contractor will designate and make known to the contracting officers and EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting and 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 who 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.
- 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, national origin, age or disability. The following procedures shall be followed:

- a. The contractor will conduct periodic inspections of project sites to insure 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. 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, 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, 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 there under. 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, 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 and 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. Assurance Required by 49 CFR 26.13(b):

- a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.
- b. The contractor 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 contracting agency deems appropriate.

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 \$10,000 or more.

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, 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). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

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

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. 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 shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall 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 shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore 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 utilized 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) 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 shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. 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.
- (3) 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 shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour 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.
- (4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.
- c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
- d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, 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.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and

current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency.

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(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 of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

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4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

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

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. 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. 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 journeymen 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.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 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.

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.

- a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

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 watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which 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 (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 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.

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

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

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

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" 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:
 - (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.

2. 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. 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.
5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

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 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.
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 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).
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 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 1, 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

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

FHWA-1273 -- Revised May 1, 2012

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.

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.
- 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 or default.
- 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.
- 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 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contractor). "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 grantee or subgrantee 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.
- 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.

- 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. 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 Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.
- 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. 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) 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;
 - (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; 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.
- b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

FHWA-1273 -- Revised May 1, 2012

2. 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)

- a. By signing and submitting this proposal, the prospective lower tier 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.
- 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 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 grantee or subgrantee 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 grantee or subgrantee 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.
- 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.
- 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 Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

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 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.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.
2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

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 20).

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 information of participant is not required to exceed that which is \$100,000 and that all such recipients shall certify and disclose accordingly.

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	28.9
	7360 San Francisco-Oakland CA Alameda; CA Contra Costa; CA Marin; CA San Francisco; CA San Mateo	25.6
	7400 San Jose, CA CA Santa Clara, CA	19.6
	7485 Santa Cruz, CA CA Santa Cruz	14.9
	7500 Santa Rosa CA Sonoma	9.1
	8720 Vallejo-Fairfield-Napa, CA CA Napa; CA Solano	17.1
	Non-SMSA Counties: CA Lake; CA Mendocino; CA San Benito	23.2
177	Sacramento, CA: SMSA Counties: 6920 Sacramento, CA CA Placer; CA Sacramento; CA Yolo	16.1
	Non-SMSA Counties CA Butte; CA Colusa; CA El Dorado; CA Glenn; CA Nevada; CA Sierra; CA Sutter; CA Yuba	14.3
178	Stockton-Modesto, CA: SMSA Counties: 5170 Modesto, CA CA Stanislaus	12.3
	8120 Stockton, CA CA San Joaquin	24.3
	Non-SMSA Counties CA Alpine; CA Amador; CA Calaveras; CA Mariposa; CA Merced; CA Tuolumne	19.8
179	Fresno-Bakersfield, CA SMSA Counties: 0680 Bakersfield, CA CA Kern	19.1
	2840 Fresno, CA	26.1

	CA Fresno Non-SMSA Counties: CA Kings; CA Madera; CA Tulare	23.6
180	Los Angeles, CA: SMSA Counties: 0360 Anaheim-Santa Ana-Garden Grove, CA	11.9
	CA Orange	28.3
	4480 Los Angeles-Long Beach, CA	21.5
	CA Los Angeles	19.0
	6000 Oxnard-Simi Valley-Ventura, CA	19.0
	CA Ventura	19.7
	6780 Riverside-San Bernardino-Ontario, CA	19.7
	CA Riverside; CA San Bernardino	24.6
7480 Santa Barbara-Santa Maria-Lompoc, CA		
CA Santa Barbara		
Non-SMSA Counties		
CA Inyo; CA Mono; CA San Luis Obispo		
181	San Diego, CA: SMSA Counties	16.9
	7320 San Diego, CA	
	CA San Diego	
	Non-SMSA Counties	18.2
	CA Imperial	

For the last full week July during which work is performed under the contract, you 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

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:

- (1) 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.
- (2) 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.
- (3) 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.
- (4) 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 California Department of Transportation 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 California Department of Transportation or the FHWA as appropriate, and shall set forth what efforts CONTRACTOR has made to obtain the information.

- (5) Sanctions for Noncompliance: In the event of CONTRACTOR's noncompliance with the nondiscrimination provisions of this agreement, the California Department of Transportation shall impose such agreement sanctions as it or the FHWA may determine to be appropriate, including, but not limited to:
- (a) withholding of payments to CONTRACTOR under the Agreement within a reasonable period of time, not to exceed 90 days; and/or
 - (b) cancellation, termination or suspension of the Agreement, in whole or in part.
- (6) 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 California Department of Transportation 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 California Department of Transportation 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.

14. USE OF UNITED STATES-FLAG VESSELS (CARGO PREFERENCE ACT)

The CONTRACTOR 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 carries, 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.
2. To Furnish within 20 days following the date of loading for shipments originating within the United State 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 (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.
3. To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

Federal Trainee Program Special Provisions
(to be used when applicable)**15. 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 specified in the special provisions.

As part of your equal opportunity affirmative action program, provide on-the-job training to develop full journeymen in the types of trades or job classifications involved.

You have primary responsibility for meeting this training requirement.

If you subcontract a contract part, determine how many trainees or apprentices are to be trained by the subcontractor.

Include these training requirements in your 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 your needs and the availability of journeymen in the various classifications within a reasonable recruitment area.

Before starting work, 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

Obtain the City/County's of _____ approval for this submitted information before you start work. The City/County of _____ credits you for each apprentice or trainee you employ on the work 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 journeymen status. 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. Show that you have made the efforts. In making these efforts, do not discriminate against any applicant for training.

Do 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

Ask the employee if the employee has successfully completed a training course leading to journeyman status or has been employed as a journeyman. Your records must show the employee's answers to the questions.

In your training program, 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 your 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

Obtain the State's approval for your training program before you start work involving the classification covered by the program.

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 you 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 you do at least one of the following:
 - Contribute to the cost of the training
 - Provide the instruction to the apprentice or trainee
 - Pay the apprentice's or trainee's wages during the off-site training period
3. If you comply 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:

1. Copy of the program you will comply with in providing the training

Appendix D – Federal Wage Determination

"General Decision Number: CA20200024 01/03/2020

Superseded General Decision Number: CA20190024

State: California

Construction Types: Building, Heavy (Heavy and Dredging) and
Highway

County: Orange County in California.

BUILDING CONSTRUCTION PROJECTS; DREDGING PROJECTS (does not
include hopper dredge work); HEAVY CONSTRUCTION PROJECTS (does
not include water well drilling); HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage
of \$10.80 for calendar year 2020 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, 2015.
If this contract is covered by the EO, the contractor must pay

all workers in any classification listed on this wage determination at least \$10.80 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 calendar year 2020. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/03/2020

ASBE0005-002 07/01/2019

Rates

Fringes

Asbestos Workers/Insulator

(Includes the application of

all insulating materials,

protective coverings,

coatings, and finishes to all

types of mechanical systems).....\$ 43.77

22.48

Fire Stop Technician

(Application of Firestopping

Materials for wall openings

and penetrations in walls,

floors, ceilings and curtain

walls).....\$ 27.92

18.31

ASBE0005-004 07/01/2019

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)....\$ 20.63 12.17

 * BRCA0004-010 05/01/2018

	Rates	Fringes
BRICKLAYER; MARBLE SETTER.....	\$ 39.98	14.90

*The wage scale for prevailing wage projects performed in Blythe, China lake, Death Valley, Fort Irwin, Twenty-Nine Palms, Needles and 1-15 corridor (Barstow to the Nevada State Line) will be Three Dollars (\$3.00) above the standard San Bernardino/Riverside County hourly wage rate

 BRCA0018-004 06/01/2019

	Rates	Fringes
MARBLE FINISHER.....	\$ 33.43	14.11
TILE FINISHER.....	\$ 28.23	12.65
TILE LAYER.....	\$ 40.07	18.36

 BRCA0018-010 09/01/2018

	Rates	Fringes
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TERRAZZO FINISHER.....	\$ 31.25	13.41
TERRAZZO WORKER/SETTER.....	\$ 38.39	14.18

CARP0409-001 07/01/2018

Rates Fringes

CARPENTER

(1) Carpenter, Cabinet Installer, Insulation Installer, Hardwood Floor Worker and acoustical installer.....	\$ 41.84	19.17
(2) Millwright.....	\$ 42.91	19.17
(3) Piledrivermen/Derrick Bargeman, Bridge or Dock Carpenter, Heavy Framer, Rock Bargeman or Scowman, Rockslinger, Shingler (Commercial).....	\$ 42.54	19.17
(4) Pneumatic Nailer, Power Stapler.....	\$ 40.09	19.17
(5) Sawfiler.....	\$ 39.83	19.17
(6) Scaffold Builder.....	\$ 31.60	19.17
(7) Table Power Saw Operator.....	\$ 40.93	19.17

FOOTNOTE: Work of forming in the construction of open cut sewers or storm drains, on operations in which horizontal lagging is used in conjunction with steel H-Beams driven or placed in pre- drilled holes, for that portion of a lagged trench against which concrete is poured, namely, as a substitute for back forms (which work is performed by piledrivers): \$0.13 per hour additional.

 CARP0409-005 07/01/2015

	Rates	Fringes
Drywall		
DRYWALL INSTALLER/LATHER.....\$	37.35	11.08
STOCKER/SCRAPPER.....\$	10.00	7.17

 CARP0409-008 08/01/2010

	Rates	Fringes
Modular Furniture Installer.....\$	17.00	7.41

 ELEC0011-002 12/31/2018

COMMUNICATIONS AND SYSTEMS WORK

Rates	Fringes
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Communications System

Installer.....	\$ 36.07	3%+14.43
Technician.....	\$ 33.30	3%+27.82

SCOPE OF WORK:

Installation, testing, service and maintenance of systems utilizing the transmission and/or transference of voice, sound, vision and digital for commercial, educational, 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 systems, radio page, school intercom and sound, burglar alarms, fire alarm (see last paragraph below) and low voltage master clock systems in commercial buildings. Communication Systems that transmit or receive information and/or control systems that are intrinsic to the above listed systems; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding all other data systems or multiple systems which include control function or power supply; excluding installation of raceway systems, conduit systems, line voltage work, and energy management systems. Does not cover work performed at China Lake Naval Ordnance Test

Station. Fire alarm work shall be performed at the current inside wireman total cost package.

* ELEC0441-001 08/26/2019

	Rates	Fringes
CABLE SPLICER.....	\$ 46.72	21.59
ELECTRICIAN.....	\$ 44.67	21.53

* ELEC0441-003 12/31/2018

COMMUNICATIONS & SYSTEMS WORK (excludes any work on Intelligent Transportation Systems or CCTV highway systems)

	Rates	Fringes
Communications System		
Installer.....	\$ 35.12	13.77
Technician.....	\$ 31.23	15.39

SCOPE OF WORK The work covered shall include the installation, testing, service and maintenance, of the following systems that utilize the transmission and/or transference of voice, sound, vision and digital for

commercial, education, security and entertainment purposes for 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. Communication systems that transmit or receive information and/or control systems that are intrinsic to the above listed systems SCADA (Supervisory control/data acquisition PCM (Pulse code modulation) Inventory control systems Digital data systems Broadband & baseband and carriers Point of sale systems VSAT data systems Data communication systems RF and remote control systems Fiber optic data systems

B. Sound and Voice Transmission/Transference Systems Background-Foreground Music Intercom and Telephone Interconnect Systems Sound and Musical Entertainment Systems Nurse Call Systems Radio Page Systems School Intercom and Sound Systems Burglar Alarm Systems Low-Voltage Master Clock Systems Multi-Media/Multiplex Systems Telephone Systems RF Systems and Antennas and Wave Guide

C. *Fire Alarm Systems-installation, wire pulling and

testing.

D. Television and Video Systems Television Monitoring and Surveillance Systems Video Security Systems Video Entertainment Systems Video Educational Systems CATV and CCTV

E. Security Systems, Perimeter Security Systems, Vibration Sensor Systems Sonar/Infrared Monitoring Equipment, Access Control Systems, Card Access Systems

*Fire Alarm Systems

- 1. Fire Alarms-In Raceways: Wire and cable pulling in raceways performed at the current electrician wage rate and fringe benefits.
- 2. Fire Alarms-Open Wire Systems: installed by the Technician.

* ELEC0441-004 08/26/2019

Rates Fringes

ELECTRICIAN (TRANSPORTATION SYSTEMS, TRAFFIC SIGNALS & STREET LIGHTING)

Cable Splicer/Fiber Optic

Splicer.....	\$ 45.27	21.55
Electrician.....	\$ 44.67	21.53
Technician.....	\$ 33.50	21.20

SCOPE OF WORK: Electrical work on public streets, freeways, toll-ways, etc, above or below ground. All work necessary for the installation, renovation, repair or removal of Intelligent Transportation Systems, Video Surveillance Systems (CCTV), Street Lighting and and Traffic Signal work or systems whether underground or on bridges. Includes dusk to dawn lighting installations and ramps for access to or egress from freeways, toll-ways, etc.

Intelligent Transportation Systems shall include all systems and components to control, monitor, and communicate with pedestrian or vehicular traffic, included but not limited to: installation, modification, removal of all Fiber optic Video System, Fiber Optic Data Systems, Direct interconnect and Communications Systems, Microwave Data and Video Systems, Infrared and Sonic Detection Systems, Solar Power Systems, Highway Advisory Radio Systems, highway Weight and Motion Systems, etc.

Any and all work required to install and maintain any specialized or newly developed systems. All cutting, fitting and bandaging of ducts, raceways, and conduits. The cleaning, rodding and installation of ""fish and pull wires"". The excavation, setting, leveling and grouting of precast manholes, vaults, and pull boxes including ground

rods or grounding systems, rock necessary for leveling and drainagae as well as pouring of a concrete envelope if needed.

JOURNEYMAN TRANSPORTATION ELECTRICIAN shall perform all tasks necessary toinstall the complete transportation system.

JOURNEYMAN TECHNICIAN duties shall consist of: Distribution of material at job site, manual excavation and backfill, installation of system conduits and raceways for electrical, telephone, cable television and commmunication systems. Pulling, terminating and splicing of traffic signal and street lighting conductors and electrical systems including interconnect, dector loop, fiber optic cable and video/data.

* ELEC1245-001 06/01/2019

Rates Fringes

LINE CONSTRUCTION

(1) Lineman; Cable splicer..\$ 58.09 19.36

(2) Equipment specialist

(operates crawler

tractors, commercial motor

vehicles, backhoes,

trenchers, cranes (50 tons

and below), overhead & underground distribution line equipment).....	\$ 46.40	18.17
(3) Groundman.....	\$ 35.47	17.79
(4) Powderman.....	\$ 49.55	3%+17.65

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

ELEV0018-001 01/01/2019

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 55.58	34.125

FOOTNOTE:

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.
PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day,
Labor Day, Veterans Day, Thanksgiving Day, Friday after
Thanksgiving, and Christmas Day.

ENGI0012-003 07/01/2018

Rates Fringes

OPERATOR: Power Equipment

(All Other Work)

GROUP 1.....	\$ 45.30	25.25
GROUP 2.....	\$ 46.08	25.25
GROUP 3.....	\$ 46.37	25.25
GROUP 4.....	\$ 47.86	25.25
GROUP 5.....	\$ 48.96	25.25
GROUP 6.....	\$ 48.08	25.25
GROUP 8.....	\$ 48.19	25.25
GROUP 9.....	\$ 49.29	25.25
GROUP 10.....	\$ 48.31	25.25
GROUP 11.....	\$ 49.41	25.25
GROUP 12.....	\$ 48.48	25.25
GROUP 13.....	\$ 48.58	25.25
GROUP 14.....	\$ 48.61	25.25
GROUP 15.....	\$ 48.69	25.25
GROUP 16.....	\$ 48.81	25.25
GROUP 17.....	\$ 48.98	25.25
GROUP 18.....	\$ 49.08	25.25
GROUP 19.....	\$ 49.19	25.25
GROUP 20.....	\$ 49.31	25.25
GROUP 21.....	\$ 49.48	25.25
GROUP 22.....	\$ 49.58	25.25
GROUP 23.....	\$ 49.69	25.25

GROUP 24.....\$ 49.81 25.25

GROUP 25.....\$ 49.98 25.25

OPERATOR: Power Equipment

(Cranes, Piledriving &

Hoisting)

GROUP 1.....\$ 46.65 25.25

GROUP 2.....\$ 47.43 25.25

GROUP 3.....\$ 47.72 25.25

GROUP 4.....\$ 47.86 25.25

GROUP 5.....\$ 48.08 25.25

GROUP 6.....\$ 48.19 25.25

GROUP 7.....\$ 48.31 25.25

GROUP 8.....\$ 48.48 25.25

GROUP 9.....\$ 48.65 25.25

GROUP 10.....\$ 49.65 25.25

GROUP 11.....\$ 50.65 25.25

GROUP 12.....\$ 51.65 25.25

GROUP 13.....\$ 52.65 25.25

OPERATOR: Power Equipment

(Tunnel Work)

GROUP 1.....\$ 47.15 25.25

GROUP 2.....\$ 47.93 25.25

GROUP 3.....\$ 48.22 25.25

GROUP 4.....\$ 48.39 25.25

GROUP 5.....\$ 48.58 25.25

GROUP 6.....\$ 48.69 25.25

GROUP 7.....\$ 48.81 25.25

PREMIUM PAY:

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

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

SEE ZONE DEFINITIONS AFTER CLASSIFICATIONS

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

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

GROUP 2: Asphalt-rubber plant operator (nurse tank operator); Concrete mixer operator-skip type; Conveyor operator;

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

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

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

(asphalt or concrete); Trenching machine operator (up to 6 ft.); Vacuum or much truck

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

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

driven hydraulic lifting device for concrete forms);
Tractor operator-bulldozer, tamper-scraper (single engine,
up to 100 h.p. flywheel and similar types, up to and
including D-5 and similar types); Tugger hoist operator (1
drum); Ultra high pressure waterjet cutting tool system
operator; Vacuum blasting machine operator

GROUP 8: Asphalt or concrete spreading operator (tamping or
finishing); Asphalt paving machine operator (Barber Greene
or similar type); Asphalt-rubber distribution operator;
Backhoe operator (up to and including 3/4 yd.), small ford,
Case or similar; Cast-in-place pipe laying machine
operator; Combination mixer and compressor operator (gunite
work); Compactor operator (self-propelled); Concrete mixer
operator (paving); Crushing plant operator; Drill Doctor;
Drilling machine operator, Bucket or auger types (Calweld
150 bucket or similar types - Watson 1500, 2000 2500 auger
or similar types - Texoma 700, 800 auger or similar types -
drilling depth of 60' maximum); Elevating grader operator;
Grade checker; Gradall operator; Grouting machine operator;
Heavy-duty repairman; Heavy equipment robotics operator;
Kalamazoo balliste regulator or similar type; Kolman belt
loader and similar type; Le Tourneau blob compactor or
similar type; Loader operator (Athey, Euclid, Sierra and
similar types); Mobark Chipper or similar; Ozzie padder or
similar types; P.C. slot saw; Pneumatic concrete placing
machine operator (Hackley-Presswell or similar type);

Pumpcrete gun operator; Rock Drill or similar types; Rotary drill operator (excluding caisson type); Rubber-tired earth-moving equipment operator (single engine, caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator (multiple engine up to and including 25 yds. struck); Rubber-tired scraper operator (self-loading paddle wheel type-John Deere, 1040 and similar single unit); Self-propelled curb and gutter machine operator; Shuttle buggy; Skiploader operator (crawler and wheel type over 1-1/2 yds. up to and including 6-1/2 yds.); Soil remediation plant operator; Surface heaters and planer operator; Tractor compressor drill combination operator; Tractor operator (any type larger than D-5 - 100 flywheel h.p. and over, or similar-bulldozer, tamper, scraper and push tractor single engine); Tractor operator (boom attachments), Traveling pipe wrapping, cleaning and bending machine operator; Trenching machine operator (over 6 ft. depth capacity, manufacturer's rating); trenching Machine with Road Miner attachment (over 6 ft depth capacity): Ultra high pressure waterjet cutting tool system mechanic; Water pull (compaction) operator

GROUP 9: Heavy Duty Repairman

GROUP 10: Drilling machine operator, Bucket or auger types

(Calweld 200 B bucket or similar types-Watson 3000 or 5000 auger or similar types-Texoma 900 auger or similar types-drilling depth of 105' maximum); Dual drum mixer, dynamic compactor LDC350 (or similar types); Monorail locomotive operator (diesel, gas or electric); Motor patrol-blade operator (single engine); Multiple engine tractor operator (Euclid and similar type-except Quad 9 cat.); Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Pneumatic pipe ramming tool and similar types; Prestressed wrapping machine operator; Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Rubber tired earth moving equipment operator (multiple engine, Euclid, caterpillar and similar over 25 yds. and up to 50 yds. struck), Tower crane repairman; Tractor loader operator (crawler and wheel type over 6-1/2 yds.); Woods mixer operator (and similar Pugmill equipment)

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

GROUP 12: Auto grader operator; Automatic slip form operator; Drilling machine operator, bucket or auger types (Calweld, auger 200 CA or similar types - Watson, auger 6000 or similar types - Hughes Super Duty, auger 200 or similar types - drilling depth of 175' maximum); Hoe ram or similar with compressor; Mass excavator operator less tha 750 cu.

yards; Mechanical finishing machine operator; Mobile form traveler operator; Motor patrol operator (multi-engine); Pipe mobile machine operator; Rubber-tired earth-moving equipment operator (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck); Rubber-tired self-loading scraper operator (paddle-wheel-auger type self-loading - two (2) or more units)

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

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

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

GROUP 16: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine,

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

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

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

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

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

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

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

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

yds. struck)

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

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

CRANES, PILEDIVING AND HOISTING EQUIPMENT CLASSIFICATIONS

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

GROUP 2: Truck crane oiler

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

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

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

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

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

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

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

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

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

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

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

GROUP 13: Crane operator (over 300 tons); Derrick barge

operator (over 300 tons); Helicopter pilot; Hoist operator, stiff legs, Guy derrick or similar type (over 300 tons); Mobile tower crane operator (over 300 tons)

TUNNEL CLASSIFICATIONS

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

GROUP 2: Power-driven jumbo form setter operator

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

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

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

shield (tunnel); Pumpcrete gun operator; Tractor compressor
drill combination operator; Tugger hoist operator (2 drum);
Tunnel locomotive operator (over 30 tons)

GROUP 6: Heavy Duty Repairman

GROUP 7: Tunnel mole boring machine operator

ENGINEERS ZONES

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

That area within the following Boundary: Begin in San
Bernardino County, approximately 3 miles NE of the intersection
of I-15 and the California State line at that point which is
the NW corner of Section 1, T17N,m R14E, San Bernardino
Meridian. Continue W in a straight line to that point which is
the SW corner of the northwest quarter of Section 6, T27S,
R42E, Mt. Diablo Meridian. Continue North to the intersection
with the Inyo County Boundary at that point which is the NE
corner of the western half of the northern quarter of Section
6, T25S, R42E, MDM. Continue W along the Inyo and San
Bernardino County boundary until the intersection with Kern
County, as that point which is the SE corner of Section 34,
T24S, R40E, MDM. Continue W along the Inyo and Kern County

boundary until the intersection with Tulare County, at that point which is the SW corner of the SE quarter of Section 32, T24S, R37E, MDM. Continue W along the Kern and Tulare County boundary, until that point which is the NW corner of T25S, R32E, MDM. Continue S following R32E lines to the NW corner of T31S, R32E, MDM. Continue W to the NW corner of T31S, R31E, MDM. Continue S to the SW corner of T32S, R31E, MDM. Continue W to SW corner of SE quarter of Section 34, T32S, R30E, MDM. Continue S to SW corner of T11N, R17W, SBM. Continue E along south boundary of T11N, SBM to SW corner of T11N, R7W, SBM. Continue S to SW corner of T9N, R7W, SBM. Continue E along south boundary of T9N, SBM to SW corner of T9N, R1E, SBM. Continue S along west boundary of R1E, SMB to Riverside County line at the SW corner of T1S, R1E, SBM. Continue E along south boundary of T1s, SBM (Riverside County Line) to SW corner of T1S, R10E, SBM. Continue S along west boundary of R10E, SBM to Imperial County line at the SW corner of T8S, R10E, SBM. Continue W along Imperial and Riverside county line to NW corner of T9S, R9E, SBM. Continue S along the boundary between Imperial and San Diego Counties, along the west edge of R9E, SBM to the south boundary of Imperial County/California state line. Follow the California state line west to Arizona state line, then north to Nevada state line, then continuing NW back to start at the point which is the NW corner of Section 1, T17N, R14E, SBM

\$1.00 additional per hour for portions of SAN LUIS OBISPO,

KERN, SANTA BARBARA & VENTURA as defined below:

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

T25S, R21E, MDM, continue West along the Kings County and Kern County Boundary until the intersection of San Luis Obispo County. Continue west along the Kings County and San Luis Obispo County boundary until the intersection with Monterey County. Continue West along the Monterey County and San Luis Obispo County boundary to the beginning point at the NW corner of T25S, R16E, MDM.

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

That area within the following Boundary: Begin at the intersection of the northern boundary of Mono County and the California state line at the point which is the center of Section 17, T10N, R22E, Mt. Diablo Meridian. Continue S then SE along the entire western boundary of Mono County, until it reaches Inyo County at the point which is the NE corner of the Western half of the NW quarter of Section 2, T8S, R29E, MDM. Continue SSE along the entire western boundary of Inyo County, until the intersection with Kern County at the point which is the SW corner of the SE 1/4 of Section 32, T24S, R37E, MDM. Continue E along the Inyo and Kern County boundary until the intersection with San Bernardino County at that point which is the SE corner of section 34, T24S, R40E, MDM. Continue E along the Inyo and San Bernardino County boundary until the point which is the NE corner of the Western half of the NW quarter of

Section 6, T25S, R42E, MDM. Continue S to that point which is the SW corner of the NW quarter of Section 6, T27S, R42E, MDM. Continue E in a straight line to the California and Nevada state border at the point which is the NW corner of Section 1, T17N, R14E, San Bernardino Meridian. Then continue NW along the state line to the starting point, which is the center of Section 18, T10N, R22E, MDM.

REMAINING AREA NOT DEFINED ABOVE RECIEVES BASE RATE

 ENGI0012-004 08/01/2015

	Rates	Fringes
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OPERATOR: Power Equipment
 (DREDGING)

(1) Leverman.....	\$ 49.50	23.60
(2) Dredge dozer.....	\$ 43.53	23.60
(3) Deckmate.....	\$ 43.42	23.60
(4) Winch operator (stern winch on dredge).....	\$ 42.87	23.60
(5) Fireman-Oiler, Deckhand, Bargeman, Leveehand.....	\$ 42.33	23.60
(6) Barge Mate.....	\$ 42.94	23.60

* IRON0377-002 07/01/2019

	Rates	Fringes
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Ironworkers:

Fence Erector.....	\$ 33.58	24.66
Ornamental, Reinforcing and Structural.....	\$ 40.00	33.30

PREMIUM PAY:

\$6.00 additional per hour at the following locations:

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

\$4.00 additional per hour at the following locations:

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

\$2.00 additional per hour at the following locations:

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

LAB00300-005 01/01/2018

	Rates	Fringes
Asbestos Removal Laborer.....	\$ 33.19	17.78

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

* LAB00345-001 07/01/2019

	Rates	Fringes
LABORER (GUNITE)		
GROUP 1.....	\$ 44.05	18.42

GROUP 2.....\$ 43.10 18.42

GROUP 3.....\$ 39.56 18.42

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

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Rodmen, Nozzlemen

GROUP 2: Gunmen

GROUP 3: Reboundmen

* LAB00652-001 07/01/2019

	Rates	Fringes
LABORER (TUNNEL)		
GROUP 1.....	\$ 40.19	19.07
GROUP 2.....	\$ 40.51	19.07
GROUP 3.....	\$ 40.97	19.07
GROUP 4.....	\$ 41.66	19.07

LABORER		
GROUP 1.....	\$ 35.24	20.09
GROUP 2.....	\$ 35.79	20.09
GROUP 3.....	\$ 36.34	20.09
GROUP 4.....	\$ 37.89	20.09
GROUP 5.....	\$ 38.24	20.09

LABORER CLASSIFICATIONS

GROUP 1: Cleaning and handling of panel forms; Concrete screeding for rough strike-off; Concrete, water curing; Demolition laborer, the cleaning of brick if performed by a worker performing any other phase of demolition work, and the cleaning of lumber; Fire watcher, limber, brush loader, piler and debris handler; Flag person; Gas, oil and/or water pipeline laborer; Laborer, asphalt-rubber material loader; Laborer, general or construction; Laborer, general clean-up; Laborer, landscaping; Laborer, jetting; Laborer,

temporary water and air lines; Material hose operator (walls, slabs, floors and decks); Plugging, filling of shee bolt holes; Dry packing of concrete; Railroad maintenance, repair track person and road beds; Streetcar and railroad construction track laborers; Rigging and signaling; Scaler; Slip form raiser; Tar and mortar; Tool crib or tool house laborer; Traffic control by any method; Window cleaner; Wire mesh pulling - all concrete pouring operations

GROUP 2: Asphalt shoveler; Cement dumper (on 1 yd. or larger mixer and handling bulk cement); Cesspool digger and installer; Chucktender; Chute handler, pouring concrete, the handling of the chute from readymix trucks, such as walls, slabs, decks, floors, foundation, footings, curbs, gutters and sidewalks; Concrete curer, impervious membrane and form oiler; Cutting torch operator (demolition); Fine grader, highways and street paving, airport, runways and similar type heavy construction; Gas, oil and/or water pipeline wrapper - pot tender and form person; Guinea chaser; Headerboard person - asphalt; Laborer, packing rod steel and pans; Membrane vapor barrier installer; Power broom sweeper (small); Riprap stonepaver, placing stone or wet sacked concrete; Roto scraper and tiller; Sandblaster (pot tender); Septic tank digger and installer(lead); Tank scaler and cleaner; Tree climber, faller, chain saw operator, Pittsburgh chipper and similar type brush shredder; Underground laborer, including caisson bellower

GROUP 3: Buggymobile person; Concrete cutting torch; Concrete pile cutter; Driller, jackhammer, 2-1/2 ft. drill steel or longer; Dri-pak-it machine; Gas, oil and/or water pipeline wrapper, 6-in. pipe and over, by any method, inside and out; High scaler (including drilling of same); Hydro seeder and similar type; Impact wrench multi-plate; Kettle person, pot person and workers applying asphalt, lay-kold, creosote, lime caustic and similar type materials ("applying" means applying, dipping, brushing or handling of such materials for pipe wrapping and waterproofing); Operator of pneumatic, gas, electric tools, vibrating machine, pavement breaker, air blasting, come-alongs, and similar mechanical tools not separately classified herein; Pipelayer's backup person, coating, grouting, making of joints, sealing, caulking, diapering and including rubber gasket joints, pointing and any and all other services; Rock slinger; Rotary scarifier or multiple head concrete chipping scarifier; Steel headerboard and guideline setter; Tamper, Barko, Wacker and similar type; Trenching machine, hand-propelled

GROUP 4: Asphalt raker, lute person, ironer, asphalt dump person, and asphalt spreader boxes (all types); Concrete core cutter (walls, floors or ceilings), grinder or sander; Concrete saw person, cutting walls or flat work, scoring old or new concrete; Cribber, shorer, lagging, sheeting and

trench bracing, hand-guided lagging hammer; Head rock slinger; Laborer, asphalt- rubber distributor boot person; Laser beam in connection with laborers' work; Oversize concrete vibrator operator, 70 lbs. and over; Pipelayer performing all services in the laying and installation of pipe from the point of receiving pipe in the ditch until completion of operation, including any and all forms of tubular material, whether pipe, metallic or non-metallic, conduit and any other stationary type of tubular device used for the conveying of any substance or element, whether water, sewage, solid gas, air, or other product whatsoever and without regard to the nature of material from which the tubular material is fabricated; No-joint pipe and stripping of same; Prefabricated manhole installer; Sandblaster (nozzle person), water blasting, Porta Shot-Blast

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

TUNNEL LABORER CLASSIFICATIONS

GROUP 1: Batch plant laborer; Changehouse person; Dump

person; Dump person (outside); Swamper (brake person and switch person on tunnel work); Tunnel materials handling person; Nipper; Pot tender, using mastic or other materials (for example, but not by way of limitation, shotcrete, etc.)

GROUP 2: Chucktender, cabletender; Loading and unloading agitator cars; Vibrator person, jack hammer, pneumatic tools (except driller); Bull gang mucker, track person; Concrete crew, including rodder and spreader

GROUP 3: Blaster, driller, powder person; Chemical grout jet person; Cherry picker person; Grout gun person; Grout mixer person; Grout pump person; Jackleg miner; Jumbo person; Kemper and other pneumatic concrete placer operator; Miner, tunnel (hand or machine); Nozzle person; Operating of troweling and/or grouting machines; Powder person (primer house); Primer person; Sandblaster; Shotcrete person; Steel form raiser and setter; Timber person, retimber person, wood or steel; Tunnel Concrete finisher

GROUP 4: Diamond driller; Sandblaster; Shaft and raise work

LAB00652-003 07/01/2018

Rates

Fringes

Brick Tender.....\$ 32.26 18.40

LAB01184-001 07/01/2019

Rates Fringes

Laborers: (HORIZONTAL DIRECTIONAL DRILLING)

(1) Drilling Crew Laborer...	\$ 36.70	15.05
(2) Vehicle Operator/Hauler.	\$ 36.87	15.05
(3) Horizontal Directional Drill Operator.....	\$ 38.72	15.05
(4) Electronic Tracking Locator.....	\$ 40.72	15.05

Laborers: (STRIPING/SLURRY SEAL)

GROUP 1.....	\$ 37.91	18.06
GROUP 2.....	\$ 39.21	18.06
GROUP 3.....	\$ 41.22	18.06
GROUP 4.....	\$ 42.96	18.06

LABORERS - STRIPING CLASSIFICATIONS

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

repair technician

GROUP 2: Traffic surface abrasive blaster; pot tender - removal of all traffic lines and markings by any method (sandblasting, waterblasting, grinding, etc.) and preparation of surface for coatings. Traffic control person: controlling and directing traffic through both conventional and moving lane closures; operation of all related machinery and equipment

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

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

LABO1414-001 08/07/2019

	Rates	Fringes
LABORER		
PLASTER CLEAN-UP LABORER....\$	34.82	20.02
PLASTER TENDER.....\$	37.37	20.02

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

PAIN0036-001 07/01/2018

	Rates	Fringes
Painters: (Including Lead Abatement)		
(1) Repaint (excludes San Diego County).....\$	27.59	14.92
(2) All Other Work.....\$	31.12	15.04

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

PAIN0036-008 10/01/2018

	Rates	Fringes
DRYWALL FINISHER/TAPER.....	\$ 40.18	19.22

PAIN0036-015 06/01/2018

	Rates	Fringes
GLAZIER.....	\$ 42.20	25.50

FOOTNOTE: Additional \$1.25 per hour for work in a condor,
from the third (3rd) floor and up Additional \$1.25 per
hour for work on the outside of the building from a swing
stage or any suspended contrivance, from the ground up

PAIN1247-002 01/01/2019

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 35.35	14.56

* PLAS0200-009 08/07/2019

Rates Fringes

PLASTERER.....\$ 43.73 16.03

PLAS0500-002 07/01/2019

Rates Fringes

CEMENT MASON/CONCRETE FINISHER...\$ 37.00 25.53

PLUM0016-001 09/01/2018

Rates Fringes

PLUMBER/PIPEFITTER

Plumber and Pipefitter
All other work except
work on new additions and
remodeling of bars,
restaurant, stores and
commercial buildings not
to exceed 5,000 sq. ft.
of floor space and work
on strip malls, light
commercial, tenant
improvement and remodel

work.....\$ 50.13 22.16

Work ONLY on new additions and remodeling of bars, restaurant, stores and commercial buildings not to exceed 5,000 sq. ft. of

floor space.....\$ 48.58 21.18

Work ONLY on strip malls, light commercial, tenant improvement and remodel

work.....\$ 37.10 19.51

PLUM0345-001 09/01/2019

Rates Fringes

PLUMBER

Landscape/Irrigation Fitter.\$ 34.40 23.05

Sewer & Storm Drain Work....\$ 34.40 23.05

ROOF0036-002 08/01/2019

Rates Fringes

ROOFER.....\$ 39.52 17.47

FOOTNOTE: Pitch premium: Work on which employees are exposed

to pitch fumes or required to handle pitch, pitch base or pitch impregnated products, or any material containing coal tar pitch, the entire roofing crew shall receive \$1.75 per hour ""pitch premium"" pay.

* SFCA0669-008 04/01/2019

DOES NOT INCLUDE SAN CLEMENTE ISLAND, THE CITY OF SANTA ANA, AND THAT PART OF ORANGE COUNTY WITHIN 25 MILES OF THE CITY LIMITS OF LOS ANGELES:

	Rates	Fringes
SPRINKLER FITTER.....	\$ 38.85	23.85

SFCA0709-003 01/01/2018

SAN CLEMENTE ISLAND, THE CITY OF SANTA ANA, AND THAT PART OF ORANGE COUNTY WITHIN 25 MILES BEYOND THE CITY LIMITS OF LOS ANGELES:

	Rates	Fringes
SPRINKLER FITTER (Fire).....	\$ 42.26	25.92

SHEE0105-003 01/01/2019

LOS ANGELES (South of a straight line drawn between Gorman and Big Pines)and Catalina Island, INYO, KERN (Northeast part, East of Hwy 395), MONO ORANGE, RIVERSIDE, AND SAN BERNARDINO COUNTIES

Rates Fringes

SHEET METAL WORKER

(1) Commercial - New

Construction and Remodel

work.....\$ 44.28 28.46

(2) Industrial work

including air pollution

control systems, noise

abatement, hand rails,

guard rails, excluding

aritechtural sheet metal

work, excluding A-C,

heating, ventilating

systems for human comfort...\$ 44.28 28.46

TEAM0011-002 07/01/2019

Rates Fringes

TRUCK DRIVER

GROUP 1.....	\$ 31.59	29.59
GROUP 2.....	\$ 31.74	29.59
GROUP 3.....	\$ 31.87	29.59
GROUP 4.....	\$ 32.06	29.59
GROUP 5.....	\$ 32.09	29.59
GROUP 6.....	\$ 32.12	29.59
GROUP 7.....	\$ 32.37	29.59
GROUP 8.....	\$ 32.62	29.59
GROUP 9.....	\$ 32.82	29.59
GROUP 10.....	\$ 33.12	29.59
GROUP 11.....	\$ 33.62	29.59
GROUP 12.....	\$ 34.05	29.59

WORK ON ALL MILITARY BASES:

PREMIUM PAY: \$3.00 per hour additional.

[29 palms Marine Base, Camp Roberts, China Lake, Edwards AFB,
 El Centro Naval Facility, Fort Irwin, Marine Corps
 Logistics Base at Nebo & Yermo, Mountain Warfare Training
 Center, Bridgeport, Point Arguello, Point Conception,
 Vandenberg AFB]

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1: Truck driver

GROUP 2: Driver of vehicle or combination of vehicles - 2 axles; Traffic control pilot car excluding moving heavy equipment permit load; Truck mounted broom

GROUP 3: Driver of vehicle or combination of vehicles - 3 axles; Boot person; Cement mason distribution truck; Fuel truck driver; Water truck - 2 axle; Dump truck, less than 16 yds. water level; Erosion control driver

GROUP 4: Driver of transit mix truck, under 3 yds.; Dumpcrete truck, less than 6-1/2 yds. water level

GROUP 5: Water truck, 3 or more axles; Truck greaser and tire person (\$0.50 additional for tire person); Pipeline and utility working truck driver, including winch truck and plastic fusion, limited to pipeline and utility work; Slurry truck driver

GROUP 6: Transit mix truck, 3 yds. or more; Dumpcrete truck, 6-1/2 yds. water level and over; Vehicle or combination of vehicles - 4 or more axles; Oil spreader truck; Dump truck, 16 yds. to 25 yds. water level

GROUP 7: A Frame, Swedish crane or similar; Forklift driver; Ross carrier driver

GROUP 8: Dump truck, 25 yds. to 49 yds. water level; Truck repair person; Water pull - single engine; Welder

GROUP 9: Truck repair person/welder; Low bed driver, 9 axles or over

GROUP 10: Dump truck - 50 yds. or more water level; Water pull - single engine with attachment

GROUP 11: Water pull - twin engine; Water pull - twin engine with attachments; Winch truck driver - \$1.25 additional when operating winch or similar special attachments

GROUP 12: Boom Truck 17K and above

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 www.dol.gov/whd/govcontracts.

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

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical

order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

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

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

Survey Rate Identifiers

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

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

Union Average Rate Identifiers

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

determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

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

WAGE DETERMINATION APPEALS PROCESS

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

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the

Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

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

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

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

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

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material,

etc.) that the requestor considers relevant to the issue.

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

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

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

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END OF GENERAL DECISION

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Appendix E – Form FHWA-1273

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Nonsegregated 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. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

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 (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).

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.

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). 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 bid proposal or request for proposal 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).

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.

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. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 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 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, 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 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, 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 230, 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 (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 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 35 and 29 CFR 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.

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, 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 who 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.

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, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure 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. 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, 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, 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 there under. 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, 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 and 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. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor 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 contracting agency deems appropriate.

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 \$10,000 or more.

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, 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). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

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

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. 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 shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall 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 shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore 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 utilized 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) 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 shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. 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.

(3) 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 shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour 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.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

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

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

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, 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.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(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 of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

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

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

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. 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. 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 journeymen 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.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 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.

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.

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

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

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 watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which 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 (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 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.

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

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

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

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" 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:

(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.

2. 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. 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.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

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 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.

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 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).

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 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 1, 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

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

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.

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.

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.

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.

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 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee 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 grantee or subgrantee 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.

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.

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. 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 Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

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. 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) 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;

(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; 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.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. 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)

a. By signing and submitting this proposal, the prospective lower tier 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.

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 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 grantee or subgrantee 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 grantee or subgrantee 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.

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.

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 Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

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.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

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 20).

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.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS**

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.

Appendix F – Encroachment Permit Application

ENCROACHMENT PERMIT APPLICATION PACKAGE



**CITY OF RANCHO SANTA MARGARITA
22112 El Paseo
Rancho Santa Margarita, CA 92688
(949) 635-1800**

January 2019

ENCROACHMENT PERMIT INSTRUCTIONS

1. Obtain Encroachment Permit Application Package via City website, e-mail, or pick up at City Hall.
2. Submit completed Encroachment Permit Application to the Public Works Department for review, in its entirety including:
 - a. Completed Encroachment Permit form.
 - b. Plans, exhibits, and/or sketches of work to be performed.
 - c. Insurance, if required.
 - d. Signed *Indemnity and Insurance Requirements* form.
 - e. Signed *Statement of Intent to Comply with Minimum Stormwater Permit Requirements* form.
 - f. Surety, if required. Surety forms are available on the City's website (http://www.cityofrsm.org/depts/public_works/forms.asp)
3. The Public Works Department will review, calculate fee/deposits, and develop of conditions of approval to be provided to the Applicant.
 - a. Fees and/or deposits must be submitted to the Public Works Department prior to approval of permit.
4. Upon receipt of fee/deposit payments, and final signature approval, the Public Works Department shall issue permit.
5. Upon issuance of the approved encroachment permit, please contact the Public Works Superintendent at least 2 days prior to permit work (949) 635-1800.

INSPECTION PHONE/EMAIL: (949) 635-1800 ext. 6102 tgregory@cityofrsm.org Inspection office shall be notified at least two (2) work days prior to commencing permitted use. Failure to obtain inspection shall void this permit.	City of Rancho Santa Margarita  ENCROACHMENT PERMIT APPLICATION	Public Works Department 22112 El Paseo Rancho Santa Margarita, CA 92688 <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td style="width:70%;">Tract /PM No.</td><td></td></tr> <tr><td>Permit No:</td><td>EP</td></tr> <tr><td>Effective Date:</td><td></td></tr> <tr><td>Expiration Date</td><td></td></tr> </table>	Tract /PM No.		Permit No:	EP	Effective Date:		Expiration Date	
Tract /PM No.										
Permit No:	EP									
Effective Date:										
Expiration Date										

Applicant: _____ Phone-Day: _____
 Contact: _____ Email: _____ Phone-Night: _____
 Description of Work: _____

Location of Work: _____
 Estimated Start Date: _____ Estimated Completion Date: _____

INDEMNIFICATION

This Encroachment Permit, if granted, is made on the express condition that the City shall be free from any and all liability resulting from its issuance as provided for in Rancho Santa Margarita Municipal Code Sec. 11.07.040 and the Indemnity and Hold Harmless Agreement attached hereto.

Applicant Signature _____ Name: _____ Title: _____ Date: _____
(See attached signature requirements)

FOR CITY USE ONLY

	FEE DESCRIPTION	FEE AMOUNT
Street Improvement? _____	Encroachment Permit Fee:	\$ _____
Sewer/Water Improvement? _____	Inspection Fee:	\$ _____
Other Improvements: _____	Plan Check Fee:	\$ _____
	TOTAL DUE:	\$ _____
	DATE FEES RECEIVED:	_____

- Requirements Checked Are Applicable**
- All traffic control per MUTCD.
 - Asphalt concrete shall be saw cut prior to replacement
 - 90% compaction, verified by tests, is required in dirt excavated area.
 - Replace existing striping as directed by City Inspector
 - Replacement AC pavement to be existing section plus 1" over sand slurry backfill, "T" cut 1' min. on both sides.
 - Longitudinal trenches over 50' in length shall be cold planed to a 1" depth by 10' wide and machine capped.
 - Trenches exceeding five feet in depth require shoring plans and a permit from the California Division of Industrial Safety.
 - Portland cement concrete shall be saw cut and removed to existing control joints.
 - Trench backfill shall be 1 1/2 sand slurry unless otherwise directed by City Engineer.
 - Trench plates and temporary AC to be on site prior to start of work.

Bond Description	Bond No.	Amount
Faithful Performance:	_____	_____
Labor and Materials:	_____	_____
Monumentation:	_____	_____
Sewer- Faithful Performance:	_____	_____
Water- Faithful Performance:	_____	_____

IF APPLICABLE, BONDS SHALL BE HELD FOR A PERIOD OF ONE (1) YEAR AFTER FINAL INSPECTION FOR WARRANTY PURPOSES. A REQUEST MAY BE MADE TO REDUCE THE WARRANTY BOND FROM THE ORIGINAL BOND AMOUNT, TO BE EVALUATED ON A CASE-BY-CASE BASIS.

Contractor: _____
 License Number: _____
 Class: _____
 Contact Person: _____
 Telephone Number: _____

Comments: _____

THIS IS YOUR PERMIT WHEN SIGNED BY THE ENGINEERING DIVISION

Permit and approved plans shall be maintained on job site. Permittee shall comply with regulations on reverse side of permit and attachments. Call Underground Service Alert (USA) at 1-800-422-4133 at least 48 hours prior to excavating. This permit shall be non-transferable. **Void if not started in 90 days and continued to completion. ANY WORK DONE WITHOUT PROPER INSPECTION WILL BE SUBJECT TO REJECTION.**

Insurance Documents: Submitted Approved **Construction Plans:** Submitted Reviewed N/A
Traffic Control by Registered Traffic Engineer: MUTCD Submitted Reviewed N/A
Shoring Plans by Registered Civil Engineer: Submitted Reviewed N/A

Public Works Approval: _____ **Date:** _____

STANDARD PROVISIONS

1. Should any damage or injury to City property occur as a result of the exercise of the rights herein granted, Permittee shall immediately, upon the written demand of City, restore such property to the condition of same on the date of the occurrence of said damage or injury at Permittee's sole cost or expense. The question as to whether or not any such damage or injury has been caused to the property shall be determined by the City Engineer or designee and that determination shall be final. In the event repair by City is necessary; Permittee shall pay and/or reimburse the City the full cost of such repairs.
2. The City reserves the right to perform any work upon any portion or all of the area covered by this Permit, or to do any other work necessary at any time. Such work may be performed without incurring any liability of any nature whatsoever to the Permittee. It is further understood and agreed that the City reserves unto itself the rights of ingress over all or any portion of the subject area.
3. Neither this Permit nor any of the rights herein granted shall be assigned without the prior written approval of the City. Permit is void upon expiration date. A new fee will be assessed thereafter.
4. By acceptance of this Permit, Permittee acknowledges and assumes all responsibility for compliance with requirements of other regulatory agencies including but not limited to zoning regulations applicable ordinances and laws of the City, County of Orange, the State of California or others having regulatory control over the use granted herein.
5. All underground work requires "Injury Identification Number" From Underground Service Alert Regional Notification Center (Ref – Government Code, Section 42165 and 4217). Call 1-800-422-4133.
6. A copy of this Permit and approved plans, if applicable, shall be maintained at the site of work and be shown to any authorized representative of the City, or other regulatory governing agency upon request.
7. No work shall be performed within the City right of ways without the full knowledge of City Engineer or designee, who shall be given not less than two work days advance notice of the initiation of permitted use. Failure of Permittee to obtain inspection shall void this permit and necessitate reapplication by Permittee.

Permittee further agrees that all operations within City right of ways are subject to the operations of City and other authorized persons and under the control and to the satisfaction of City Engineer or designee.
8. This Permit may be immediately revoked for reasons determined by the City Engineer or designee including violation of Permit provisions or other applicable rules and regulations, or the creation of a nuisance after notice given by the City Engineer or designee. In the event of such revocation, Permittee shall immediately cease all operations and restore City right of ways as directed by City Engineer or designee.
9. Any construction performed on City property shall be in accordance with Orange County Resources and Development Management Department's Standard Plans and established criterion and as modified by the City Engineer. Any deviation must be specifically detailed and highlighted on plans in a manner meeting the approval of the City Engineer or designee
10. No uses other than that as stated on this Permit shall be exercised. Public right of way shall not be used for administrative operations or storage of equipment, materials, supplies, etc. All administrative and storage areas shall have the written approval of the property owner. This Permit shall include any attached Special Provisions.
11. Permittee agrees that if any tank, pipe, conduit, duct, tunnel or other installation of any nature or kind placed in the public right of way for which the Permit is issued which shall at any time in the future interfere with the use, repair, improvement, widening or change of grade of the highway, the Permittee, within ten (10) days after the receipt of a written notice from the City to do so, shall at its own sole expense either relocate or remove such installations, subject to the approval of the City Engineer.
12. Permittee agrees to comply with all City's NPDES requirements (Chapter 5.10 - Water Quality Control Municipal Code). If de-watering operation within the public right of way is necessary, proper measures must be taken to prevent the transport of debris into the storm drain system. Permittee agrees to include a direct discharge into the catch basin via a hose or other method which bypasses the street surface. If this method is not feasible, placement of proper BMPs preventing any debris collected from the street surface and entering into the catch basin will be required.
13. No permit shall be approved for encroachment onto any property owned by the City for any purpose whatsoever unless the applicant provides proof of insurance coverage for bodily injury and property damage in a form and in an amount acceptable to the City Manager. In fixing the form and amount of such insurance requirement, the City Manager shall take into consideration the nature and extent of the proposed encroachment. The City Manager may waive the requirements of this section if he/she determines that the proposed encroachment will not constitute any significant possibility of City liability (Municipal Code Sec. 11.07.270 – Liability Insurance Required). The minimum insurance established pursuant to this section is listed in the Indemnity and Hold Harmless Agreement attached hereto.

INSPECTOR'S REPORT

Date Work Started _____ Inspector _____

Date Completed _____ Inspector _____

ESTIMATE OF STREET REPAIRS

(If the encroachment will disrupt/damage the street or sidewalk, complete the following)

Street Restoration: By Permittee By City Task Order # _____

A.C. Pavement _____ sq. ft. Concrete Pavement _____ sq. ft. Sidewalk _____ sq. ft.

Curb Ramp _____ ea. Driveway _____ sq. ft. Curb & Gutter _____ l.f.

Curb drain _____ ea. Asphalt, Concrete & Soil Removal _____ sq. ft.

Tree Removal _____ ea. Tree Planting _____ ea. Monument _____ ea.

Other _____

INSPECTION RECORD

Date	Hours	Inspector	Description
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Comments: _____

COMPLETION REPORT

Final Inspection Date: _____ Approved by Inspector _____

Total Inspection Hours Signature of Inspector: _____

ADDITIONAL FEES:

Plan Check _____

Inspection _____

Reconstruction _____

Other _____

NOTES

TOTAL _____ Billing Date: _____ By: _____

Completed Date _____ By _____

Void Reason _____

Deposit Released Date _____



**STATEMENT OF INTENT TO COMPLY WITH MINIMUM
STORMWATER PERMIT REQUIREMENTS**

Stormwater Program – City of Rancho Santa Margarita Encroachment Permit

Permit Number: _____ Date: _____

Applicant: _____

Project Address: _____

Property Owner: _____

Contractor: _____

Contractor's Address: _____ Phone: _____

The National Pollutant discharge Elimination System (NPDES) is an element of the Clean Water Act that applies to the protection of receiving waters. Under NPDES Municipal Separate Storm Sewer Systems (MS4s) permits from the San Diego Regional Water Quality Control Board (RWQCB), certain activities are subject to RWQCB enforcement. To meet the standards of the Orange County MS4 Permit, Order No. R9-2009-002/NPDES No. CAS0108740(MS4 Permit), the City of Rancho Santa Margarita has adopted minimum standards for stormwater runoff from construction activities and utility maintenance projects.

These minimum standards include requirements for erosion control, sediment control, and construction activity control to be implemented at each site. At a minimum, the activity associated with the project identified above shall be conducted in such a manner that:

- Sediments from disturbed soils shall be retained on site to the maximum extent practicable through the use of non-structural and/or structural sediment controls; and
 - Erosion of disturbed soil shall be minimized to the maximum extent practicable through the use of soil stabilization materials and procedures; and
 - All construction wastes shall be properly disposed of in such a way that no wastes are either directly or indirectly discharged to the storm drain; and
 - All concrete trucks will wash out to a contained area to prevent the discharge of concrete truck rinse water from entering the storm drain.
- Expected dewatering of vault or underground structure
- Provide proof of active dewatering permit
 - If de-watering operation within the public right of way is necessary, proper measures must be taken to prevent the transport of debris into the storm drain system. Permittee agrees to include a direct discharge (that does not contain any illegal discharge) into the catch basin via a hose or other method which bypasses the street surface. If this method is not feasible, placement of proper BMPs preventing any debris collected from the street surface and entering into the catch basin will be required.
 - If Permittee fails to install the necessary BMP's as required by the MS4 Permit the City will install all necessary BMP's and the Permittee will be responsible for reimbursing the City for all costs associated with making the project site comply with the MS4 Permit within 30 days.

I have read and understand the requirements listed above and certify that I will comply with the minimum requirements above.

Signature: _____ Title: _____

Print Name: _____

Date: _____

<p>FOR CITY USE ONLY</p> <p>Proof of active dewatering permit obtained <input type="checkbox"/></p> <p>Active through _____</p> <p style="text-align: center;">Date</p>
--

Appendix G – Other Required Federal Forms

Exhibit 12-B Bidder's List of Subcontractor (DBE and Non-DBE) Part 1

As of March 1, 2015 Contractors (and sub-contractors) wishing to bid on public works contracts shall be registered with the State Division of Industrial Relations and certified to bid on Public Works contracts. Please register at: <https://www.dir.ca.gov/Public-Works/Contractor-Registration.html>

In accordance with Title 49, Section 26.11 of the Code of Federal Regulations, and Section 4104 of the Public Contract Code of the State of California, as amended, the following information is required for each sub-contractor who will perform work amounting to more than one half of one percent (0.5%) of the Total Base Bid or \$10,000 (whichever is greater). **Photocopy this form for additional firms.** Federal Project Number: _____

Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
				DIR Reg Number			
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
							Age of Firm: ___ yrs.
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
							Age of Firm: ___ yrs.
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
							Age of Firm: ___ yrs.
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
							Age of Firm: ___ yrs.
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
							Age of Firm: ___ yrs.
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
							Age of Firm: ___ yrs.

Distribution: 1) Original-Local Agency File 2) Copy-DLAE w/ Award Package

Exhibit 12-B Bidder's List of Subcontractor (DBE and Non-DBE) Part 2

In accordance with Title 49, Section 26 of the Code of Federal Regulations, the Bidder shall list all subcontractor who provided a quote or bid but **were not selected** to participate as a subcontractor on this project. **Photocopy this form for additional firms.** Federal Project Number: _____

Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor License Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
				DIR Reg Number			
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
							Age of Firm: ___ yrs.
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
							Age of Firm: ___ yrs.
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
							Age of Firm: ___ yrs.
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
							Age of Firm: ___ yrs.
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
							Age of Firm: ___ yrs.

Distribution: 1) Original-Local Agency File 2) Copy-DLAE w/ Award Package

PUBLIC CONTRACT CODE

PUBLIC CONTRACT CODE SECTION 10285.1 STATEMENT

In conformance with Public Contract Code Section 10285.1 (Chapter 376, Stats. 1985), the bidder hereby declares under penalty of perjury under the laws of the State of California that the bidder has ____, has not ____been convicted within the preceding three years of any offenses referred to in that section, including any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or Federal antitrust law in connection with the bidding upon, award of, or performance of, any public works contract, as defined in Public Contract Code Section 1101, with any public entity, as defined in Public Contract Code Section 1100, including the Regents of the University of California or the Trustees of the California State University. The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1.

Note: The bidder must place a checkmark after "has" or "has not" in one of the blank spaces provided. The above Statement is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

PUBLIC CONTRACT CODE SECTION 10162 QUESTIONNAIRE

In conformance with Public Contract Code Section 10162, the Bidder shall complete, under penalty of perjury, the following questionnaire:

Has the bidder, any officer of the bidder, or any employee of the bidder who has a proprietary interest in the bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local government project because of a violation of law or a safety regulation?

Yes _____ No _____

If the answer is yes, explain the circumstances in the following space.

PUBLIC CONTRACT CODE 10232 STATEMENT

In conformance with Public Contract Code Section 10232, the Contractor, hereby states under penalty of perjury, that no more than one final unappealable finding of contempt of court by a federal court has been issued against the Contractor within the immediately preceding two-year period because of the Contractor's failure to comply with an order of a federal court which orders the Contractor to comply with an order of the National Labor Relations Board.

Note: The above Statement and Questionnaire are part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement and Questionnaire.
Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

**NONLOBBYING CERTIFICATION
FOR FEDERAL-AID CONTRACTS**

The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

- (1) 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.
- (2) 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 of Lobbying Activities," in conformance with its instructions.

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 Section 1352, Title 31, U.S. Code. 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.

The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such subrecipients shall certify and disclose accordingly.

DISCLOSURE OF LOBBYING ACTIVITIES

COMPLETE THIS FORM TO DISCLOSE LOBBYING ACTIVITIES PURSUANT TO 31 U.S.C. 1352

<p>1. Type of Federal Action:</p> <input type="checkbox"/> a. contract <input type="checkbox"/> b. grant <input type="checkbox"/> c. cooperative agreement <input type="checkbox"/> d. loan <input type="checkbox"/> e. loan guarantee <input type="checkbox"/> f. loan insurance	<p>2. Status of Federal Action:</p> <input type="checkbox"/> a. bid/offer/application <input type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award	<p>3. Report Type:</p> <input type="checkbox"/> a. initial <input type="checkbox"/> b. material change
<p>For Material Change Only: year _____ quarter _____ date of last report _____</p>		
<p>4. Name and Address of Reporting Entity</p> <input type="checkbox"/> Prime <input type="checkbox"/> Subawardee Tier _____, if known	<p>5. If Reporting Entity in No. 4 is Subawardee, Enter Name and Address of Prime:</p>	
Congressional District, if known	Congressional District, if known	
<p>6. Federal Department/Agency:</p>	<p>7. Federal Program Name/Description:</p>	
	CFDA Number, if applicable _____	
<p>8. Federal Action Number, if known:</p>	<p>9. Award Amount, if known:</p>	
<p>10. a. Name and Address of Lobby Entity (If individual, last name, first name, MI)</p>	<p>b. Individuals Performing Services (including address if different from No. 10a) (last name, first name, MI)</p>	
(attach Continuation Sheet(s) if necessary)		
<p>11. Amount of Payment (check all that apply)</p> \$ _____ <input type="checkbox"/> actual <input type="checkbox"/> planned	<p>13. Type of Payment (check all that apply)</p> <input type="checkbox"/> a. retainer <input type="checkbox"/> b. one-time fee <input type="checkbox"/> c. commission <input type="checkbox"/> d. contingent fee <input type="checkbox"/> e. deferred <input type="checkbox"/> f. other, specify _____	
<p>12. Form of Payment (check all that apply):</p> <input type="checkbox"/> a. cash <input type="checkbox"/> b. in-kind; specify: nature _____ value _____		
<p>14. Brief Description of Services Performed or to be performed and Date(s) of Service, including officer(s), employee(s), or member(s) contacted, for Payment Indicated in Item 11:</p>		
(attach Continuation Sheet(s) if necessary)		
<p>15. Continuation Sheet(s) attached: Yes <input type="checkbox"/> No <input type="checkbox"/></p>		
<p>16. Information requested through this form is authorized by Title 31 U.S.C. Section 1352. This disclosure of lobbying reliance was placed by the tier above when his transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to Congress semiannually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.</p>		
		Signature: _____ Print Name: _____ Title: _____ Telephone No.: _____ Date: _____
Authorized for Local Reproduction Standard Form - LLL		
Federal Use Only:		

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of covered Federal action or a material change to previous filing pursuant to title 31 U.S.C. section 1352. The filing of a form is required for such payment or agreement to make payment to lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress an officer or employee of Congress or an employee of a Member of Congress in connection with a covered Federal action. Attach a continuation sheet for additional information if the space on the form is inadequate. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence, the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a follow-up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last, previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, state and zip code of the reporting entity. Include Congressional District if known. Check the appropriate classification of the reporting entity that designates if it is or expects to be a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the first tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing the report in Item 4 checks "Subawardee" then enter the full name, address, city, state and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organization level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identification in item 1 (e.g., Request for Proposal (RFP) number, Invitation for Bid (IFB) number, grant announcement number, the contract grant. or loan award number, the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitments for the prime entity identified in item 4 or 5.
10. (a) Enter the full name, address, city, state and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influenced the covered Federal action.
(b) Enter the full names of the individual(s) performing services and include full address if different from 10 (a). Enter Last Name, First Name and Middle Initial (MI).
11. Enter the amount of compensation paid or reasonably expected to be paid by the reporting entity (item 4) to the lobbying entity (item 10). Indicate whether the payment has been made (actual) or will be made (planned). Check all boxes that apply. If this is a material change report, enter the cumulative amount of payment made or planned to be made.
12. Check the appropriate box. Check all boxes that apply. If payment is made through an in-kind contribution, specify the nature and value of the in-kind payment.
13. Check the appropriate box. Check all boxes that apply. If other, specify nature.
14. Provide a specific and detailed description of the services that the lobbyist has performed or will be expected to perform and the date(s) of any services rendered. Include all preparatory and related activity not just time spent in actual contact with Federal officials. Identify the Federal officer(s) or employee(s) contacted or the officer(s) employee(s) or Member(s) of Congress that were contacted.
15. Check whether or not a continuation sheet(s) is attached.
16. The certifying official shall sign and date the form, print his/her name title and telephone number.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, D.C. 20503.

SF-LLL-Instructions Rev. 06-04-90«ENDIF»

Accompanying this proposal is _____

(NOTICE: INSERT THE WORDS "CASH(\$ _____)," "CASHIER'S CHECK,"
"CERTIFIED CHECK," OR "BIDDER'S BOND," AS THE CASE MAY BE.)

in amount equal to at least ten percent of the total of the bid.

The names of all persons interested in the foregoing proposal as principals are as follows:

IMPORTANT NOTICE: *If bidder or other interested person is a corporation, state legal name of corporation, also names of the president, secretary, treasurer, and manager thereof; if a copartnership, state true name of firm, also names of all individual copartners composing firm; if bidder or other interested person is an individual, state first and last names in full.*

Licensed in conformance with an act providing for the registration of Contractors,

License No. _____ Classification(s) _____

ADDENDA

This Proposal is submitted with respect to the changes to the contract included in addenda number/s

(Fill in addenda numbers if addenda have been received and insert, in this Proposal, any Engineer's Estimate sheets that were received as part of the addenda.)

By my signature on this proposal I certify, under penalty of perjury under the laws of the State of California, that the foregoing questionnaire and statements of Public Contract Code Sections 10162, 10232 and 10285.1 are true and correct and that the bidder has complied with the requirements of Section 8103 of the Fair Employment and Housing Commission Regulations (Chapter 5, Title 2 of the California Administrative Code). By my signature on this proposal I further certify, under penalty of perjury under the laws of the State of California and the United States of America, that the Noncollusion Affidavit required by Title 23 United States Code, Section 112 and Public Contract Code Section 7106; and the Title 49 Code of Federal Regulations, Part 29 Debarment and Suspension Certification are true and correct.

Date: _____



(Title)

Signature and Title of Bidder

Business Address _____

Place of Business _____

Place of Residence _____

CITY / COUNTY OF _____
DEPARTMENT OF _____

BIDDER'S BOND

We, _____
_____ as Principal, and

_____ as Surety are bound unto the City/County of _____, State of California, hereafter referred to as "Obligee", in the penal sum of ten percent (10%) of the total amount of the bid of the Principal submitted to the Obligee for the work described below, for the payment of which sum we bind ourselves, jointly and severally,

THE CONDITION OF THIS OBLIGATION IS SUCH, THAT:

WHEREAS, the Principal is submitted to the Obligee, for _____

(Copy here the exact description of work, including location as it appears on the proposal)

for which bids are to be opened at _____ on _____
(Insert place where bids will be opened) (Insert date of bid opening)

NOW, THEREFORE, if the Principal is awarded the contract and, within the time and manner required under the specifications, after the prescribed forms are presented to him for signature, enters into a written contract, in the prescribed form, in conformance with the bid, and files two bonds with the Obligee, one to guarantee faithful performance of the contract and the other to guarantee payment for labor and materials as provided by law, then this obligation shall be null and void; otherwise, it shall remain in full force.

In the event suit is brought upon this bond by the Obligee and judgment is recovered, the Surety shall pay all costs incurred by the Obligee in such suit, including a reasonable attorney's fee to be fixed by the court.

Dated: _____, 20 ____.

Principal

Surety
By _____
Attorney-in-fact

CERTIFICATE OF ACKNOWLEDGEMENT

State of California
City/County of _____ SS

On this _____ day of _____ in the year 20 ____ before me

_____, personally appeared _____,
Attorney-in-fact

personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to this instrument as the attorney-in-fact of _____, and acknowledged to me that he (she) subscribed the name of the said company thereto as surety, and his (her) own name as attorney-in-fact.

(SEAL) _____
Notary Public

Insert completed
[Exhibit 15-G *Local Agency Bidder DBE Commitment (Construction Contracts)*]
here.

Insert completed
[Exhibit 15-H *DBE Information —Good Faith Efforts*]
here.

Attach
[RAILROAD AGREEMENT]
(if required)

CITY / COUNTY OF _____

DEPARTMENT OF _____

CONTRACT NO. _____

THIS AGREEMENT, made and concluded, in duplicate, _____,
between the City/County of _____ thereof, party of the first part, and

Contractor, party of the second part.

ARTICLE I.--WITNESSETH, That for and in consideration of the payments and agreements hereinafter mentioned, to be made and performed by the said party of the first part, and under the conditions expressed in the 2 bonds, bearing even date with these presents, and hereunto annexed, the said party of the second part agrees with the said party of the first part, at his own proper cost and expense, to do all the work and furnish all the materials, except such as are mentioned in the specifications to be furnished by said party of the first part, necessary to construct and complete in a good, workmanlike and substantial manner and to the satisfaction of the City/County of _____, the work described in the special provisions and the project plans described below, including any addenda thereto. and also in conformance with current California Department of Transportation Standard Plans, the Standard Specifications, and the Labor Surcharge and Equipment Rental Rates in effect on the date the work is accomplished, which said special provisions, project plans, Standard Plans, Standard Specifications, and Labor Surcharge and Equipment Rental Rates are hereby specially referred to and by such reference made a part hereof.

The special provisions for the work to be done are dated _____ and are entitled:

CITY / COUNTY OF _____;
DEPARTMENT OF _____
NOTICE TO CONTRACTORS AND SPECIAL PROVISIONS FOR

PROJECT DESCRIPTION

IN

PROJECT LOCATION

The project plans for the work to be done were approved _____ and are entitled:

CITY / COUNTY OF _____;
DEPARTMENT OF _____
PROJECT PLANS FOR

PROJECT DESCRIPTION

IN

PROJECT LOCATION

ARTICLE II.--The said party of the first part hereby promises and agrees with the said Contractor to employ, and does hereby employ, the said Contractor to provide the materials and to do the work according to the terms and conditions herein contained and referred to, for the prices hereinafter set forth, and hereby contracts to pay the same at the time, in the manner and upon the conditions herein set forth; and the said parties for themselves, their heirs, executors, administrators, successors and assigns, do hereby agree to the full performance of the covenants herein contained.

ARTICLE III.--The State general prevailing wage rates determined by the Director of Industrial Relations are hereby made a part of this contract. It is further expressly agreed by and between the parties hereto that should there be any conflict between the terms of this instrument and the bid or proposal of said Contractor, then this instrument shall control and nothing herein shall be considered as an acceptance of the said terms of said proposal conflicting herewith. When the project is subject to both State and Federal hourly minimum rates for wages and fringe benefits and when the two rates differ for similar kinds of labor, the Contractor shall not pay less than the higher rate. Federal wage rates can be found in Appendix X.

ARTICLE IV.--By my signature hereunder, as Contractor, I certify that I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self insurance in conformance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.

ARTICLE V.--And the said Contractor agrees to receive and accept the following prices as full compensation for furnishing all materials and for doing all the work contemplated and embraced in this agreement; also for all loss or damage, arising out of the nature of the work aforesaid, or from the action of the elements, or from any unforeseen difficulties or obstructions which may arise or be encountered in the prosecution of the work until its acceptance by the (*NAME OF LOCAL AGENCY, DEPARTMENT OF _____*), and for all risks of every description connected with the work; also for all expenses incurred by or in consequence of the suspension or discontinuance of work and for well and faithfully completing the work, and the whole thereof, in the manner and according to the plans and specifications, and the requirements of the Engineer under them, to wit:

ARTICLE VI.--The provisions of Form FHWA 1273 is hereby physically attached, unmodified as a part of this contract (Exhibit A). This provision applies to federal-aid contracts and all work performed by subcontracts and subsequent lower-tier subcontracts and required be physically included in each executed contract.

ARTICLE VII.-- The Minimum Federal Wage Rates Determination is hereby physically attached, in conformance with federal 10-day rule as a part of this contract (Exhibit B). This wage rate determination applies to federal-aid contracts and all work performed exceeding \$2000 by subcontracts and subsequent lower-tier subcontracts and required be physically included in each executed contract.

BID ITEM LIST						
Item No.	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price (In Figures)	Item Total (In Figures)
		(Items in CONTRACT will be the same as those bid in PROPOSAL)				

IN WITNESS WHEREOF, The parties to these presents have here-unto set their hands the year and date first above written

CITY / COUNTY OF _____
DEPARTMENT OF PUBLIC WORKS

By _____
Authorized Local Agency Representative

Contractor

By _____

Licensed in accordance with
an act providing for the
registration of contractors,

License No. _____

Federal Employer Identification

Number _____

Approved and certified as being in conformance with the requirements of the State Contract Act.

Attorney, City / County of _____

Approved Effective _____

CITY / COUNTY OF _____
DEPARTMENT OF PUBLIC WORKS

SAMPLE PAYMENT BOND

(Section 3247, Civil Code)

WHEREAS, The City / County of _____, acting by and through the Department of Public Works, hereafter referred to as "Obligee", has awarded to Contractor _____, hereafter designated as the "Principal", a contract for the work described as follows:

AND WHEREAS, said Principal is required to furnish a bond in connection with said contract, to secure the payment of claims of laborers, mechanics, materialmen and other persons as provided by law.

NOW, THEREFORE, we the undersigned Principal and Surety are bound unto the Obligee in the sum of _____ dollars (\$ _____), for which payment, we bind ourselves, jointly and severally.

THE CONDITION OF THIS OBLIGATION IS SUCH,

That if said Principal or its subcontractors shall fail to pay any of the persons named in Civil Code Section 3181, or amounts due under the Unemployment Insurance Code with respect to work or labor performed by such claimant, or any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board for the wages of employees of the Principal and his subcontractors pursuant to Section 18806 of the Revenue and Taxation Code, with respect to such work and labor, that the surety herein will pay for the same in an amount not exceeding the sum specified in this bond, otherwise the above obligation shall be void. In case suit is brought upon this bond, the surety will pay a reasonable attorney's fee to be fixed by the court. This bond shall inure to the benefit of any of the persons named in Civil Code Section 3181 as to give a right of action to such persons or their assigns in any suit brought upon this bond.

Dated: _____, 20 ____

Correspondence or claims relating to this bond should be sent to the surety at the following address:

Principal

Surety (SEAL)

By : Attorney-in-Fact

NOTE: Signatures of those executing for the surety must be properly acknowledged.

CERTIFICATE OF ACKNOWLEDGEMENT

State of California
City / County of _____ SS

On this _____ day of _____ in the year 20 ____ before me _____, personally appeared _____, personally known to me (or proved to me

Attorney-in-fact
on the basis of satisfactory evidence) to be the person whose name is subscribed to this instrument as the attorney-in-fact of _____ and acknowledged to me that he/she subscribed the name of the said company thereto as surety, and his/her own name as attorney-in-fact.

(SEAL)

Notary Public

CITY / COUNTY OF _____
DEPARTMENT OF PUBLIC WORKS

SAMPLE PERFORMANCE BOND

(To Accompany Contract)

Bond No. _____

WHEREAS, the City / County of _____, acting by and through the Department of Public Works, has awarded to Contractor _____, hereafter designated as the "Contractor", a contract for the work described as follows:

AND WHEREAS, the Contractor is required to furnish a bond in connection with said contract, guaranteeing the faithful performance thereof:

NOW, THEREFORE, we the undersigned Contractor and Surety are held firmly bound to the City / County of _____ in the sum of \$ _____ dollars (\$ _____), to be paid to said City / County or its certain attorney, its successors and assigns: for which payment, well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors or assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH,

That if the above bound Contractor, its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the foregoing contract and any alteration thereof made as therein provided, on his or their part to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning, and shall indemnify and save harmless the City / County of _____, its officers and agents, as therein stipulated, then this obligation shall become and be null and void; otherwise it shall be and remain in full force and virtue.

IN WITNESS WHEREOF, We have hereunto set our hands and seals on this _____ day of _____, 20__.

Correspondence or claims relating to this bond should be sent to the surety at the following address:

Contractor

Name of Surety (SEAL)

By : Attorney-in-Fact

NOTE: Signatures of those executing for the surety must be properly acknowledged.

CERTIFICATE OF ACKNOWLEDGEMENT

State of California, City / County of _____ SS

On this _____ day of _____ in the year 20__ before me _____, a notary public in and for the City / County of _____, personally appeared _____, known to me to be the person whose name is subscribed to this _____
Attorney-in-fact
instrument and known to me to be the attorney-in-fact of _____ and acknowledged to me that he/she subscribed the name of the said company thereto as surety, and his/her own name as attorney-in-fact.

(SEAL)

NOTARY PUBLIC

**FEDERAL
WAGE RATES**

- Refer to the DOL Homepage on the internet for the current rates at <https://wdol.gov/> or contact your District Local Assistance Engineer for a hard copy.

Exhibit A - For Federal-Aid Contracts Insert
[Unmodified Form FHWA-1273, Required Contract Provisions Federal-Aid Contracts]
here.

Exhibit B - For Federal-Aid Contracts Insert
[Minimum Federal Wage Rates Determinations In Conformance With Federal 10-Day Rule As
May Issued By An Addendum]
here.

EXHIBIT 15-G CONSTRUCTION CONTRACT DBE COMMITMENT

1. Local Agency: _____ 2. Contract DBE Goal: _____
 3. Project Description: _____
 4. Project Location: _____
 5. Bidder's Name: _____ 6. Prime Certified DBE: 7. Bid Amount: _____
 8. Total Dollar Amount for **ALL** Subcontractors: _____ 9. Total Number of **ALL** Subcontractors: _____

10. Bid Item Number	11. Description of Work, Service, or Materials Supplied	12. DBE Certification Number	13. DBE Contact Information (Must be certified on the date bids are opened)	14. DBE Dollar Amount

Local Agency to Complete this Section upon Execution of Award		15. TOTAL CLAIMED DBE PARTICIPATION	\$ 0.00
21. Local Agency Contract Number: _____ 22. Federal-Aid Project Number: _____ 23. Bid Opening Date: _____ 24. Contract Award Date: _____ 25. Award Amount: _____			0 %
Local Agency certifies that all DBE certifications are valid and information on this form is complete and accurate. 26. Local Agency Representative's Signature _____ 27. Date _____ 28. Local Agency Representative's Name _____ 29. Phone _____ 30. Local Agency Representative's Title _____		IMPORTANT: Identify all DBE firms being claimed for credit, regardless of tier. Names of the First Tier DBE Subcontractors and their respective item(s) of work listed above must be consistent, where applicable with the names and items of the work in the "Subcontractor List" submitted with your bid. Written confirmation of each listed DBE is required. 16. Preparer's Signature _____ 17. Date _____ 18. Preparer's Name _____ 19. Phone _____ 20. Preparer's Title _____	

DISTRIBUTION: 1. Original – Local Agency
 2. Copy – Caltrans District Local Assistance Engineer (DLAE). Failure to submit to DLAE within 30 days of contract execution may result in de-obligation of federal funds on contract.
 3. Include additional copy with award package.

ADA Notice: For individuals with sensory disabilities, this document is available in alternate formats. For information call (916) 654-6410 or TDD (916) 654-3880 or write Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814.

INSTRUCTIONS – CONSTRUCTION CONTRACT DBE COMMITMENT

CONTRACTOR SECTION

- 1. Local Agency** - Enter the name of the local agency that is administering the contract.
- 2. Contract DBE Goal** - Enter the contract DBE goal percentage as it appears on the project advertisement.
- 3. Project Location** - Enter the project location(s) as it appears on the project advertisement.
- 4. Project Description** - Enter the project description as it appears on the project advertisement (Bridge Rehab, Seismic Rehab, Overlay, Widening, etc).
- 5. Bidder's Name** - Enter the contractor's firm name.
- 6. Prime Certified DBE** - Check box if prime contractor is a certified DBE.
- 7. Bid Amount** - Enter the total contract bid dollar amount for the prime contractor.
- 8. Total Dollar Amount for ALL Subcontractors** – Enter the total dollar amount for all subcontracted contractors. SUM = (DBEs + all Non-DBEs). Do not include the prime contractor information in this count.
- 9. Total number of ALL subcontractors** – Enter the total number of all subcontracted contractors. SUM = (DBEs + all Non-DBEs). Do not include the prime contractor information in this count.
- 10. Bid Item Number** - Enter bid item number for work, services, or materials supplied to be provided.
- 11. Description of Work, Services, or Materials Supplied** - Enter description of work, services, or materials to be provided. Indicate all work to be performed by DBEs including work performed by the prime contractor's own forces, if the prime is a DBE. If 100% of the item is not to be performed or furnished by the DBE, describe the exact portion to be performed or furnished by the DBE. See LAPM Chapter 9 to determine how to count the participation of DBE firms.
- 12. DBE Certification Number** - Enter the DBE's Certification Identification Number. All DBEs must be certified on the date bids are opened.
- 13. DBE Contact Information** - Enter the name, address, and phone number of all DBE subcontracted contractors. Also, enter the prime contractor's name and phone number, if the prime is a DBE.
- 14. DBE Dollar Amount** - Enter the subcontracted dollar amount of the work to be performed or service to be provided. Include the prime contractor if the prime is a DBE. See LAPM Chapter 9 for how to count full/partial participation.
- 15. Total Claimed DBE Participation** - \$: Enter the total dollar amounts entered in the "DBE Dollar Amount" column. %: Enter the total DBE participation claimed ("Total Claimed DBE Participation Dollars" divided by item "Bid Amount"). If the total % claimed is less than item "Contract DBE Goal," an adequately documented Good Faith Effort (GFE) is required (see Exhibit 15-H DBE Information - Good Faith Efforts of the LAPM).
- 16. Preparer's Signature** - The person completing the DBE commitment form on behalf of the contractor's firm must sign their name.
- 17. Date** - Enter the date the DBE commitment form is signed by the contractor's preparer.
- 18. Preparer's Name** - Enter the name of the person preparing and signing the contractor's DBE commitment form.
- 19. Phone** - Enter the area code and phone number of the person signing the contractor's DBE commitment form.
- 20. Preparer's Title** - Enter the position/title of the person signing the contractor's DBE commitment form.

LOCAL AGENCY SECTION

- 21. Local Agency Contract Number** - Enter the Local Agency contract number or identifier.
- 22. Federal-Aid Project Number** - Enter the Federal-Aid Project Number(s).
- 23. Bid Opening Date** - Enter the date contract bids were opened.
- 24. Contract Award Date** - Enter the date the contract was executed.
- 25. Award Amount** – Enter the contract award amount as stated in the executed contract.
- 26. Local Agency Representative's Signature** - The person completing this section of the form for the Local Agency must sign their name to certify that the information in this and the Contractor Section of this form is complete and accurate.
- 27. Date** - Enter the date the DBE commitment form is signed by the Local Agency Representative.
- 28. Local Agency Representative's Name** - Enter the name of the Local Agency Representative certifying the contractor's DBE commitment form.
- 29. Phone** - Enter the area code and phone number of the person signing the contractor's DBE commitment form.

30. Local Agency Representative Title - Enter the position/title of the Local Agency Representative certifying the contractor's DBE commitment form.

EXHIBIT 15-H: DBE INFORMATION -GOOD FAITH EFFORTS

Federal-aid Project No(s). _____ Bid Opening Date _____

The _____ established a Disadvantaged Business Enterprise (DBE) goal of 0.00% for this contract. The information provided herein shows the required good faith efforts to meet or exceed the DBE contract goal.

Proposers or bidders submit the following information to document their good faith efforts within five (5) business days from bid opening. Proposers and bidders are recommended to submit the following information even if the Exhibit 10-O1: Consultant Proposal DBE Commitments or Exhibit 15-G: Construction Contract DBE Commitment indicate that the proposer or bidder has met the DBE goal. This form protects the proposer’s or bidder’s eligibility for award of the contract if the administering agency determines that the bidder failed to meet the goal for various reasons, e.g., a DBE firm was not certified at bid opening, or the bidder made a mathematical error.

The following items are listed in the Section entitled “Submission of DBE Commitment” of the Special Provisions, **please attach additional sheets as needed:**

- A. The names and dates of each publication in which a request for DBE participation for this project was placed by the bidder (please attach copies of advertisements or proofs of publication):

Publications	Dates of Advertisement

- B. The names and dates of written notices sent to certified DBEs soliciting bids for this project and the dates and methods used for following up initial solicitations to determine with certainty whether the DBEs were interested (please attach copies of solicitations, telephone records, fax confirmations, etc.):

Names of DBEs Solicited	Date of Initial Solicitation	Follow Up Methods and Dates
		(Title)

C. The items of work made available to DBE firms including those unbundled contract work items into economically feasible units to facilitate DBE participation. It is the bidder's responsibility to demonstrate that sufficient work to facilitate DBE participation in order to met or exceed the DBE contract goal.

Items of Work	Bidder Normally Performs Item (Y/N)	Breakdown of Items	Amount (\$)	Percentage Of Contract
				0.00%
				0.00%
				0.00%

D. The names, addresses and phone numbers of rejected DBE firms, the reasons for the bidder's rejection of the DBEs, the firms selected for that work (please attach copies of quotes from the firms involved), and the price difference for each DBE if the selected firm is not a DBE:

Names, addresses and phone numbers of rejected DBEs and the reasons for the bidder's rejection of the DBEs:

Names, addresses and phone numbers of firms selected for the work above:

E. Efforts (e.g. in advertisements and solicitations) made to assist interested DBEs in obtaining information related to the plans, specifications and requirements for the work which was provided to DBEs:

F. Efforts (e.g. in advertisements and solicitations) made to assist interested DBEs in obtaining bonding, lines of credit or insurance, necessary equipment, supplies, materials, or related assistance or services, excluding supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate:

G. The names of agencies, organizations or groups contacted to provide assistance in contacting, recruiting and using DBE firms (please attach copies of requests to agencies and any responses received, i.e., lists, Internet page download, etc.):

Name of Agency/Organization	Method/Date of Contact	Results

H. Any additional data to support a demonstration of good faith efforts:

INSTRUCTIONS –DISADVANTAGED BUSINESS ENTERPRISES (DBE) CERTIFICATION STATUS CHANGE

1. **Local Agency Contract Number** - Enter the Local Agency contract number or identifier.
2. **Federal-Aid Project Number** - Enter the Federal-Aid Project Number.
3. **Local Agency** - Enter the name of the local or regional agency that is funding the contract.
4. **Contract Completion Date** - Enter the date the contract was completed.
5. **Contractor/Consultant** - Enter the contractor/consultant's firm name.
6. **Business Address** - Enter the contractor/consultant's business address.
7. **Final Contract Amount** - Enter the total final amount for the contract.
8. **Contract Item Number** - Enter contract item for work, services, or materials supplied provided. Not applicable for consultant contracts.
9. **DBE Contact Information** - Enter the name, address, and phone number of all DBE subcontracted contractors/consultants.
10. **DBE Certification Number** - Enter the DBE's Certification Identification Number.
11. **Amount Paid While Certified** - Enter the actual dollar value of the work performed by those subcontractors/subconsultants during the time period they are certified as a DBE.
12. **Certification/Decertification Date (Letter Attached)** - Enter either the date of the Decertification Letter sent out by the Office of Business and Economic Opportunity (OBEO) or the date of the Certification Certificate mailed out by OBEO.
13. **Comments** - If needed, provide any additional information in this section regarding any of the above certification status changes.
14. **Contractor/Consultant Representative's Signature** - The person completing the form on behalf of the contractor/consultant's firm must sign their name.
15. **Contractor/Consultant Representative's Name** - Enter the name of the person preparing and signing the form.
16. **Phone** - Enter the area code and telephone number of the person signing the form.
17. **Date** - Enter the date the form is signed by the contractor's preparer.
18. **Local Agency Representative's Signature** - A Local Agency Representative must sign their name to certify that the contracting records and on-site performance of the DBE(s) has been monitored.
19. **Local Agency Representative's Name** - Enter the name of the Local Agency Representative signing the form.
20. **Phone** - Enter the area code and telephone number of the person signing the form.
21. **Date** - Enter the date the form is signed by the Local Agency Representative.

Appendix H – Fair Employment Practices

**APPENDIX H
FAIR EMPLOYMENT PRACTICES ADDENDUM**

1. In the performance of this Contract Agreement, CONTRACTOR will not discriminate against any employee for employment because of race, color, sex, sexual orientation, religion, ancestry or national origin, physical disability, medical condition, marital status, political affiliation, family and medical care leave, pregnancy leave, or disability leave. CONTRACTOR will take affirmative action to ensure that employees are treated during employment without regard to their race, sex, sexual orientation, color, religion, ancestry, or national origin, physical disability, medical condition, marital status, political affiliation, family and medical care leave, pregnancy leave, or disability leave. Such action shall 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. CONTRACTOR shall post in conspicuous places, available to employees for employment, notices to be provided by STATE setting forth the provisions of this Fair Employment section.

2. CONTRACTOR and its subcontractor(s) shall comply with the provisions of the Fair Employment and Housing Act (Government Code Section 1290 et seq.), and the applicable regulations promulgated thereunder (California code of Regulations, Title 2, Section 7285.0 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code, Section 12900(a-f), set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations are incorporated into this Contract Agreement by reference and made a part hereof as if set forth in full. Each of the CONTRACTOR's subcontractor(s) shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreements, as appropriate.

3. CONTRACTOR shall include the nondiscrimination and compliance provisions of this clause in all contracts and subcontracts to perform work under this Contract Agreement.

4. CONTRACTOR will permit access to the records of employment, employment advertisements, application forms, and other pertinent data and records by STATE, the State Fair Employment and Housing Commission, or any other agency of the State of California designated by STATE, for the purposes of investigation to ascertain compliance with the Fair Employment section of this Agreement.

5. Remedies for Willful Violation:

- (a) STATE may determine a willful violation of the Fair Employment provision to have occurred upon receipt of a final judgment to that effect from a court in an action to which CONTRACTOR was a party, or upon receipt of a written notice from the Fair Employment and Housing Commission that it has investigated and determined that CONTRACTOR has violated the Fair Employment Practices Act and had issued an order under Labor Code Section 1426 which has become final or has obtained an injunction under Labor Code Section 1429.
- (b) For willful violation of this Fair Employment Provision, STATE shall have the right to terminate this Agreement either in whole or in part, and any loss or damage sustained by STATE in securing the goods or services thereunder shall be borne and paid for by CONTRACTOR and by the surety under the performance bond, if

any, and STATE may deduct from any moneys due or thereafter may become due to CONTRACTOR, the difference between the price named in the Agreement and the actual cost thereof to STATE to cure CONTRACTOR's breach of this Contract Agreement.

Appendix I – Nondiscrimination Assurances

**APPENDIX I
NONDISCRIMINATION ASSURANCES**

CONTRACTOR HEREBY AGREES THAT, as a condition to receiving any federal financial assistance from the STATE, acting for the U.S. Department of Transportation, it will comply with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C. 2000d-42 U.S.C. 2000d-4 (hereinafter referred to as the ACT), and all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, "Nondiscrimination in Federally-Assisted Programs of the Department of Transportation - Effectuation of Title VI of the Civil Rights Act of 1964" (hereinafter referred to as the REGULATIONS), the Federal-aid Highway Act of 1973, and other pertinent directives, to the end that in accordance with the ACT, REGULATIONS, and other pertinent directives, no person in the United States shall, on the grounds of race, color, sex, national origin, religion, age or disability, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which CONTRACTOR receives federal financial assistance from the Federal Department of Transportation. CONTRACTOR HEREBY GIVES ASSURANCE THAT CONTRACTOR will promptly take any measures necessary to effectuate this agreement. This assurance is required by subsection 21.7(a)(1) of the REGULATIONS.

More specifically, and without limiting the above general assurance, CONTRACTOR hereby gives the following specific assurances with respect to its federal-aid Program:

1. That CONTRACTOR agrees that each "program" and each "facility" as defined in subsections 21.23(e) and 21.23(b) of the REGULATIONS, will be (with regard to a "program") conducted, or will be (with regard to a "facility") operated in compliance with all requirements imposed by, or pursuant to, the REGULATIONS.

2. That CONTRACTOR shall insert the following notification in all solicitations for bids for work or material subject to the REGULATIONS made in connection with the federal-aid Program and, in adapted form, in all proposals for negotiated agreements:

CONTRACTOR hereby notifies all bidders that it will affirmatively insure that in any agreement entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, sex, national origin, religion, age, or disability in consideration for an award.

3. That CONTRACTOR shall insert the clauses of Exhibit A attached to this Appendix K in every agreement subject to the ACT and the REGULATIONS.

4. That the clauses of Exhibit B of this Appendix K shall be included as a covenant running with the land, in any deed effecting a transfer of real property, structures, or improvements thereon, or interest therein.

5. That where CONTRACTOR receives federal financial assistance to construct a facility, or part of a facility, the Assurance shall extend to the entire facility and facilities operated in connection therewith.

6. That where CONTRACTOR receives federal financial assistance in the form, or for the acquisition, of real property or an interest in real property, the Assurance shall extend to rights to space on, over, or under such property.

7. That CONTRACTOR shall include the appropriate clauses set forth in Exhibit C and D of this Appendix K, as a covenant running with the land, in any future deeds, leases, permits, licenses, and similar agreements entered into by CONTRACTOR with other parties:

Exhibit C;

- (a) for the subsequent transfer of real property acquired or improved under the federal-aid Program; and

Exhibit D;

- (b) for the construction or use of or access to space on, over, or under real property acquired, or improved under the federal-aid Program.

8. That this assurance obligates CONTRACTOR for the period during which federal financial assistance is extended to the program, except where the federal financial assistance is to provide, or is in the form of, personal property or real property or interest therein, or structures, or improvements thereon, in which case the assurance obligates CONTRACTOR or any transferee for the longer of the following periods:

- (a) the period during which the property is used for a purpose for which the federal financial assistance is extended, or for another purpose involving the provision of similar services or benefits; or
- (b) the period during which CONTRACTOR retains ownership or possession of the property.

9. That CONTRACTOR shall provide for such methods of administration for the program as are found by the U.S. Secretary of Transportation, or the official to whom he delegates specific authority, to give reasonable guarantee that CONTRACTOR, other recipients, sub-grantees, applicants, sub-applicants, transferees, successors in interest, and other participants of federal financial assistance under such program will comply with all requirements imposed by, or pursuant to, the ACT, the REGULATIONS, this Appendix K and the Contract Agreement.

10. That CONTRACTOR agrees that the United States and the State of California have a right to seek judicial enforcement with regard to any matter arising under the ACT, the REGULATIONS, and this Assurance.

11. CONTRACTOR shall not discriminate on the basis of race, religion, age, disability, color, national origin or sex in the award and performance of any STATE-assisted contract or in the administration on its DBE Program or the requirements of 49 CFR Part 26. CONTRACTOR shall take all necessary and reasonable steps under 49 CFR Part 26 to ensure nondiscrimination in the award and administration of STATE assisted contracts. CONTRACTOR'S DBE Race-Neutral Implementation Agreement is incorporated by reference in this Contract Agreement. Implementation of this program is a legal obligation and failure to

carry out its terms shall be treated as a violation of this Contract Agreement. Upon notification to the recipient of its failure to carry out its approved DBE Race-Neutral Implementation Agreement, STATE may impose sanctions as provided for under 49 C.F.R. Part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. section 1001 and/or the Program Fraud Civil Remedies Act of 1985 (31 U.S.C. sections 3801 et seq.)

THESE ASSURANCES are given in consideration of and for the purpose of obtaining any and all federal grants, loans, agreements, property, discounts or other federal financial assistance extended after the date hereof to CONTRACTOR by STATE, acting for the U.S. Department of Transportation, and is binding on CONTRACTOR, other recipients, subgrantees, applicants, sub-applicants, transferees, successors in interest and other participants in the federal-aid Highway Program.



CITY OF RANCHO SANTA MARGARITA

ADDENDUM NO. 1

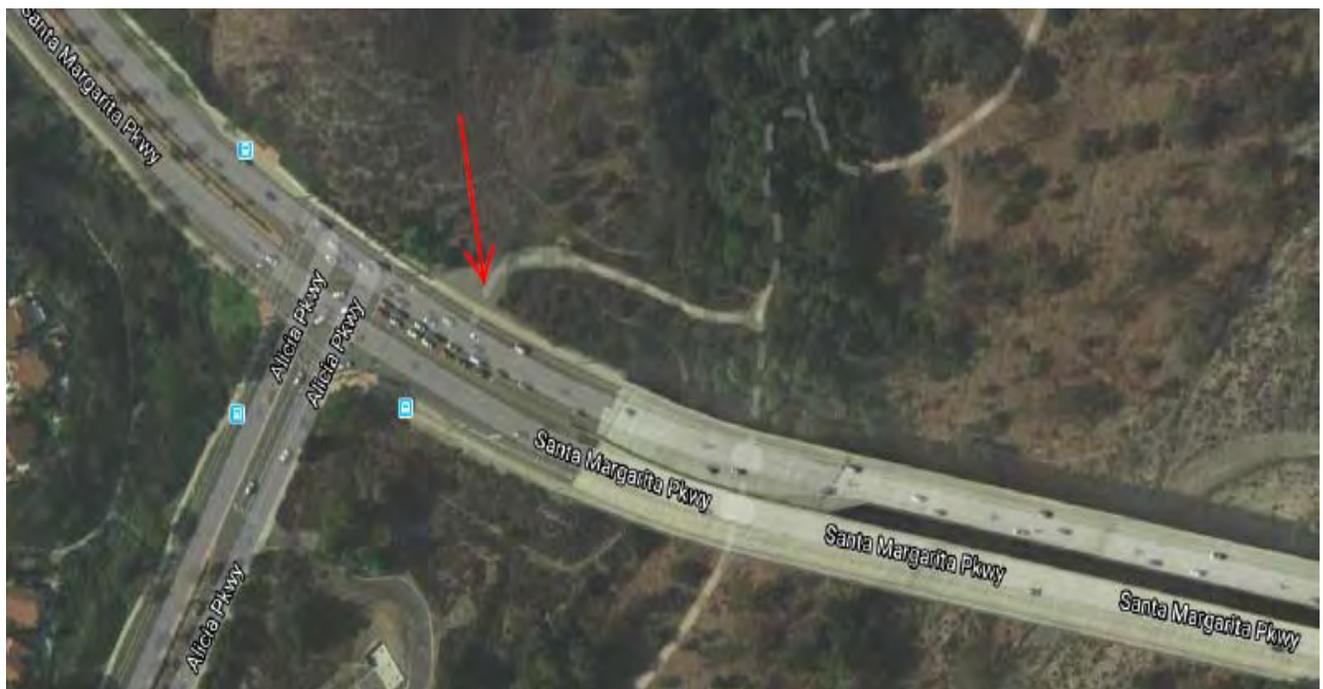
SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT Federal Project No. BPMPL - 5478(013)

Please note the following changes and/or additions to the Request for Proposal (RFP) for the project indicated above. The Bidder shall execute the Acknowledgement of Addenda Bidder's Certification at the end of this addendum, and shall attach the Certification to the Bid Documents submitted with the Bid.

1) Non-Mandatory Pre-Bid Meeting

The City will hold a non-mandatory pre-bid meeting on Thursday, January 23, 2020 at 10:00 a.m. Meeting will be held on-site at the first driveway once you pass the Santa Margarita Parkway Bridge. Entrance is only accessible from the westbound lanes.

Prospective bidders are welcome to visit the project site at their convenience. Access is available under the bridge through a pedestrian gate as reflected by the red arrow in the image below.



2) Response to Questions

Question No. 1 What is the deadline to submit questions?

Answer No. 1 All questions must be submitted five (5) business days in advance of the bid opening date. Reference IB-2 of the project specifications.

Question No. 2 What are the number of allowable working days for the project?

Answer No. 2 The project must be completed within 180 working days from the Notice to Proceed. Reference GS-1 of the project specifications.

Question No. 3 When are the Good Faith Effort and DBE Commitment submittals due by?

Answer No. 3 Exhibit 15-G Construction Contract DBE Commitment and Exhibit 15-H Proposer/Contractor Good Faith Efforts is due to the local agency within five (5) days of bid opening. Days means calendar days. Reference Appendix C – LAPM Exhibit 12-G of the project specifications.

Tri Nguyen _____

Tri Nguyen
Principal Engineer

ACKNOWLEDGEMENT OF ADDENDA

BIDDER'S CERTIFICATION

Federal Project No. BPMPL - 5478(013)

I acknowledge receipt of the foregoing Addendum No. 1 and accept all conditions contained therein.

Bidder

By

Date

*******Submit this executed form with the bid.**



CITY OF RANCHO SANTA MARGARITA

ADDENDUM NO. 2

SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT Federal Project No. BPMPL - 5478(013)

Please note the following changes and/or additions to the Request for Proposal (RFP) for the project indicated above. The Bidder shall execute the Acknowledgement of Addenda Bidder's Certification at the end of this addendum, and shall attach the Certification to the Bid Documents submitted with the Bid.

1) Eliminate the Following Bid Items in Their Entirety

Eliminate the below listed bid items in their entirety. Replace the Proposal Bid Sheets (page P9 through P12) with the revised Proposal Bid Sheets included as an attachment to this addendum.

Bid Item 73 – Alternate Bat Housing

Installation of bat alternate housing has been completed in advance of construction.

Bid Item 77 – Pre Construction and Protocol Surveys

Preconstruction protocol surveys have been completed in advance of construction.

2) Clarification on Bid Item 72 – Exclusionary Netting (Bridge)

Bid Item 72 Exclusionary Netting (Bridge) – is nest exclusionary device for nesting birds per the requirements of BIO-24 of the Environmental Commitment Records (ECR). This item also includes bat exclusionary devices to comply with the requirements of BIO-15 of the ECR. Installation of bat exclusionary devices has been completed in advance of construction and installing bat exclusion devices is no longer part of the Contractor's work.

Removal of bat exclusionary devices and alternate bat housing upon completion of construction is included as part of this payment item and includes compensation for all labor, material, equipment, and incidentals to remove alternate bat housing and bat exclusionary devices. Removal includes four light-weight concrete panels, used for alternate housing that is installed adjacent to the hinge, approximately 100 feet of backer rod material that is being used as alternate housing, and bat exclusion material installed within the hinge itself. The backer rod material is installed closer to the most western end of the bridge and is accessible from the top of the bridge deck.

3) Response to Questions

Question No. 1 For item 65, where is the coring for the restrainer bar type paid?

Answer No. 1 The existing restrainer holes will be used for the new restrainers and therefore coring through the existing concrete is not required. See note D on Plan Sheet S9.

Question No. 2 Item 50 calls for Drill and Bond Dowell but we do not see it on the plans. Can you specify the location of where it should be?

Answer No. 2 Drill and Bond Dowel item was included to account for any missing reinforcement that must be added as directed by the Engineer. If any existing reinforcement meant to be protected in place is damaged due to contractor's operations, the contractor is required to replace the damaged reinforcement at their own expense as approved by the Engineer. One of the methods is to Drill and Bond a new reinforcement adjacent to existing damaged reinforcement.

Question No. 3 Can the bike lanes as part of stage 2 traffic control be eliminated?

Answer No. 3 The approved environmental document requires a bike path be provided for the entire duration of construction for bicyclist to traverse the bridge.

Question No. 4 What are the insurance requirements? P-14 of the proposal package is the Acknowledgement of Compliance with Insurance Requirements that are specified in the Instructions to Bidders. Could you direct me to the location of the requirements?

Answer No. 4 Insurance requirements are listed within *Section 7-4 Insurance Requirements* of the project specifications.

Question No. 5 Any work requiring lane closures is currently restricted to between the hours of 9:00 a.m. to 3:30 p.m. Can these hours be modified to accommodate an eight-hour window where lane closures are required?

Answer No. 5 Replace the *Traffic Requirements* section on page GS-1 in its entirety with the below. Any additional references to lane closure hours shall also be revised to coincide with the below revised language.

TRAFFIC REQUIREMENTS

The Contractor shall provide delineation in accordance with the latest updated version of the California Manual on Uniform Traffic Control Devices (MUTCD). The Contractor shall schedule the order of his work such that no travel lanes are closed before 8:30 A.M. or after 5:00 P.M. daily. A minimum of one through travel lane and all turning lanes in all directions shall be maintained during construction between 8:30 A.M. and 5:00 P.M. The same number of travel lanes currently in use (at the time of bid) shall be opened to traffic each and every day

between 5:00 P.M. and 8:30 A.M. No work that interferes with public traffic shall be performed after 5:00 P.M. or before 8:30 A.M. No street closures shall be made. The traffic signal and traffic signal detectors shall remain operational during the construction until their replacement is scheduled within 5 days of disruption.

Separation between travel lanes shall be accomplished by the use of delineators placed at a maximum of 15' on center. Traffic channelization at intersections shall be accomplished by the use of delineators placed at a maximum of 10' on center.

Tri Nguyen

Tri Nguyen
Principal Engineer

**CITY OF RANCHO SANTA MARGARITA
PROPOSAL BID SHEETS
FOR
SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT
FROM SAN SEBASTIAN TO SR-241**

BID ITEMS 1-77:

Item	Description	Est. Quantity	Units	Unit Price	Total Cost
1	Lead Compliance Plan	1	LS		
2	Dust Abatement	1	LS		
3	Prepare Storm Water Pollution Prevention Plan	1	LS		
4	Water Pollution Control	1	LS		
5	Clearing And Grubbing	1	LS		
6	Hazardous Waste Testing	1	LS		
7(F)	Roadway Excavation (Detour)	825	CY		
8(F)	Roadway Excavation (Detour Removal)	1,190	CY		
9	Imported Borrow	1,460	CY		
10	Class 2 Aggregate Base	850	CY		
11	Hot Mix Asphalt (Type A)	700	TON		
12	Rubberized Hot Mix Asphalt (Gap Graded)	50	TON		
13	Concrete Median Curb, Per OCPW STD 120-2-OC Detail "B"	1,828	LF		
14	Temporary Traffic Stripe (Paint)	15,200	LF		
15	Temporary Pavement Marking (Paint)	190	SQFT		
16	Remove Painted Traffic Stripe	27,200	LF		
17	Channelizer (Surface Mounted)	250	EA		
18	Flashing Arrow Sign	1	EA		
19	Temporary Railing (Type K)	400	LF		
20	Temporary Crash Cushion Module	2	EA		
21	Roadside Sign - One Post	25	EA		
22	Install Roadside Sign Panel On Existing Post	31	EA		
23	Type II Barricade	7	EA		
24	Remove Sign Panel	3	EA		
25	Portable Changeable Message Sign (Ea)	2	EA		
26	Remove Pavement Marking	570	SF		
27	Remove Sign	25	EA		
28	Remove Channelizer (Surface Mounted)	250	EA		
29	Remove Crash Cushion	2	EA		
30	Remove Concrete Barrier (Type K)	400	FT		
31	Paint Traffic Stripe (2 Coat)	12,000	LF		

Item	Description	Est. Quantity	Units	Unit Price	Total Cost
32	Paint Pavement Marking (2 Coat)	380	SQFT		
33	Install Sign Panel	3	EA		
34	Salvage Irrigation Facility (LS)	1	LS		
35	Minor Concrete (Stamped Concrete)	7,870	SQFT		
36	Prepare And Stain Concrete	7,870	SQFT		
37	Soil Preparation & Fine Grading	12,130	SF		
38	Imported Topsoil (CY)	167	CY		
39	Furnish And Install Irrigation System	1	LS		
40	Plant (Group B) (5-Gal (Pittosporum Tobira) Shrub)	828	EA		
41	Plant (Group U) (15-Gal Magnolia Grandiflora Tree)	17	EA		
42	Wood Mulch (2-INCH Deep)	75	CY		
43	Root Barrier (LF) (24-INCH Deep)	680	LF		
44	90-Day Plant Establishment And Irrigation Maintenance Period	1	LS		
45	Furnish & Provide Soils Report With Recommendations	1	LS		
46	Temporary Support	1	LS		
47	Temporary Decking	1	LS		
48	Jacking Superstructure	1	LS		
49(F)	Structural Concrete, Bridge	60	CY		
50	Drill And Bond Dowel	30	LF		
51	Joint Seal (MR 2")	77	LF		
52	Joint Seal Assembly (MR 3")	59	LF		
53	Joint Seal Assembly (MR 4")	75	LF		
54(F)	Bar Reinforcing Steel (Bridge)	11,933	LB		
55	Rapid Setting Concrete (Patch)	581	CF		
56	Remove Concrete Deck Surface	1,628	SQFT		
57	Remove Unsound Concrete	581	CF		
58	Prepare Concrete Bridge Deck Surface	70,118	SQFT		
59	Furnish Polyester Concrete Overlay	628	CF		
60(F)	Place Polyester Concrete Overlay	4,635	SQFT		
61(F)	Treat Bridge Deck	70,118	SQFT		
62	Furnish Bridge Deck Treatment Material	1,275	GAL		
63	Access Opening, Deck	8	EA		
64	Bridge Removal (Portion)	1	LS		
65(F)	Miscellaneous Metal (Restrainer - Bar Type)	3,862	LB		
66(F)	Miscellaneous Metal (Bridge)	1,605	LB		
67(F)	Tubular Handrailing	12	LF		
68(F)	Concrete Barrier (Type 26)	6	LF		

Item	Description	Est. Quantity	Units	Unit Price	Total Cost
69(F)	Concrete Barrier (Type 27 Modified)	9	LF		
70	Temporary Fence (Type ESA)	2,320	LF		
71	Contractor-Supplied Biologist (LS)	1	LS		
72	Exclusionary Netting (Bridge)	1	LS		
73	Not Used				
74	Plant Establishment Period	1	LS		
75	Revegetation	1	LS		
76	Restoration Plan	1	LS		
77	Not Used				
78	Mobilization	1	LS		

SUPPLEMENTAL ITEMS 78-84:

Item	Description	Est. Quantity	Units	Unit Price	Total Cost
79	Rain Event Action Plan	30	EA		
80	Storm Water Sampling And Analysis Day	30	EA		
81	Storm Water Annual Report	2	EA		
82	Engineer Specified Positive Location (Pothole)	20	EA		
83	Remove Yellow Painted Traffic Stripe (Hazardous Waste)	12,000	LF		
84	Remove Yellow Painted Pavement Marking (Hazardous Waste)	570	SQFT		
85	Remove Soil (Hazardous Waste)	1	LS		

TOTAL BID IN FIGURES (BID ITEMS 1-85):

\$ _____

TOTAL BID IN WORDS (BID ITEMS 1-85):

_____ DOLLARS

AND _____ CENTS.

NOTE: THE ESTIMATED QUANTITIES SHOWN HEREIN ARE APPROXIMATE AND ARE TO BE USED ONLY AS COMPARISON OF BIDS. PAYMENT FOR QUANTITIES WILL BE MADE FOR ACTUAL MATERIALS USED ON THE JOB. THE CITY RESERVES THE RIGHT TO INCREASE OR DECREASE THE AMOUNT OF ANY QUANTITY SHOWN AND TO DELETE ALL OR ANY ITEM FROM THE CONTRACT. IF THERE IS A CONFLICT BETWEEN THE UNIT

PRICE PROVIDED AND TOTAL COST, THE UNIT PRICE SHALL PREVAIL. IF THERE IS A CONFLICT BETWEEN THE "TOTAL BID FIGURES" AND THE "TOTAL BID IN WORDS", THE "TOTAL BID IN WORDS" SHALL PREVAIL.

ACKNOWLEDGEMENT OF ADDENDA

BIDDER'S CERTIFICATION

Federal Project No. BPMPL - 5478(013)

I acknowledge receipt of the foregoing Addendum No. 2 and accept all conditions contained therein.

Bidder

By

Date

*******Submit this executed form with the bid.**



CITY OF RANCHO SANTA MARGARITA

ADDENDUM NO. 3

**SANTA MARGARITA PARKWAY BRIDGE HINGE REPAIR PROJECT
Federal Project No. BPMPL - 5478(013)**

Please note the following changes and/or additions to the Request for Proposal (RFP) for the project indicated above. The Bidder shall execute the Acknowledgement of Addenda Bidder's Certification at the end of this addendum, and shall attach the Certification to the Bid Documents submitted with the Bid.

1) Replace Federal Wage Determination in Its Entirety

Located in the project specifications, replace *Appendix D - Federal Wage Determination* with the revised Federal Wage Determination last updated January 31, 2020. The revised wage rates are included as an attachment to this addendum.

2) Response to Questions

Question No. 1 Per the end of subsection 20-3.01A(3)(a) page 33/ Technical Specifications, Soil Amendment for soil preparation of site along with soil backfill mix for tree and shrub planting pits shall be pending per soil report. But soil report is not available at the time of bidding. Please provide The Ratios of Soil Amendment for bidding purpose.

Answer No. 1 Included as an attachment to this addendum is the soil amendment ratios for bidding purposes. Contractor is required to prepare a soil agronomy report with recommendations for new soil preparation per the requirements in Section 20-3.01A(3)(a) of the technical specifications.

Tri Nguyen

Tri Nguyen
Principal Engineer

"General Decision Number: CA20200024 01/31/2020

Superseded General Decision Number: CA20190024

State: California

Construction Types: Building, Heavy (Heavy and Dredging) and Highway

County: Orange County in California.

BUILDING CONSTRUCTION PROJECTS; DREDGING PROJECTS (does not include hopper dredge work); HEAVY CONSTRUCTION PROJECTS (does not include water well drilling); HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.80 for calendar year 2020 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, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.80 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 calendar year 2020. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/03/2020
1	01/10/2020
2	01/31/2020

ASBE0005-002 09/01/2019

Rates

Fringes

Asbestos Workers/Insulator
 (Includes the application of
 all insulating materials,
 protective coverings,
 coatings, and finishes to all
 types of mechanical systems).....\$ 43.77 22.48

Fire Stop Technician
 (Application of Firestopping
 Materials for wall openings
 and penetrations in walls,
 floors, ceilings and curtain
 walls).....\$ 28.92 18.73

ASBE0005-004 07/01/2019

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)....\$ 20.63 12.17

* BRCA0004-010 05/01/2018

Rates Fringes

BRICKLAYER; MARBLE SETTER.....\$ 39.98 14.90

*The wage scale for prevailing wage projects performed in Blythe, China lake, Death Valley, Fort Irwin, Twenty-Nine Palms, Needles and 1-15 corridor (Barstow to the Nevada State Line) will be Three Dollars (\$3.00) above the standard San Bernardino/Riverside County hourly wage rate

BRCA0018-004 06/01/2019

Rates Fringes

MARBLE FINISHER.....\$ 33.43 14.11
 TILE FINISHER.....\$ 28.23 12.65
 TILE LAYER.....\$ 40.07 18.36

BRCA0018-010 09/01/2018

Rates Fringes

TERRAZZO FINISHER.....	\$ 31.25	13.41
TERRAZZO WORKER/SETTER.....	\$ 38.39	14.18

 CARP0409-001 07/01/2018

	Rates	Fringes
CARPENTER		
(1) Carpenter, Cabinet Installer, Insulation Installer, Hardwood Floor Worker and acoustical installer.....	\$ 41.84	19.17
(2) Millwright.....	\$ 42.91	19.17
(3) Piledrivermen/Derrick Bargeman, Bridge or Dock Carpenter, Heavy Frammer, Rock Bargeman or Scowman, Rockslinger, Shingler (Commercial).....	\$ 42.54	19.17
(4) Pneumatic Nailer, Power Stapler.....	\$ 40.09	19.17
(5) Sawfiler.....	\$ 39.83	19.17
(6) Scaffold Builder.....	\$ 31.60	19.17
(7) Table Power Saw Operator.....	\$ 40.93	19.17

FOOTNOTE: Work of forming in the construction of open cut sewers or storm drains, on operations in which horizontal lagging is used in conjunction with steel H-Beams driven or placed in pre- drilled holes, for that portion of a lagged trench against which concrete is poured, namely, as a substitute for back forms (which work is performed by piledrivers): \$0.13 per hour additional.

 CARP0409-005 07/01/2015

	Rates	Fringes
Drywall		
DRYWALL INSTALLER/LATHER....	\$ 37.35	11.08
STOCKER/SCRAPPER.....	\$ 10.00	7.17

 CARP0409-008 08/01/2010

	Rates	Fringes
Modular Furniture Installer.....	\$ 17.00	7.41

 ELEC0011-002 12/31/2018

COMMUNICATIONS AND SYSTEMS WORK

	Rates	Fringes
Communications System		
Installer.....	\$ 36.07	3%+14.43
Technician.....	\$ 33.30	3%+27.82

SCOPE OF WORK:

Installation, testing, service and maintenance of systems utilizing the transmission and/or transference of voice, sound, vision and digital for commercial, educational, 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 systems, radio page, school intercom and sound, burglar alarms, fire alarm (see last paragraph below) and low voltage master clock systems in commercial buildings. Communication Systems that transmit or receive information and/or control systems that are intrinsic to the above listed systems; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding all other data systems or multiple systems which include control function or power supply; excluding installation of raceway systems, conduit systems, line voltage work, and energy management systems. Does not cover work performed at China Lake Naval Ordnance Test Station. Fire alarm work shall be performed at the current inside wireman total cost package.

 ELEC0441-001 08/26/2019

	Rates	Fringes
CABLE SPLICER.....	\$ 46.72	21.59
ELECTRICIAN.....	\$ 44.67	21.53

 * ELEC0441-003 12/31/2018

COMMUNICATIONS & SYSTEMS WORK (excludes any work on Intelligent Transportation Systems or CCTV highway systems)

	Rates	Fringes
Communications System		
Installer.....	\$ 35.12	13.77
Technician.....	\$ 31.23	15.39

SCOPE OF WORK The work covered shall include the installation, testing, service and maintenance, of the following systems that utilize the transmission and/or transference of voice, sound, vision and digital for commercial, education, security and entertainment purposes for 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. Communication systems that transmit or receive information and/or control systems that are intrinsic to the above listed systems SCADA (Supervisory control/data acquisition PCM (Pulse code modulation) Inventory control systems Digital data systems Broadband & baseband and carriers Point of sale systems VSAT data systems Data communication systems RF and remote control systems Fiber optic data systems

B. Sound and Voice Transmission/Transference Systems Background-Foreground Music Intercom and Telephone Interconnect Systems Sound and Musical Entertainment Systems Nurse Call Systems Radio Page Systems School Intercom and Sound Systems Burglar Alarm Systems Low-Voltage Master Clock Systems Multi-Media/Multiplex Systems Telephone Systems RF Systems and Antennas and Wave Guide

C. *Fire Alarm Systems-installation, wire pulling and testing.

D. Television and Video Systems Television Monitoring and Surveillance Systems Video Security Systems Video Entertainment Systems Video Educational Systems CATV and CCTV

E. Security Systems, Perimeter Security Systems, Vibration Sensor Systems Sonar/Infrared Monitoring Equipment, Access Control Systems, Card Access Systems

*Fire Alarm Systems

1. Fire Alarms-In Raceways: Wire and cable pulling in raceways performed at the current electrician wage rate and fringe benefits.
2. Fire Alarms-Open Wire Systems: installed by the Technician.

ELEC0441-004 08/26/2019

Rates

Fringes

ELECTRICIAN (TRANSPORTATION SYSTEMS, TRAFFIC SIGNALS & STREET LIGHTING)

Cable Splicer/Fiber Optic

Splicer.....	\$ 45.27	21.55
Electrician.....	\$ 44.67	21.53
Technician.....	\$ 33.50	21.20

SCOPE OF WORK: Electrical work on public streets, freeways, toll-ways, etc, above or below ground. All work necessary for the installation, renovation, repair or removal of Intelligent Transportation Systems, Video Surveillance Systems (CCTV), Street Lighting and and Traffic Signal work or systems whether underground or on bridges. Includes dusk to dawn lighting installations and ramps for access to or egress from freeways, toll-ways, etc.

Intelligent Transportation Systems shall include all systems and components to control, monitor, and communicate with pedestrian or vehicular traffic, included but not limited to: installation, modification, removal of all Fiber optic Video System, Fiber Optic Data Systems, Direct interconnect and Communications Systems, Microwave Data and Video Systems, Infrared and Sonic Detection Systems, Solar Power Systems, Highway Advisory Radio Systems, highway Weight and Motion Systems, etc.

Any and all work required to install and maintain any specialized or newly developed systems. All cutting, fitting and bandaging of ducts, raceways, and conduits. The cleaning, rodding and installation of "fish and pull wires". The excavation, setting, leveling and grouting of precast manholes, vaults, and pull boxes including ground rods or grounding systems, rock necessary for leveling and drainagae as well as pouring of a concrete envelope if needed.

JOURNEYMAN TRANSPORTATION ELECTRICIAN shall perform all tasks necessary toinstall the complete transportation system.

JOURNEYMAN TECHNICIAN duties shall consist of: Distribution of material at job site, manual excavation and backfill, installation of system conduits and raceways for electrical, telephone, cable television and communication systems. Pulling, terminating and splicing of traffic signal and street lighting conductors and electrical systems including interconnect, dector loop, fiber optic cable and video/data.

ELEC1245-001 06/01/2019

Rates

Fringes

LINE CONSTRUCTION

(1) Lineman; Cable splicer..	\$ 58.09	19.36
(2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), overhead & underground distribution line equipment).....	\$ 46.40	18.17
(3) Groundman.....	\$ 35.47	17.79
(4) Powderman.....	\$ 49.55	3%+17.65

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

ELEV0018-001 01/01/2019

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 55.58	34.125

FOOTNOTE:

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.
PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

ENGI0012-003 07/01/2018

	Rates	Fringes
OPERATOR: Power Equipment (All Other Work)		
GROUP 1.....	\$ 45.30	25.25
GROUP 2.....	\$ 46.08	25.25
GROUP 3.....	\$ 46.37	25.25
GROUP 4.....	\$ 47.86	25.25
GROUP 5.....	\$ 48.96	25.25
GROUP 6.....	\$ 48.08	25.25
GROUP 8.....	\$ 48.19	25.25
GROUP 9.....	\$ 49.29	25.25
GROUP 10.....	\$ 48.31	25.25
GROUP 11.....	\$ 49.41	25.25
GROUP 12.....	\$ 48.48	25.25
GROUP 13.....	\$ 48.58	25.25

GROUP 14.....	\$ 48.61	25.25
GROUP 15.....	\$ 48.69	25.25
GROUP 16.....	\$ 48.81	25.25
GROUP 17.....	\$ 48.98	25.25
GROUP 18.....	\$ 49.08	25.25
GROUP 19.....	\$ 49.19	25.25
GROUP 20.....	\$ 49.31	25.25
GROUP 21.....	\$ 49.48	25.25
GROUP 22.....	\$ 49.58	25.25
GROUP 23.....	\$ 49.69	25.25
GROUP 24.....	\$ 49.81	25.25
GROUP 25.....	\$ 49.98	25.25

OPERATOR: Power Equipment
(Cranes, Piledriving &
Hoisting)

GROUP 1.....	\$ 46.65	25.25
GROUP 2.....	\$ 47.43	25.25
GROUP 3.....	\$ 47.72	25.25
GROUP 4.....	\$ 47.86	25.25
GROUP 5.....	\$ 48.08	25.25
GROUP 6.....	\$ 48.19	25.25
GROUP 7.....	\$ 48.31	25.25
GROUP 8.....	\$ 48.48	25.25
GROUP 9.....	\$ 48.65	25.25
GROUP 10.....	\$ 49.65	25.25
GROUP 11.....	\$ 50.65	25.25
GROUP 12.....	\$ 51.65	25.25
GROUP 13.....	\$ 52.65	25.25

OPERATOR: Power Equipment
(Tunnel Work)

GROUP 1.....	\$ 47.15	25.25
GROUP 2.....	\$ 47.93	25.25
GROUP 3.....	\$ 48.22	25.25
GROUP 4.....	\$ 48.39	25.25
GROUP 5.....	\$ 48.58	25.25
GROUP 6.....	\$ 48.69	25.25
GROUP 7.....	\$ 48.81	25.25

PREMIUM PAY:

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

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

SEE ZONE DEFINITIONS AFTER CLASSIFICATIONS

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

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

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

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

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

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

GROUP 6: Articulating material hauler; Asphalt plant engineer; Batch plant operator; Bit sharpener; Concrete joint machine operator (canal and similar type); Concrete planer operator; Dandy digger; Deck engine operator; Derrickman (oilfield type); Drilling machine operator, bucket or auger types (Calweld 100 bucket or similar types - Watson 1000 auger or similar types - Texoma 330, 500 or 600 auger or similar types - drilling depth of 45'

maximum); Drilling machine operator; Hydrographic seeder machine operator (straw, pulp or seed), Jackson track maintainer, or similar type; Kalamazoo Switch tamper, or similar type; Machine tool operator; Maginnis internal full slab vibrator, Mechanical berm, curb or gutter (concrete or asphalt); Mechanical finisher operator (concrete, Clary-Johnson-Bidwell or similar); Micro tunnel system (below ground); Pavement breaker operator (truck mounted); Road oil mixing machine operator; Roller operator (asphalt or finish), rubber-tired earth moving equipment (single engine, up to and including 25 yds. struck); Self-propelled tar pipelining machine operator; Skiploader operator (crawler and wheel type, over 3/4 yd. and up to and including 1-1/2 yds.); Slip form pump operator (power driven hydraulic lifting device for concrete forms); Tractor operator-bulldozer, tamper-scraper (single engine, up to 100 h.p. flywheel and similar types, up to and including D-5 and similar types); Tugger hoist operator (1 drum); Ultra high pressure waterjet cutting tool system operator; Vacuum blasting machine operator

GROUP 8: Asphalt or concrete spreading operator (tamping or finishing); Asphalt paving machine operator (Barber Greene or similar type); Asphalt-rubber distribution operator; Backhoe operator (up to and including 3/4 yd.), small ford, Case or similar; Cast-in-place pipe laying machine operator; Combination mixer and compressor operator (gunite work); Compactor operator (self-propelled); Concrete mixer operator (paving); Crushing plant operator; Drill Doctor; Drilling machine operator, Bucket or auger types (Calweld 150 bucket or similar types - Watson 1500, 2000 2500 auger or similar types - Texoma 700, 800 auger or similar types - drilling depth of 60' maximum); Elevating grader operator; Grade checker; Gradall operator; Grouting machine operator; Heavy-duty repairman; Heavy equipment robotics operator; Kalamazoo balliste regulator or similar type; Kolman belt loader and similar type; Le Tourneau blob compactor or similar type; Loader operator (Athey, Euclid, Sierra and similar types); Mobark Chipper or similar; Ozzie padder or similar types; P.C. slot saw; Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pumpcrete gun operator; Rock Drill or similar types; Rotary drill operator (excluding caisson type); Rubber-tired earth-moving equipment operator (single engine, caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator (multiple engine up to and including 25 yds. struck); Rubber-tired scraper operator (self-loading paddle wheel type-John Deere, 1040 and similar single unit); Self-propelled curb and gutter machine operator; Shuttle buggy; Skiploader operator (crawler and wheel type over 1-1/2 yds.

up to and including 6-1/2 yds.); Soil remediation plant operator; Surface heaters and planer operator; Tractor compressor drill combination operator; Tractor operator (any type larger than D-5 - 100 flywheel h.p. and over, or similar-bulldozer, tamper, scraper and push tractor single engine); Tractor operator (boom attachments), Traveling pipe wrapping, cleaning and bending machine operator; Trenching machine operator (over 6 ft. depth capacity, manufacturer's rating); trenching Machine with Road Miner attachment (over 6 ft depth capacity): Ultra high pressure waterjet cutting tool system mechanic; Water pull (compaction) operator

GROUP 9: Heavy Duty Repairman

GROUP 10: Drilling machine operator, Bucket or auger types (Calweld 200 B bucket or similar types-Watson 3000 or 5000 auger or similar types-Texoma 900 auger or similar types-drilling depth of 105' maximum); Dual drum mixer, dynamic compactor LDC350 (or similar types); Monorail locomotive operator (diesel, gas or electric); Motor patrol-blade operator (single engine); Multiple engine tractor operator (Euclid and similar type-except Quad 9 cat.); Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Pneumatic pipe ramming tool and similar types; Prestressed wrapping machine operator; Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Rubber tired earth moving equipment operator (multiple engine, Euclid, caterpillar and similar over 25 yds. and up to 50 yds. struck), Tower crane repairman; Tractor loader operator (crawler and wheel type over 6-1/2 yds.); Woods mixer operator (and similar Pugmill equipment)

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

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

GROUP 13: Rubber-tired earth-moving equipment operator

operating equipment with push-pull system (single engine, up to and including 25 yds. struck)

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

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

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

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

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

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

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

Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

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

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

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

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

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

CRANES, PILEDIVING AND HOISTING EQUIPMENT CLASSIFICATIONS

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

GROUP 2: Truck crane oiler

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

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

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

GROUP 6: Bridge crane operator; Cretor crane operator; Hoist

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

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

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

GROUP 9: Crane operator (over 25 tons and up to and including 50 tons mrc); Derrick barge operator (over 25 tons up to and including 50 tons mrc); Highline cableway operator; Hoist operator, stiff legs, Guy derrick or similar type (over 25 tons up to and including 50 tons mrc); K-crane operator; Polar crane operator; Self erecting tower crane operator maximum lifting capacity ten tons

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

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

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

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

TUNNEL CLASSIFICATIONS

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

GROUP 2: Power-driven jumbo form setter operator

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

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

GROUP 5: Backhoe operator (up to and including 3/4 yd.); Small Ford, Case or similar; Drill doctor; Grouting machine operator; Heading shield operator; Heavy-duty repairperson; Loader operator (Athey, Euclid, Sierra and similar types); Mucking machine operator (1/4 yd., rubber-tired, rail or track type); Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pneumatic heading shield (tunnel); Pumpcrete gun operator; Tractor compressor drill combination operator; Tugger hoist operator (2 drum); Tunnel locomotive operator (over 30 tons)

GROUP 6: Heavy Duty Repairman

GROUP 7: Tunnel mole boring machine operator

ENGINEERS ZONES

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

That area within the following Boundary: Begin in San Bernardino County, approximately 3 miles NE of the intersection of I-15 and the California State line at that point which is the NW corner of Section 1, T17N,m R14E, San Bernardino Meridian. Continue W in a straight line to that point which is the SW corner of the northwest quarter of Section 6, T27S, R42E, Mt. Diablo Meridian. Continue North to the intersection with the Inyo County Boundary at that point which is the NE corner of the western half of the northern quarter of Section 6, T25S, R42E, MDM. Continue W along the Inyo and San Bernardino County boundary until the intersection with Kern County, as that point which is the SE corner of Section 34, T24S, R40E, MDM. Continue W along the Inyo and Kern County boundary until the intersection with Tulare County, at that

point which is the SW corner of the SE quarter of Section 32, T24S, R37E, MDM. Continue W along the Kern and Tulare County boundary, until that point which is the NW corner of T25S, R32E, MDM. Continue S following R32E lines to the NW corner of T31S, R32E, MDM. Continue W to the NW corner of T31S, R31E, MDM. Continue S to the SW corner of T32S, R31E, MDM. Continue W to SW corner of SE quarter of Section 34, T32S, R30E, MDM. Continue S to SW corner of T11N, R17W, SBM. Continue E along south boundary of T11N, SBM to SW corner of T11N, R7W, SBM. Continue S to SW corner of T9N, R7W, SBM. Continue E along south boundary of T9N, SBM to SW corner of T9N, R1E, SBM. Continue S along west boundary of R1E, SMB to Riverside County line at the SW corner of T1S, R1E, SBM. Continue E along south boundary of T1S, SBM (Riverside County Line) to SW corner of T1S, R10E, SBM. Continue S along west boundary of R10E, SBM to Imperial County line at the SW corner of T8S, R10E, SBM. Continue W along Imperial and Riverside county line to NW corner of T9S, R9E, SBM. Continue S along the boundary between Imperial and San Diego Counties, along the west edge of R9E, SBM to the south boundary of Imperial County/California state line. Follow the California state line west to Arizona state line, then north to Nevada state line, then continuing NW back to start at the point which is the NW corner of Section 1, T17N, R14E, SBM

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

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

to the Kings County and Kern County border at the NE corner of T25S, R21E, MDM, continue West along the Kings County and Kern County Boundary until the intersection of San Luis Obispo County. Continue west along the Kings County and San Luis Obispo County boundary until the intersection with Monterey County. Continue West along the Monterey County and San Luis Obispo County boundary to the beginning point at the NW corner of T25S, R16E, MDM.

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

That area within the following Boundary: Begin at the intersection of the northern boundary of Mono County and the California state line at the point which is the center of Section 17, T10N, R22E, Mt. Diablo Meridian. Continue S then SE along the entire western boundary of Mono County, until it reaches Inyo County at the point which is the NE corner of the Western half of the NW quarter of Section 2, T8S, R29E, MDM. Continue SSE along the entire western boundary of Inyo County, until the intersection with Kern County at the point which is the SW corner of the SE 1/4 of Section 32, T24S, R37E, MDM. Continue E along the Inyo and Kern County boundary until the intersection with San Bernardino County at that point which is the SE corner of section 34, T24S, R40E, MDM. Continue E along the Inyo and San Bernardino County boundary until the point which is the NE corner of the Western half of the NW quarter of Section 6, T25S, R42E, MDM. Continue S to that point which is the SW corner of the NW quarter of Section 6, T27S, R42E, MDM. Continue E in a straight line to the California and Nevada state border at the point which is the NW corner of Section 1, T17N, R14E, San Bernardino Meridian. Then continue NW along the state line to the starting point, which is the center of Section 18, T10N, R22E, MDM.

REMAINING AREA NOT DEFINED ABOVE RECIEVES BASE RATE

ENGI0012-004 08/01/2015

	Rates	Fringes
OPERATOR: Power Equipment		
(DREDGING)		
(1) Leverman.....	\$ 49.50	23.60
(2) Dredge dozer.....	\$ 43.53	23.60
(3) Deckmate.....	\$ 43.42	23.60
(4) Winch operator (stern winch on dredge).....	\$ 42.87	23.60
(5) Fireman-Oiler,		

Deckhand, Bargeman,		
Leveehand.....	\$ 42.33	23.60
(6) Barge Mate.....	\$ 42.94	23.60

IRON0377-002 07/01/2019

	Rates	Fringes
Ironworkers:		
Fence Erector.....	\$ 33.58	24.66
Ornamental, Reinforcing and Structural.....	\$ 40.00	33.30

PREMIUM PAY:

\$6.00 additional per hour at the following locations:

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

\$4.00 additional per hour at the following locations:

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

\$2.00 additional per hour at the following locations:

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

LAB00300-005 01/01/2018

	Rates	Fringes
Asbestos Removal Laborer.....	\$ 33.19	17.78

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

LAB00345-001 07/01/2019

	Rates	Fringes
LABORER (GUNITE)		
GROUP 1.....	\$ 44.05	18.42
GROUP 2.....	\$ 43.10	18.42
GROUP 3.....	\$ 39.56	18.42

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

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Rodmen, Nozzlemen

GROUP 2: Gunmen

GROUP 3: Reboundmen

LABO0652-001 07/01/2019

	Rates	Fringes
LABORER (TUNNEL)		
GROUP 1.....	\$ 40.19	19.07
GROUP 2.....	\$ 40.51	19.07
GROUP 3.....	\$ 40.97	19.07
GROUP 4.....	\$ 41.66	19.07
LABORER		
GROUP 1.....	\$ 35.24	20.09
GROUP 2.....	\$ 35.79	20.09
GROUP 3.....	\$ 36.34	20.09
GROUP 4.....	\$ 37.89	20.09
GROUP 5.....	\$ 38.24	20.09

LABORER CLASSIFICATIONS

GROUP 1: Cleaning and handling of panel forms; Concrete screeding for rough strike-off; Concrete, water curing;

Demolition laborer, the cleaning of brick if performed by a worker performing any other phase of demolition work, and the cleaning of lumber; Fire watcher, limber, brush loader, piler and debris handler; Flag person; Gas, oil and/or water pipeline laborer; Laborer, asphalt-rubber material loader; Laborer, general or construction; Laborer, general clean-up; Laborer, landscaping; Laborer, jetting; Laborer, temporary water and air lines; Material hose operator (walls, slabs, floors and decks); Plugging, filling of shee bolt holes; Dry packing of concrete; Railroad maintenance, repair track person and road beds; Streetcar and railroad construction track laborers; Rigging and signaling; Scaler; Slip form raiser; Tar and mortar; Tool crib or tool house laborer; Traffic control by any method; Window cleaner; Wire mesh pulling - all concrete pouring operations

GROUP 2: Asphalt shoveler; Cement dumper (on 1 yd. or larger mixer and handling bulk cement); Cesspool digger and installer; Chucktender; Chute handler, pouring concrete, the handling of the chute from readymix trucks, such as walls, slabs, decks, floors, foundation, footings, curbs, gutters and sidewalks; Concrete curer, impervious membrane and form oiler; Cutting torch operator (demolition); Fine grader, highways and street paving, airport, runways and similar type heavy construction; Gas, oil and/or water pipeline wrapper - pot tender and form person; Guinea chaser; Headerboard person - asphalt; Laborer, packing rod steel and pans; Membrane vapor barrier installer; Power broom sweeper (small); Riprap stonepaver, placing stone or wet sacked concrete; Roto scraper and tiller; Sandblaster (pot tender); Septic tank digger and installer(lead); Tank scaler and cleaner; Tree climber, faller, chain saw operator, Pittsburgh chipper and similar type brush shredder; Underground laborer, including caisson bellower

GROUP 3: Buggymobile person; Concrete cutting torch; Concrete pile cutter; Driller, jackhammer, 2-1/2 ft. drill steel or longer; Dri-pak-it machine; Gas, oil and/or water pipeline wrapper, 6-in. pipe and over, by any method, inside and out; High scaler (including drilling of same); Hydro seeder and similar type; Impact wrench multi-plate; Kettle person, pot person and workers applying asphalt, lay-kold, creosote, lime caustic and similar type materials ("applying" means applying, dipping, brushing or handling of such materials for pipe wrapping and waterproofing); Operator of pneumatic, gas, electric tools, vibrating machine, pavement breaker, air blasting, come-alongs, and similar mechanical tools not separately classified herein; Pipelayer's backup person, coating, grouting, making of joints, sealing, caulking, diapering and including rubber gasket joints, pointing and any and all other services; Rock slinger; Rotary scarifier or multiple head concrete

chipping scarifier; Steel headerboard and guideline setter; Tamper, Barko, Wacker and similar type; Trenching machine, hand-propelled

GROUP 4: Asphalt raker, lute person, ironer, asphalt dump person, and asphalt spreader boxes (all types); Concrete core cutter (walls, floors or ceilings), grinder or sander; Concrete saw person, cutting walls or flat work, scoring old or new concrete; Cribber, shorer, lagging, sheeting and trench bracing, hand-guided lagging hammer; Head rock slinger; Laborer, asphalt- rubber distributor boot person; Laser beam in connection with laborers' work; Oversize concrete vibrator operator, 70 lbs. and over; Pipelayer performing all services in the laying and installation of pipe from the point of receiving pipe in the ditch until completion of operation, including any and all forms of tubular material, whether pipe, metallic or non-metallic, conduit and any other stationary type of tubular device used for the conveying of any substance or element, whether water, sewage, solid gas, air, or other product whatsoever and without regard to the nature of material from which the tubular material is fabricated; No-joint pipe and stripping of same; Prefabricated manhole installer; Sandblaster (nozzle person), water blasting, Porta Shot-Blast

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

TUNNEL LABORER CLASSIFICATIONS

GROUP 1: Batch plant laborer; Changehouse person; Dump person; Dump person (outside); Swamper (brake person and switch person on tunnel work); Tunnel materials handling person; Nipper; Pot tender, using mastic or other materials (for example, but not by way of limitation, shotcrete, etc.)

GROUP 2: Chucktender, cabetender; Loading and unloading agitator cars; Vibrator person, jack hammer, pneumatic tools (except driller); Bull gang mucker, track person; Concrete crew, including rodder and spreader

GROUP 3: Blaster, driller, powder person; Chemical grout jet person; Cherry picker person; Grout gun person; Grout mixer person; Grout pump person; Jackleg miner; Jumbo person; Kemper and other pneumatic concrete placer operator; Miner, tunnel (hand or machine); Nozzle person; Operating of troweling and/or grouting machines; Powder person (primer

house); Primer person; Sandblaster; Shotcrete person; Steel form raiser and setter; Timber person, retimber person, wood or steel; Tunnel Concrete finisher

GROUP 4: Diamond driller; Sandblaster; Shaft and raise work

LAB00652-003 07/01/2018

	Rates	Fringes
Brick Tender.....	\$ 32.26	18.40

LAB01184-001 07/01/2019

	Rates	Fringes
Laborers: (HORIZONTAL DIRECTIONAL DRILLING)		
(1) Drilling Crew Laborer...	\$ 36.70	15.05
(2) Vehicle Operator/Hauler.	\$ 36.87	15.05
(3) Horizontal Directional Drill Operator.....	\$ 38.72	15.05
(4) Electronic Tracking Locator.....	\$ 40.72	15.05
Laborers: (STRIPING/SLURRY SEAL)		
GROUP 1.....	\$ 37.91	18.06
GROUP 2.....	\$ 39.21	18.06
GROUP 3.....	\$ 41.22	18.06
GROUP 4.....	\$ 42.96	18.06

LABORERS - STRIPING CLASSIFICATIONS

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

GROUP 2: Traffic surface abrasive blaster; pot tender - removal of all traffic lines and markings by any method (sandblasting, waterblasting, grinding, etc.) and preparation of surface for coatings. Traffic control person: controlling and directing traffic through both conventional and moving lane closures; operation of all related machinery and equipment

GROUP 3: Traffic delineating device applicator: Layout and application of pavement markers, delineating signs, rumble and traffic bars, adhesives, guide markers, other traffic delineating devices including traffic control. This

category includes all traffic related surface preparation (sandblasting, waterblasting, grinding) as part of the application process. Traffic protective delineating system installer: removes, relocates, installs, permanently affixed roadside and parking delineation barricades, fencing, cable anchor, guard rail, reference signs, monument markers; operation of all related machinery and equipment; power broom sweeper

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

LAB01414-001 08/07/2019

	Rates	Fringes
LABORER		
PLASTER CLEAN-UP LABORER....	\$ 34.82	20.02
PLASTER TENDER.....	\$ 37.37	20.02

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

* PAIN0036-001 07/01/2019

	Rates	Fringes
Painters: (Including Lead Abatement)		
(1) Repaint (excludes San Diego County).....	\$ 28.59	15.97
(2) All Other Work.....	\$ 32.12	16.09

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

* PAIN0036-008 10/01/2019

	Rates	Fringes
DRYWALL FINISHER/TAPER.....	\$ 42.18	19.52

PAIN0036-015 06/01/2018

Rates	Fringes
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GLAZIER.....\$ 42.20 25.50

FOOTNOTE: Additional \$1.25 per hour for work in a condor, from the third (3rd) floor and up Additional \$1.25 per hour for work on the outside of the building from a swing stage or any suspended contrivance, from the ground up

PAIN1247-002 01/01/2019

Rates Fringes

SOFT FLOOR LAYER.....\$ 35.35 14.56

PLAS0200-009 08/07/2019

Rates Fringes

PLASTERER.....\$ 43.73 16.03

PLAS0500-002 07/01/2019

Rates Fringes

CEMENT MASON/CONCRETE FINISHER...\$ 37.00 25.53

PLUM0016-001 09/01/2018

Rates Fringes

PLUMBER/PIPEFITTER

Plumber and Pipefitter

All other work except work on new additions and remodeling of bars, restaurant, stores and commercial buildings not to exceed 5,000 sq. ft. of floor space and work on strip malls, light commercial, tenant improvement and remodel work.....\$ 50.13

22.16

Work ONLY on new additions and remodeling of bars, restaurant, stores and commercial buildings not to exceed 5,000 sq. ft. of floor space.....\$ 48.58

21.18

Work ONLY on strip malls, light commercial, tenant improvement and remodel

work.....\$ 37.10 19.51

PLUM0345-001 09/01/2019

Rates Fringes

PLUMBER

Landscape/Irrigation Fitter.\$ 34.40 23.05
Sewer & Storm Drain Work....\$ 34.40 23.05

ROOF0036-002 08/01/2019

Rates Fringes

ROOFER.....\$ 39.52 17.47

FOOTNOTE: Pitch premium: Work on which employees are exposed to pitch fumes or required to handle pitch, pitch base or pitch impregnated products, or any material containing coal tar pitch, the entire roofing crew shall receive \$1.75 per hour ""pitch premium"" pay.

SFCA0669-008 04/01/2019

DOES NOT INCLUDE SAN CLEMENTE ISLAND, THE CITY OF SANTA ANA, AND THAT PART OF ORANGE COUNTY WITHIN 25 MILES OF THE CITY LIMITS OF LOS ANGELES:

Rates Fringes

SPRINKLER FITTER.....\$ 38.85 23.85

SFCA0709-003 01/01/2018

SAN CLEMENTE ISLAND, THE CITY OF SANTA ANA, AND THAT PART OF ORANGE COUNTY WITHIN 25 MILES BEYOND THE CITY LIMITS OF LOS ANGELES:

Rates Fringes

SPRINKLER FITTER (Fire).....\$ 42.26 25.92

SHEE0105-003 01/01/2020

LOS ANGELES (South of a straight line drawn between Gorman and Big Pines)and Catalina Island, INYO, KERN (Northeast part, East of Hwy 395), MONO ORANGE, RIVERSIDE, AND SAN BERNARDINO COUNTIES

Rates Fringes

SHEET METAL WORKER

(1) Commercial - New Construction and Remodel work.....	\$ 45.78	28.96
(2) Industrial work including air pollution control systems, noise abatement, hand rails, guard rails, excluding aritechtural sheet metal work, excluding A-C, heating, ventilating systems for human comfort...	\$ 45.78	28.96

TEAM0011-002 07/01/2019

Rates Fringes

TRUCK DRIVER

GROUP 1.....	\$ 31.59	29.59
GROUP 2.....	\$ 31.74	29.59
GROUP 3.....	\$ 31.87	29.59
GROUP 4.....	\$ 32.06	29.59
GROUP 5.....	\$ 32.09	29.59
GROUP 6.....	\$ 32.12	29.59
GROUP 7.....	\$ 32.37	29.59
GROUP 8.....	\$ 32.62	29.59
GROUP 9.....	\$ 32.82	29.59
GROUP 10.....	\$ 33.12	29.59
GROUP 11.....	\$ 33.62	29.59
GROUP 12.....	\$ 34.05	29.59

WORK ON ALL MILITARY BASES:

PREMIUM PAY: \$3.00 per hour additional.

[29 palms Marine Base, Camp Roberts, China Lake, Edwards AFB,
El Centro Naval Facility, Fort Irwin, Marine Corps
Logistics Base at Nebo & Yermo, Mountain Warfare Training
Center, Bridgeport, Point Arguello, Point Conception,
Vandenberg AFB]

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1: Truck driver

GROUP 2: Driver of vehicle or combination of vehicles - 2
axles; Traffic control pilot car excluding moving heavy
equipment permit load; Truck mounted broom

GROUP 3: Driver of vehicle or combination of vehicles - 3 axles; Boot person; Cement mason distribution truck; Fuel truck driver; Water truck - 2 axle; Dump truck, less than 16 yds. water level; Erosion control driver

GROUP 4: Driver of transit mix truck, under 3 yds.; Dumpcrete truck, less than 6-1/2 yds. water level

GROUP 5: Water truck, 3 or more axles; Truck greaser and tire person (\$0.50 additional for tire person); Pipeline and utility working truck driver, including winch truck and plastic fusion, limited to pipeline and utility work; Slurry truck driver

GROUP 6: Transit mix truck, 3 yds. or more; Dumpcrete truck, 6-1/2 yds. water level and over; Vehicle or combination of vehicles - 4 or more axles; Oil spreader truck; Dump truck, 16 yds. to 25 yds. water level

GROUP 7: A Frame, Swedish crane or similar; Forklift driver; Ross carrier driver

GROUP 8: Dump truck, 25 yds. to 49 yds. water level; Truck repair person; Water pull - single engine; Welder

GROUP 9: Truck repair person/welder; Low bed driver, 9 axles or over

GROUP 10: Dump truck - 50 yds. or more water level; Water pull - single engine with attachment

GROUP 11: Water pull - twin engine; Water pull - twin engine with attachments; Winch truck driver - \$1.25 additional when operating winch or similar special attachments

GROUP 12: Boom Truck 17K and above

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 www.dol.gov/whd/govcontracts.

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

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

Union Rate Identifiers

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

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

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and

the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

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

Union Average Rate Identifiers

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

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

WAGE DETERMINATION APPEALS PROCESS

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

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the

Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

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

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

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

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

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

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

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

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

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END OF GENERAL DECISION"

For bidding purposes use the following:

Contractor must provide a soils agronomy report from an approved soils laboratory and/or any additional specification provided on the landscape documents prior to installation of plant materials.

1. Surface soil preparation for all landscape planting areas, the following amendments must be ripped and uniformly broadcast and thoroughly incorporated to the existing soil by means of a rototiller to a depth of 9 inches.

Amount per 1,000 square feet:

4 cubic yards of Nitrogen stabilized organic amendment derived from Fir Sawdust or Redwood Sawdust.

15 pounds of Soil Sulfur

30 pounds of Gypsum

25 pounds of 6-24-24 XB Fertilizer

2. The planting pits for all new plant material excavate planting pits two times the diameter of the root ball (length, width and depth). The backfill mix for use around the root ball of all new trees, shrubs and groundcover must consist of the following formula:

6 parts on-site soil (free and clear of debris and aggregate stone)

4 parts by volume organic amendment per above surface soil preparation

1 pound per cubic yard of mix 12-12-12 commercial fertilizer

2 pounds per cubic yard of mix Iron Sulfate

5 pounds per cubic yard of mix Agricultural Gypsum

3. Thirty (30) days after installation all landscape areas must be fertilized with best fertilizer company 16-6-8 or approved equal, applied at the rate of six pounds per 1,000 square feet. Fertilizer application must be continued thereafter at monthly intervals.

The quantities given above is subject to adjustment based on Contractor prepared soils agronomy report.

ACKNOWLEDGEMENT OF ADDENDA

BIDDER'S CERTIFICATION

Federal Project No. BPMPL - 5478(013)

I acknowledge receipt of the foregoing Addendum No. 3 and accept all conditions contained therein.

Bidder

By

Date

*******Submit this executed form with the bid.**