

**CITY OF COSTA MESA  
PUBLIC WORKS AGREEMENT FOR  
CITY PROJECT NO. 19-10**

THIS PUBLIC WORKS AGREEMENT (“Agreement”), dated September 15, 2020 (“Effective Date”), is made by the CITY OF COSTA MESA, a political subdivision of the State of California (“CITY”), and HARDY & HARPER, INC., a California corporation (“CONTRACTOR”).

CITY desires to construct the public work and improvements described below under Scope of Work, Paragraph 1 (“Work”).

ACCORDINGLY, the parties hereto agree as follows:

1. SCOPE OF WORK.

The Work consists of traffic and parkway maintenance and street rehabilitation improvements along Fairview Road between Adams Avenue and Baker Street, including the following in accordance with the CITY’s plans and specifications: installation of a new traffic signal and pedestrian crossing at Village Way along Fairview Road and installation of bicycle lanes, green conflict zone bicycle striping, and markings; installation of median island along 1175 Fairview Road near Baker Street; reconstruction of concrete curb and gutter, sidewalks, accessible curb ramps, and new sidewalks; removal and reconstruction of damaged pavement sections; milling and overlaying with new asphalt; reconstruction of damaged parkway improvements; adjustment of utility covers to grade; installation of video detection and advance traffic loop detectors; replacement of traffic markings and striping; implementation of traffic control; and such other work described in the CITY’s plans and specifications.

The Work is further described in the “Contract Documents” referred to below.

The Project is known as the Fairview Road Highway Safety Improvement Program (HSIP) Improvement Project (Adams Avenue to Baker Street), Federal Project No. HSIPL-5312(102), City Project No. 19-10 ("Project").

2. CONTRACT DOCUMENTS.

The complete Agreement consists of the following documents relating to the Project:

- a. This Agreement;
- b. CONTRACTOR's bid (Exhibit A);
- c. Bid package, including notice inviting bids and complete plans, profiles, detailed drawings and specifications, including general provisions and special provisions (Exhibit B);
- d. All addenda to the bid package (Exhibit C);
- e. Required Federal-Aid Contract Language (Exhibit D);
- f. Faithful Performance Bond and Labor and Material Bond, including agent's Power of Attorney for each bond (Exhibit E);
- g. Summary of Public Contract Code section 9204 (Exhibit F);
- h. CITY's Drug-Free Workplace Policy (Exhibit G); and
- i. Provisions of the most current edition of The Greenbook: Standard Specifications for Public Works Construction ("The Greenbook").

The documents attached hereto are incorporated herein by this reference. The Greenbook is incorporated by reference as if fully set forth herein. The documents comprising the complete Agreement will be referred to as the "Contract Documents."

All of the Contract Documents are intended to complement one another, so that any Work called for in one and not mentioned in another is to be performed as if mentioned in all documents.

In the event of an inconsistency in the Contract Documents, the terms of this Agreement shall prevail over all other Contract Documents. The order of precedence between the remaining Contract Documents shall be as set forth in The Greenbook.

The Contract Documents constitute the entire agreement between the parties and supersede any and all other writings and oral negotiations.

3. FEDERAL REQUIREMENTS.

This Project is funded in whole or in part by federal funds and subject to the federal requirements set forth in Exhibits B and D to this Agreement. CONTRACTOR agrees to comply with said federal requirements and all federal requirements applicable to the Project.

4. CITY'S REPRESENTATIVE.

The CITY's Representative is Seung Yang, referred to herein as the Project Manager ("Project Manager").

5. CONTRACTOR'S PROJECT MANAGER; PERSONNEL.

(a) Project Manager. CONTRACTOR's Project Manager must be approved by City. Such approval shall be at CITY's sole discretion.

(b) Personnel. CITY has the right to review and approve any personnel who are assigned to perform work under this Agreement. CONTRACTOR shall remove personnel from performing work under this Agreement if requested to do so by CITY.

This Paragraph 5 is a material provision of the Agreement.

6. SCHEDULE.

All Work shall be performed in accordance with the schedule approved on behalf of CITY by the Project Manager, and in accordance with the time of performance set forth in Paragraph 10 (Time of Performance).

7. EQUIPMENT - PERFORMANCE OF WORK.

CONTRACTOR shall furnish all tools, equipment, apparatus, facilities, labor and materials necessary to perform and complete the Work of construction in a good and workmanlike manner in strict conformity with the Contract Documents.

The equipment, apparatus, facilities, labor and material shall be furnished and such Work performed and completed as required in the plans and specifications to the satisfaction of the Project Manager or his or her designee, and subject to his or her approval.

8. CONTRACT PRICE.

One Million Two Hundred Thirty Thousand Dollars (\$1,230,000.00).

9. ADDITIONAL SERVICES.

CONTRACTOR shall not receive compensation for any services provided outside the scope of the Contract Documents unless such additional services, including change orders, are approved in writing by CITY prior to CONTRACTOR performing the additional services.

It is specifically understood that oral requests or approvals of such additional services, change orders or additional compensation and any approvals from CITY shall be barred and are unenforceable.

10. TIME OF PERFORMANCE.

CONTRACTOR shall commence Work by the date specified in CITY's Notice to Proceed, unless a later date is agreed upon in writing by the parties. The Work shall be completed within sixty (60) working days from the first day of commencement of the Work.

11. TERMINATION.

(a) Termination for Convenience.

CITY may terminate this Agreement at any time, with or without cause, by

providing thirty (30) days' written notice to CONTRACTOR.

(b) Termination for Breach of Contract.

(i) If CONTRACTOR refuses or fails to prosecute the Work or any severable part of it with such diligence as will ensure its timely completion, or if CONTRACTOR fails to complete the Work on time, or if CONTRACTOR, or any subcontractor, violates any of the provisions of the Contract Documents, the Project Manager may give written notice to CONTRACTOR and CONTRACTOR's sureties of the CITY's intention to terminate this Agreement; and, unless within five (5) days after the serving of that notice, such conduct shall cease and arrangements for the correction thereof be made to the satisfaction of the CITY, this Agreement may be terminated at the option of CITY effective upon CONTRACTOR's receipt of a second notice sent by the CITY indicating that the CITY has exercised its option to terminate.

(ii) If CONTRACTOR is adjudged bankrupt or files for any relief under the Federal Bankruptcy Code or State insolvency laws, this Agreement shall automatically terminate without any further action or notice by CITY.

(iii) If CONTRACTOR is in breach of any material provision of this Agreement, CITY may immediately terminate this Agreement by providing written notice to CONTRACTOR of same.

12. LIQUIDATED DAMAGES.

In the event the Work is not completed, for any reason, within the time required including any approved extensions of time, and to the satisfaction of the Project Manager, CITY may, in addition to any other remedies, equitable and legal, including remedies authorized by Paragraph 11 (Termination) of this Agreement, charge to CONTRACTOR or its sureties, or deduct from payments or credits due CONTRACTOR, a sum equal to Three Thousand Six Hundred Dollars (\$3,600.00) as liquidated damages for each day

beyond the date provided for the completion of such Work.

The parties hereto agree that the amount set forth above, as liquidated damages constitutes a fair and reasonable estimate of the costs the CITY would suffer for each day that the CONTRACTOR fails to meet the performance schedule. The parties hereby agree and acknowledge that the delays in the performance schedule will cause CITY to incur costs and expenses not contemplated by this Agreement.

13. PERFORMANCE BY SURETIES.

In the event CONTRACTOR fails or refuses to perform the Work, CITY may provide CONTRACTOR with a notice of intent to terminate as provided in Paragraph 11 (Termination), of this Agreement. The CITY shall immediately give written notice of such intent to terminate to CONTRACTOR and CONTRACTOR's surety or sureties, and the sureties shall have the right to take over and perform this Agreement; provided, however, that the sureties must, within five (5) days after CITY's giving notice of termination, (a) give the CITY written notice of their intention to take over the performance of this Agreement; (b) provide adequate assurances, to the satisfaction of the CITY that the Work shall be performed diligently and in a timely manner; and (c) must commence performance thereof within five (5) days after providing notice to the CITY of their intention to take over the Work. Upon the failure of the sureties to comply with the provisions set forth above, CITY may take over the Work and complete it, at the expense of CONTRACTOR, and the CONTRACTOR and the sureties shall be liable to CITY for any excess costs or damages including those referred to in Paragraph 12 (Liquidated Damages), incurred by CITY. In such event, CITY may, without liability for so doing, take possession of such materials, equipment, tools, appliances, Contract Documents and other property belonging to CONTRACTOR as may be on the site of the Work and reasonably necessary therefor and may use them to complete the Work.

14. DISPUTES PERTAINING TO PAYMENT FOR WORK.

Should any dispute arise respecting whether any delay is excusable, or its duration, or the value of the Work done, or of any Work omitted, or of any extra Work which CONTRACTOR may be required to do, or respecting any payment to CONTRACTOR during the performance of this Agreement, such dispute shall be decided by the Project Manager, and his or her decisions shall be final and binding upon CONTRACTOR and its sureties.

15. SUPERINTENDENCE BY CONTRACTOR.

At all times during performance of the Work, CONTRACTOR shall give personal superintendence or have a competent foreman or superintendent on the worksite, with authority to act for CONTRACTOR.

16. INSPECTION BY CITY.

CONTRACTOR shall at all times maintain proper facilities and provide safe access for inspection by CITY to all parts of the Work and to all shops on or off-site where the Work or portions of the Work, are in preparation. CITY shall have the right of access to the premises for inspection at all times. However, CITY shall, at all times, comply with CONTRACTOR's safety requirements on the job site.

17. CARE OF THE WORK AND OFF-SITE AUTHORIZATION.

CONTRACTOR warrants that it has examined the site of the Work and is familiar with its topography and condition, location of property lines, easements, building lines and other physical factors and limitations affecting the performance of this Agreement. CONTRACTOR, at CONTRACTOR's sole cost and expense, shall obtain any permission, and all approvals, licenses, or easements necessary for any operations conducted off the premises owned or controlled by CITY. CONTRACTOR shall be responsible for the proper care and protection of all materials delivered to the site or stored off-site and for

the Work performed until completion and final inspection and acceptance by CITY. The risk, damage or destruction of materials delivered to the site or to Work performed shall be borne by CONTRACTOR.

18. PAYMENTS TO CONTRACTOR.

On or before the last Monday of each and every month during the performance of the Work, CONTRACTOR shall meet with the Project Manager or his or her designee to determine the quantity of pay items incorporated into the improvement during that month. A "Progress Payment Order" will then be jointly prepared, approved, and signed by the Project Manager and the CONTRACTOR setting forth the amount to be paid and providing for a five percent (5%) retention. Upon approval of the progress payment order by the Project Manager, or his or her designee, it shall be submitted to CITY's Finance Department and processed for payment by obtaining approval from the City Council to issue a warrant.

Within three (3) days following City Council's approval to issue a warrant, CITY shall mail to CONTRACTOR a warrant for the amount specified in the progress payment order as the amount to be paid. The retained five percent (5%) shall be paid to CONTRACTOR thirty-five (35) days after the recording of the Notice of Completion of the Work by the COUNTY and after CONTRACTOR shall have furnished releases of all claims against CITY by persons who furnished labor or materials for the Work, if required by CITY.

Upon the request of CONTRACTOR and at its expense, securities equivalent to the amount withheld pursuant to the foregoing provisions may be presented to CITY for substitution for the retained funds. If CITY approves the form and amount of the offered securities it will release the retained funds and will hold the securities in lieu thereof. CONTRACTOR shall be entitled to any interest earned on the securities.



In the event that claims for property damage or bodily injury are presented to CITY arising out of CONTRACTOR's or any subcontractor's Work under this Agreement; CITY shall give notice thereof to CONTRACTOR, and CONTRACTOR shall have thirty-five (35) days from the mailing of any such notice to evaluate the claim and to settle it by whole or partial payment, or to reject it, and to give notice of settlement or rejection to CITY. If CITY does not receive notice within the above-mentioned 35-day period that the claim has been settled, and if the Project Manager, after consultation with the City Attorney, determines that the claim is meritorious, CITY may pay the claim or a portion of it in exchange for an appropriate release from the claimant, and may deduct the amount of the payment from the retained funds that would otherwise be paid to CONTRACTOR upon completion of the Work; provided, however, that the maximum amount paid for any one claim pursuant to this provision shall be One Thousand Dollars (\$1,000.00), and the maximum amount for all such claims in the aggregate paid pursuant to this provision shall be Five Thousand Dollars (\$5,000.00).

19. PROMPT PAYMENT OF SUBCONTRACTORS.

The CONTRACTOR agrees to pay each subcontractor under this Agreement for satisfactory performance of its contract no later than seven (7) days from the receipt of each payment the CONTRACTOR receives from CITY.

The CONTRACTOR agrees further to release retainage payments to each subcontractor within thirty (30) days after the subcontractor's work is satisfactorily completed.

Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the CITY.

20. CONTRACT SECURITY AND GUARANTEE.

Unless previously provided by CONTRACTOR to CITY, CONTRACTOR shall

furnish, concurrently with the execution of this Agreement, the following: (1) a surety bond in an amount equal to one hundred percent (100%) of the contract price as security for the faithful performance of this Agreement, and (2) a separate surety bond in an amount equal to at least one hundred percent (100%) of the contract price as security for the payment of all persons furnishing labor or materials in connection with the Work under this Agreement. Sureties for each of the bonds and the forms thereof shall be satisfactory to CITY. In addition, such sureties must be authorized to issue bonds in California; sureties must be listed on the latest revision to the U.S. Department of the Treasury Circular 570; and must be shown to have sufficient bonding capacity to provide the bonds required by the Contract Documents.

CONTRACTOR shall provide a certified copy of the certificate of authority of the surety issued by the Insurance Commissioner; a certificate from the clerk of the county in which the court or officer is located that the certificate of authority of the surety has not been surrendered, revoked, canceled, annulled, or suspended or, in the event that it has, that renewed authority has been granted; and copies of the surety's most recent annual statement and quarterly statement filed with the Department of Insurance pursuant to Article 10 (commencing with Section 900) of Chapter 1 of Part 2 of Division 1 of the Insurance Code.

CONTRACTOR guarantees that all materials used in the Work and all labor performed shall be in conformity with the Contract Documents including, but not limited to, the standards and specifications set forth in the most current edition of The Greenbook. CONTRACTOR shall, at its own expense, make any and all repairs and replacements that shall become necessary as the result of any failure of the Work to conform to the aforementioned Contract Documents, and standard specifications; provided, however, that CONTRACTOR shall be obligated under this provision only to the extent of those

failures or defects of which he is given notice within a period of twelve (12) months from the date that the Notice of Completion is recorded.

The rights and remedies available to CITY pursuant to this provision shall be cumulative with all rights and remedies available to CITY pursuant to statutory and common law, which rights and remedies are hereby expressly reserved, and neither the foregoing guarantee by CONTRACTOR nor its furnishing of the Bonds, nor acceptance thereof by CITY, shall constitute a waiver of any rights or remedies available to CITY against CONTRACTOR.

21. INDEMNIFICATION.

CONTRACTOR agrees to protect, defend, indemnify and hold harmless CITY and its elected and appointed boards, officers, agents, and employees from any and all claims, liabilities, expenses, or damages of any nature, including attorney fees, for injury to or death of any person, and for injury or damage to any property, including consequential damages of any nature resulting therefrom, arising out of or in any way connected with the performance of this Agreement. The defense obligation provided for hereunder shall apply without any advance showing of negligence or wrongdoing by the CONTRACTOR, its employees, and/or authorized subcontractors, but shall be required whenever any claim, action, complaint, or suit asserts as its basis the negligence, errors, omissions or misconduct of the CONTRACTOR, its employees, and/or authorized subcontractors, and/or whenever any claim, action, complaint or suit asserts liability against the CITY, its elected officials, officers, agents and employees based upon the work performed by the CONTRACTOR, its employees, and/or authorized subcontractors under this Agreement, whether or not the CONTRACTOR, its employees, and/or authorized subcontractors are specifically named or otherwise asserted to be liable. Notwithstanding the foregoing, the CONTRACTOR shall not be liable for the defense or

indemnification of the CITY for claims, actions, complaints or suits arising out of the sole active negligence or willful misconduct of the CITY. This provision shall supersede and replace all other indemnity provisions contained either in the CITY's specifications or CONTRACTOR's proposal, which shall be of no force and effect.

CONTRACTOR shall comply with all of the provisions of the Workers' Compensation insurance laws and Safety in Employment laws of the State of California, including the applicable provisions of Divisions 4 and 5 of the California Labor Code and all amendments thereto and regulations promulgated pursuant thereto, and all similar State, Federal or local laws applicable; and CONTRACTOR shall indemnify and hold harmless CITY from and against all claims, liabilities, expenses, damages, suits, actions, proceedings and judgments, of every nature and description, including attorney fees, that may be presented, brought or recovered against CITY for or on account of any liability under or failure to comply with any of said laws which may be incurred by reason of any Work performed under this Agreement by CONTRACTOR or any subcontractor or others performing on behalf of CONTRACTOR.

CITY does not, and shall not, waive any rights against CONTRACTOR which it may have by reason of the above hold harmless agreements, because of the acceptance by CITY or the deposit with CITY by CONTRACTOR of any or all of the insurance policies described in Paragraph 22 (Insurance) of this Agreement.

The hold harmless agreements by CONTRACTOR shall apply to all liabilities, expenses, claims, and damages of every kind (including but not limited to attorney fees) incurred or alleged to have been incurred, by reason of the operations of CONTRACTOR or any subcontractor or others performing on behalf of CONTRACTOR, whether or not such insurance policies are applicable. CONTRACTOR shall require any and all tiers of subcontractors to afford the same degree of indemnification to the CITY OF COSTA

MESA and its elected and appointed boards, officers, agents, and employees that is required of CONTRACTOR and shall incorporate identical indemnity provisions in all contracts between CONTRACTOR and all tiers of its subcontractors.

In the event that CONTRACTOR and CITY are sued by a third party for damages caused or allegedly caused by negligent or other wrongful conduct of CONTRACTOR, or by a dangerous condition of CITY's property created by CONTRACTOR or existing while the property was under the control of CONTRACTOR, CONTRACTOR shall not be relieved of its indemnity obligation to CITY by any settlement with any such third party unless that settlement includes a full release and dismissal of all claims by the third party against the CITY.

22. INSURANCE.

CONTRACTOR shall not commence Work under this Agreement until it has obtained all insurance required under this Paragraph and CITY has approved the insurance as to form, amount, and carrier, nor shall CONTRACTOR allow any subcontractor to commence any Work until all similar insurance required of the subcontractor has been obtained and approved.

Neither the failure of CONTRACTOR to supply specified insurance policies and coverage, nor the failure of CITY to approve same shall alter or invalidate the provisions of Paragraph 21 (Indemnification) of this Agreement.

(a) Workers' Compensation Insurance.

CONTRACTOR shall obtain and maintain during the life of this Agreement workers' compensation insurance and, if any Work is sublet, CONTRACTOR shall require all tiers of subcontractors to obtain workers' compensation insurance.

All workers' compensation insurance policies shall provide that the insurance may not be canceled without thirty (30) days' advance written notice of such

cancellation to CITY.

CONTRACTOR agrees to waive, and obtain endorsements from its workers' compensation insurer waiving, subrogation rights under its workers' compensation insurance policy against the CITY and to require each of its subcontractors, if any, to do likewise under their workers' compensation insurance policies.

(b) Liability Insurance Coverage.

CONTRACTOR shall obtain and maintain during the life of this Agreement the following insurance coverage:

(i) Commercial General Liability, including coverage for premises-operations, products/completed operations hazard, blanket contractual, broad form property damage, and independent contractors. In addition, CONTRACTOR shall obtain and maintain during the life of this Agreement each of the following insurance coverage which are not stricken out and initialed by the Project Manager: Explosion and collapse hazard, underground hazard, personal injury, and automobile liability, including owned, hired, and non-owned vehicles. All insurance coverage shall have limits of not less than \$1,000,000.00 combined single limits, per occurrence and aggregate.

(ii) Below are approved endorsements which satisfy the basic insurance requirements contained in contracts entered into by City of Costa Mesa. These have been approved by the City Attorney's Office. The terms of any specific contract with the City are controlling. Prior to the commencement of any work, the City requires that the Engineer receive Certificates of Insurance in DUPLICATE for liability coverage of at least \$1,000,000.00 combined single limits, per occurrence and in the aggregate. Endorsements to the policies providing the above insurance shall be obtained by CONTRACTOR, adding the following three provisions:

(1) Additional Insured:

"The City of Costa Mesa and its elected and appointed boards, officers, agents, and employees are additional insureds with respect to the subject project and agreement."

(2) Notice:

"Said policy shall not terminate, nor shall it be canceled nor the coverage reduced, until thirty (30) days after written notice is given to CITY."

(3) Other Insurance:

"Any other insurance maintained by the City of Costa Mesa shall be excess and not contributing with the insurance provided by this policy."

If any of such policies provide for a deductible or self-insured retention to provide such coverage, the amount of such deductible or self-insured retention shall be approved in advance by CITY. No policy of insurance issued as to which the CITY is an additional insured shall contain a provision which requires that no insured except the named insured can satisfy any such deductible or self-insured retention.

23. PROOF OF INSURANCE.

Prior to commencement of the Work, CONTRACTOR shall furnish CITY, through the Project Manager, proof of compliance with the above insurance requirements in a form satisfactory to the Risk Management.

24. LEGAL WORK DAY - PENALTIES FOR VIOLATION.

Eight (8) hours of labor shall constitute a legal day's work during any one (1) calendar day. CONTRACTOR shall forfeit to CITY the sum of Twenty-Five Dollars (\$25.00) for each workman employed in the execution of this Agreement by CONTRACTOR or by any subcontractor for each calendar day during which such workman is required or permitted to work more than eight (8) hours in any one calendar

day and 40 hours in any one calendar week in violation of California Labor Code sections 1810 through 1815, inclusive.

25. PREVAILING WAGE SCALE.

CONTRACTOR shall comply in all respects with the Davis-Bacon and Related Acts and with California Labor Code sections 1770 et seq., including the keeping of all records required by the provisions of Labor Code section 1776.

CONTRACTOR shall furnish each week to CITY's Project Administration Division a statement with respect to the wages of each of its employees during the preceding weekly payroll period.

26. COMPLIANCE WITH ALL LAWS.

CONTRACTOR shall, at its own cost and expense, comply with all applicable local, state, and federal laws, regulations, and requirements in the performance of this Agreement, including but not limited to laws regarding health and safety, labor and employment, and wage and hours.

27. DRUG-FREE WORKPLACE POLICY.

CONTRACTOR, upon notification of the award of this Agreement, shall establish a Drug-Free Awareness Program to inform employees of the dangers of drug abuse in the workplace, the penalties that may be imposed upon employees for drug abuse violations occurring in the workplace, and the employee assistance programs available to employees. Each employee engaged in the performance of a CITY contract must be notified of this Drug-Free Awareness Program, and must abide by its terms. CONTRACTOR shall conform to all the requirements of CITY's Policy No. 100-5, attached hereto as Exhibit G. Failure to establish a program, notify employees, or inform the CITY of a drug-related workplace conviction will constitute a material breach of contract and cause for immediate termination of the contract by the CITY.



28. NON-DISCRIMINATION.

In performing this Agreement, CONTRACTOR will not engage in, nor permit its agents to engage in, discrimination in employment of persons because of their race, religion, color, national origin, ancestry, physical handicap, medical condition, marital status or sex, or sexual orientation, except as permitted pursuant to Section 12940 of the Government Code. Violation of this provision may result in the imposition of penalties referred to in Section 1735 of the California Labor Code.

29. CONTRACT ASSURANCE.

The CONTRACTOR or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Agreement. 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 Agreement, which may result in the termination of this Agreement or such other remedy as recipient deems appropriate.

The CONTRACTOR will require that the above provision is included in all subcontracts.

30. PROVISIONS CUMULATIVE.

The provisions of this Agreement are cumulative and in addition to, and not in limitation of, any other rights or remedies available to CITY.

31. NOTICES.

It shall be the duty and responsibility of CONTRACTOR to notify all tiers of subcontractors and material men of the following special notice provision; namely, all preliminary 20-day notices or stop notices shall be directed only to the City Clerk and to no other department, and shall be either personally delivered or sent by certified mail, postage prepaid.

All other notices shall be in writing and delivered in person or sent by certified mail, postage prepaid. Notices required to be given to CITY pursuant to this Agreement shall be addressed as follows:

City of Costa Mesa  
77 Fair Drive  
Costa Mesa, CA 92626  
Attn: Seung Yang

Notices required to be given to CONTRACTOR shall be addressed as follows:

Hardy & Harper, Inc.  
32 Rancho Circle  
Lake Forest, CA 92630  
Attn: Michael Murray

Notices required to be given to CONTRACTOR's sureties shall be addressed as follows:

Fidelity and Deposit Company of Maryland  
2710 Gateway Oaks Drive, Suite 150N  
Sacramento, CA 95833  
Attn: Melissa DeKoven

32. INDEPENDENT CONTRACTOR.

The parties hereto acknowledge and agree that the relationship between CITY and CONTRACTOR is one of principal and independent contractor and no other. All personnel to be utilized by CONTRACTOR in the performance of this Agreement shall be employees of CONTRACTOR and not employees of the CITY. CONTRACTOR shall pay all salaries and wages, employer's social security taxes, unemployment insurance and similar taxes relating to employees and shall be responsible for all applicable withholding taxes. Nothing contained in this Agreement shall create or be construed as creating a partnership, joint venture, employment relations, or any other relationship except as set forth between the parties. The parties specifically acknowledge and agree that CONTRACTOR is not a partner with CITY, whether general or limited, and no activities of CITY or CONTRACTOR or statements made by CITY or CONTRACTOR shall be

interpreted by any of the parties hereto as establishing any type of business relationship other than an independent contractor relationship.

33. PERS ELIGIBILITY INDEMNIFICATION.

In the event that CONTRACTOR or any employee, agent, or subcontractor of CONTRACTOR providing services under this Agreement claims or is determined by a court of competent jurisdiction or the California Public Employees' Retirement System (PERS) to be eligible for enrollment in PERS as an employee of the CITY, CONTRACTOR shall indemnify, defend, and hold harmless CITY for the payment of any employee and/or employer contributions for PERS benefits on behalf of CONTRACTOR or its employees, agents, or subcontractors, as well as for the payment of any penalties and interest on such contributions, which would otherwise be the responsibility of CITY.

Notwithstanding any other agency, state or federal policy, rule, regulation, law or ordinance to the contrary, CONTRACTOR and any of its employees, agents, and subcontractors providing service under this Agreement shall not qualify for or become entitled to, and hereby agree to waive any claims to, any compensation, benefit, or any incident of employment by CITY, including but not limited to eligibility to enroll in PERS as an employee of CITY and entitlement to any contribution to be paid by CITY for employer contribution and/or employee contributions for PERS benefits.

34. VALIDITY.

The invalidity in whole or in part of any provision of this Agreement shall not void or affect the validity of any of the other provisions of this Agreement.

35. GOVERNING LAW.

This Agreement shall be governed by and construed in accordance with the laws of the State of California. Any legal action relating to or arising out of this Agreement shall be subject to the jurisdiction of the County of Orange, California.

36. RESOLUTION OF CONTRACTOR CLAIMS.

CONTRACTOR claims, as defined in California Public Contract Code section 9204, shall be resolved in accordance with the provisions of Section 9204 and applicable law. A summary of Section 9204 is attached hereto as Exhibit F.

37. NO THIRD PARTY BENEFICIARY RIGHTS.

This Agreement is entered into for the sole benefit of the CITY and CONTRACTOR and no other parties are intended to be direct or incidental beneficiaries of this Agreement and no third party shall have any right in, under or to this Agreement.

38. ASSIGNABILITY.

This Agreement may not be sold, transferred or assigned by either party, or by operation of law, to any other person or persons or business entity, without the other party's written permission. Any such sale, transfer or assignment, or attempted sale, transfer or assignment without written permission, may be deemed by the other party to constitute a voluntary termination of this Agreement and this Agreement shall thereafter be deemed terminated and void.

39. WAIVER.

No waiver of any provision of this Agreement shall be effective unless in writing and signed by a duly authorized representative of the party against whom enforcement of a waiver is sought referring expressly to this Paragraph. The waiver of any right or remedy in respect to any occurrence or event shall not be deemed a waiver of any right or remedy in respect to any other occurrence or event, nor shall any waiver constitute a continuing waiver.

40. HEADINGS.

Section and subsection headings are not to be considered part of this Agreement, are included solely for convenience, and are not intended to modify or explain or to be a

full or accurate description of the content thereof.

41. COUNTERPARTS.

This Agreement may be executed in one or more counterparts by the parties hereto. All counterparts shall be construed together and shall constitute one Agreement.

42. CORPORATE AUTHORITY.

The persons executing this Agreement on behalf of the Parties hereto warrant that they are duly authorized to execute this Agreement on behalf of said Parties and that by doing so, the Parties hereto are formally bound to the provisions of this Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by and through their respective authorized officers, as of the date first above written.

CITY OF COSTA MESA,  
A municipal corporation

*Lori Ann Farrell Harrison*

\_\_\_\_\_  
Lori Ann Farrell Harrison  
City Manager

Date: 10/27/20

CONTRACTOR

*Michael Murray*

\_\_\_\_\_  
Michael Murray  
Vice President

Date: 10/8/20

ATTEST:

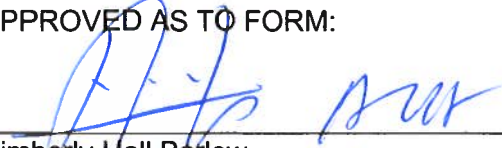
*Brenda Green*

\_\_\_\_\_  
Brenda Green  
City Clerk



Date: 10/28/20

APPROVED AS TO FORM:

  
\_\_\_\_\_  
Kimberly Hall Barlow  
City Attorney

Date: 10/27/2020

APPROVED AS TO INSURANCE:

  
\_\_\_\_\_  
Ruth Wang  
Risk Management

Date: 10/20/20

APPROVED AS TO PURCHASING:

  
\_\_\_\_\_  
Carol Molina  
Finance Director

Date: October 14, 2020

DEPARTMENTAL APPROVAL:

  
\_\_\_\_\_  
Raja Sethuraman  
Public Services Director

Date: 10-21-2020

  
\_\_\_\_\_  
Seung Yang  
Project Manager

Date: 10/20/2020

**EXHIBIT A**  
**CONTRACTOR'S BID**



# CITY OF COSTA MESA

P.O. BOX 12000 77 FAIR DRIVE CALIFORNIA 92628-1200

FROM THE DEPARTMENT OF PUBLIC SERVICES/ENGINEERING DIVISION

**DATE:** July 30, 2020  
**TO:** ALL PROSPECTIVE BIDDERS  
**SUBJECT:** BID ADDENDUM NO.1 –  
FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT (ADAMS AVE. TO BAKER ST.)  
FEDERAL PROJECT NO. HSIPL-5312(102)  
CITY PROJECT NO. 19-10

Please forward this addendum to the appropriate individual as soon as possible. To assist our office in confirming the delivery of this addendum, please sign acknowledging receipt herein and e-mail a copy of this sheet to [seung.yang@costamesaca.gov](mailto:seung.yang@costamesaca.gov). **A COPY WILL NOT BE SENT BY MAIL.**

Received by: Michael Murray Vice President

Company: Hardy & Harper, Inc.

All bidders shall register with CIPList.com in order to retrieve addenda. It is the responsibility of each prospective bidder to check CIPList.com on a DAILY basis through the close of bids for any applicable addenda or updates.

This addendum, effective on this date, addresses the following items:

The following **SHALL** be replaced in its complete entirety:

- The complete 32-page document consisting of the most current Davis-Bacon federal prevailing wages, updated as of July 24, 2020.
- Entire Sheet 8 of 15 of the engineering design plan set entitled "CITY OF COSTA MESA IMPROVEMENT PLANS FOR FAIRVIEW ROAD, SAFETY IMPROVEMENTS PROJECT, FEDERAL PROJECT NO. HSIPL-5312(102), CITY PROJECT NO. 19-10."

Both of the above are to be downloaded by each prospective bidder through CIPList.com and acknowledged by signing on page "P-4" of the NOTICE TO BIDDERS, PROPOSAL, CONTRACT, AND SPECIAL PROVISIONS FOR FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT (ADAMS AVE. TO BAKER ST.), FEDERAL PROJECT NO. HSIPL-5312(102), CITY PROJECT NO. 19-10 or otherwise known as the contract bid documents and specifications.



Bid Addendum No. 1  
Project and Specifications No. 19-10

The contents of this bid addendum shall have precedence over all related provisions within the contract documents. It is the intent of the City of Costa Mesa to clarify the above-referenced items to all bidders. Should it be necessary to request clarification on these matters, please send your request via e-mail at [seung.yang@costamesaca.gov](mailto:seung.yang@costamesaca.gov).

Please acknowledge receipt of all addenda by signing on page "P-4" of the proposal within the bid contract documents.

Sincerely,



**Seung Yang**  
Principal Civil Engineer

SY: Attachments



# CITY OF COSTA MESA

P.O. BOX 12000 77 FAIR DRIVE CALIFORNIA 92628 1200

FROM THE DEPARTMENT OF PUBLIC SERVICES/ENGINEERING DIVISION

**DATE:** July 31, 2020  
**TO:** ALL PROSPECTIVE BIDDERS  
**SUBJECT:** BID ADDENDUM NO.2 –  
FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT (ADAMS AVE. TO BAKER ST.)  
FEDERAL PROJECT NO. HSIPL-5312(102)  
CITY PROJECT NO. 19-10

Please forward this addendum to the appropriate individual as soon as possible. To assist our office in confirming the delivery of this addendum, please sign acknowledging receipt herein and e-mail a copy of this sheet to [seung.yang@costamesaca.gov](mailto:seung.yang@costamesaca.gov). **A COPY WILL NOT BE SENT BY MAIL.**

Received by: Michael Murray - Vice President

Company: Hardy & Harper, Inc.

All bidders shall register with CIPList.com in order to retrieve addenda. It is the responsibility of each prospective bidder to check CIPList.com on a DAILY basis through the close of bids for any applicable addenda or updates.

This addendum, effective on this date, addresses the following items:

The following **SHALL** be replaced in its complete entirety in the NOTICE TO BIDDERS, PROPOSAL, CONTRACT, AND SPECIAL PROVISIONS FOR FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT (ADAMS AVE. TO BAKER ST.), FEDERAL PROJECT NO. HSIPL-5312(102), CITY PROJECT NO. 19-10 or otherwise known as the contract bid documents and specifications:

- Sheet "P-1" of the PROPSAL to be replaced with the revised Sheet "P-1" attached herewith.
- Sheet "1" of PART I – GENERAL PROVISIONS to be replaced with the revised Sheet "1" attached herewith.
- Sheet "SP-27" of Part 2 – SPECIAL PROVISIONS to be replaced with the revised Sheet "SP-27" attached herewith.

The following **SHALL** be added in its complete entirety:

- The 201-page revision addendums to the State of California Department of Transportation (Caltrans) Standard Specifications dated April 17, 2020 as attached herewith. These attached revisions to the Standard Specifications shall supersede or replace any conflict from previous Standard Specifications editions.

Bid Addendum No. 2  
Project and Specifications No. 19-10

All of the documents described in the previous page are to be downloaded by each prospective bidder through CIPList.com and acknowledged by signing on page "P-4" of the NOTICE TO BIDDERS, PROPOSAL, CONTRACT, AND SPECIAL PROVISIONS FOR FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT (ADAMS AVE. TO BAKER ST.), FEDERAL PROJECT NO. HSIPL-5312(102), CITY PROJECT NO. 19-10 or otherwise known as the contract bid documents and specifications.

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The contents of this bid addendum shall have precedence over all related provisions within the contract documents. It is the intent of the City of Costa Mesa to clarify the above-referenced items to all bidders. Should it be necessary to request clarification on these matters, please send your request via e-mail at [seung.yang@costamesaca.gov](mailto:seung.yang@costamesaca.gov).

Please acknowledge receipt of all addenda by signing on page "P-4" of the proposal within the bid contract documents.

Sincerely,



**Seung Yang**  
Principal Civil Engineer

SY: Attachments

CITY OF COSTA MESA  
ORANGE COUNTY, CALIFORNIA

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NOTICE TO BIDDERS, PROPOSAL, CONTRACT, AND  
SPECIAL PROVISIONS FOR

**FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT  
(ADAMS AVE. TO BAKER ST.)**

**FEDERAL PROJECT NO. HSIPL-5312(102)  
CITY PROJECT NO. 19-10**

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Prepared Under the Direction of



**Baltazar Mejia, P.E.**

Interim City Engineer

Copy No. \_\_\_\_\_

Checked by \_\_\_\_\_

**PROPOSAL  
FOR THE  
FAIRVIEW ROAD HSIPL IMPROVEMENT PROJECT (ADAMS AVE. TO BAKER ST.)  
FEDERAL PROJECT NO. HSIPL-5312(102)  
CITY PROJECT NO. 19-10**

The Honorable City Council  
City of Costa Mesa  
77 Fair Drive  
Costa Mesa, CA 92626

Dear Council Members:

In compliance with the NOTICE INVITING BIDS FOR THE FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT, FEDERAL PROJECT NO. HSIPL-5312(102), CITY PROJECT NO. 19-10, a copy which is hereto attached, the undersigned has carefully examined the location of the proposed Work, the Plans, Specifications and other Contract Documents and is therefore satisfied as to the conditions to be encountered, as to the character, quality and quantity of work to be performed and materials to be furnished and as to the requirements of the specifications and the Contract. It is mutually agreed that the submission of a proposal shall be considered prima facie evidence that the BIDDER has made such examination.

If awarded the Contract, the undersigned agrees to commence the Work under the Contract **WITHIN TWENTY (20) WEEKS AFTER DATE OF CONTRACT, AND COMPLETE SAID WORK WITHIN SIXTY (60) WORKING DAYS**, from the first day of commencement of such work unless legal extension is granted in accordance with the terms set forth in the specifications, and to perform and complete the Work as shown on the Plans and in accordance with the Specifications and other Contract Documents, and to furnish all labor, materials, tools and equipment necessary to complete the Work in-place therefor, in the manner and time herein prescribed at the following prices, to wit:

PROPOSAL SCHEDULE  
 FAIRVIEW ROAD SAFETY IMPROVEMENT PROJECT  
 FEDERAL PROJECT NO. HSIPL-5312(102)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
PART A - ITEMS PARTICIPATING FOR FEDERAL REIMBURSEMENT					
1	Mobilization	1	L.S.	\$ <u>46,198</u>	\$ <u>46,198</u>
2	Traffic Control	1	L.S.	\$ <u>30,000</u>	\$ <u>30,000</u>
3	Clearing and Grubbing	1	L.S.	\$ <u>10,000</u>	\$ <u>10,000</u>
4	Remove Tree	1	EA.	\$ <u>2,500</u>	\$ <u>2,500</u>
5	Remove PCC Curb	1,400	L.F.	\$ <u>15.00</u>	\$ <u>21,000</u>
6	Remove PCC Curb and Gutter	265	L.F.	\$ <u>20.00</u>	\$ <u>5,300</u>
7	Remove PCC Sidewalk	1,750	S.F.	\$ <u>4.00</u>	\$ <u>7,000</u>
8	Remove PCC Driveway	395	S.F.	\$ <u>6.00</u>	\$ <u>2,370</u>
9	Remove PCC Median Hardscape	2,600	S.F.	\$ <u>4.00</u>	\$ <u>10,400</u>
10	Remove Existing Parkway Drain	2	EA.	\$ <u>800.00</u>	\$ <u>1,600</u>
11	<i>(Moved to Non-Participating Items)</i>	N/A	N/A	N/A	N/A
12	Unclassified Excavation	620	C.Y.	\$ <u>160.00</u>	\$ <u>99,200</u>
13	Cold Mill Existing Pavement 0.20' in Depth	25,400	S.F.	\$ <u>0.33</u>	\$ <u>8,382</u>
14	Construct Asphalt Rubber Hot Mix	500	TON	\$ <u>92.00</u>	\$ <u>46,000</u>
15	Construct Hot Mix Asphalt	580	TON	\$ <u>130.00</u>	\$ <u>75,400</u>

PROPOSAL SCHEDULE  
 FAIRVIEW ROAD SAFETY IMPROVEMENT PROJECT  
 FEDERAL PROJECT NO. HSIPL-5312 (102)

16	Construct 6-Inch PCC Curb over 6-Inch Crushed Miscellaneous Base	25	L.F.	\$ <u>28.00</u>	\$ <u>700.00</u>
17	Construct 8-Inch PCC Curb over 6-Inch Crushed Miscellaneous Base	1,450	L.F.	\$ <u>28.00</u>	\$ <u>40,600</u>
18	Construct Transition PCC Curb (6-Inch to Existing) over 6-Inch Crushed Miscellaneous Base	20	L.F.	\$ <u>28.00</u>	\$ <u>560.00</u>
19	Construct 8-Inch PCC Curb and Gutter over 6-Inch Crushed Miscellaneous Base	255	L.F.	\$ <u>50.00</u>	\$ <u>12,750</u>
20	Construct Transition PCC Curb and Gutter (8-Inch to Existing) over 6-Inch Crushed Miscellaneous Base	15	L.F.	\$ <u>50.00</u>	\$ <u>750.00</u>
21	Construct Solid PCC Median Nose	7	EA.	\$ <u>500.00</u>	\$ <u>3,500</u>
22	Construct Variable Height Retaining Curb (6-Inch Wide)	40	L.F.	\$ <u>50.00</u>	\$ <u>2,000</u>
23	Construct 4-Inch PCC Over 4-Inch CMB Sidewalk	2,460	S.F.	\$ <u>12.00</u>	\$ <u>29,520</u>
24	Construct Decorative Median Pavement	840	S.F.	\$ <u>14.00</u>	\$ <u>11,760</u>
25	Construct 6-Inch PCC Over 6" CMB Commercial Driveway	870	S.F.	\$ <u>20.00</u>	\$ <u>17,400</u>
26	Construct 4-Inch PCC Curb Ramp and Median Passageway with Retaining Curbs and Detectable Warning Surface (Construction Notes 11 and 13)	530	S.F.	\$ <u>27.00</u>	\$ <u>14,310</u>
27	Construct Parkway Drain No. 1	1	EA.	\$ <u>1,600</u>	\$ <u>1,600</u>
28	Construct Parkway Drain No. 2 and Connect to Catch Basin	1	EA.	\$ <u>4,800</u>	\$ <u>4,800</u>

PROPOSAL SCHEDULE  
 FAIRVIEW ROAD SAFETY IMPROVEMENT PROJECT  
 FEDERAL PROJECT NO. HSIPL-5312 (102)

29	Construct Local Depression	1	EA.	\$ <u>2,000</u>	\$ <u>2,000</u>
30	(Moved to Non-Participating Items)	N/A	N/A	N/A	N/A
31	Root Prune Existing Tree and Install Root Barrier	2	EA.	\$ <u>700.00</u>	\$ <u>1,400</u>
32	Landscaping and Irrigation Improvements	1	L.S.	\$ <u>25,000</u>	\$ <u>25,000</u>
33	Signing and Striping (Including Traffic Rated Pull Box, and Advanced Loops for Fairview Road/Adams Avenue and Fairview Road/Baker Street)	1	L.S.	\$ <u>41,000</u>	\$ <u>41,000</u>
34	Traffic Signal Installation	1	L.S.	\$ <u>265,000</u>	\$ <u>265,000</u>
PART A SUBTOTAL:				\$ <u>840,000.00</u>	
PART B - ITEMS NON-PARTICIPATING FOR FEDERAL REIMBURSEMENT					
11	Remove Catch Basin and Interfering Portions of RCP	1	L.S.	\$ <u>4,125</u>	\$ <u>4,125</u>
30	Construct Catch Basin (W=7') with Trash Enclosure	1	L.F.	\$ <u>5,500</u>	\$ <u>5,500</u>
35	Remove PCC Curb	15	L.F.	\$ <u>15.00</u>	\$ <u>225.00</u>
36	Remove PCC Curb and Gutter	265	L.F.	\$ <u>20.00</u>	\$ <u>5,300</u>
37	Remove PCC Sidewalk	2,140	S.F.	\$ <u>4.00</u>	\$ <u>8,560</u>
38	Remove PCC Driveway	145	S.F.	\$ <u>6.00</u>	\$ <u>870.00</u>
39	Unclassified Excavation	25	C.Y.	\$ <u>160.00</u>	\$ <u>4,000</u>



PROPOSAL SCHEDULE  
 FAIRVIEW ROAD SAFETY IMPROVEMENT PROJECT  
 FEDERAL PROJECT NO. HSIPL-5312 (102)

40	Cold Mill Existing Pavement 0.20' in Depth	160,000	S.F.	\$ <u>0.33</u>	\$ <u>52,800</u>
41	Construct Asphalt Rubber Hot Mix	2,000	TON	\$ <u>92.00</u>	\$ <u>184,000</u>
42	Construct Hot Mix Asphalt	45	TON	\$ <u>130.00</u>	\$ <u>5,850</u>
43	Construct 8-Inch PCC Curb and Gutter over 6-Inch Crushed Miscellaneous Base	265	L.F.	\$ <u>50.00</u>	\$ <u>13,250</u>
44	Construct Variable Height Retaining Curb (1-Foot Wide)	15	L.F.	\$ <u>50.00</u>	\$ <u>750.00</u>
45	Construct 4-Inch PCC Over 4-Inch CMB Sidewalk	2,110	S.F.	\$ <u>12.00</u>	\$ <u>25,320</u>
46	Construct 6-Inch PCC Over 6" CMB Residential Driveway	175	S.F.	\$ <u>20.00</u>	\$ <u>3,500</u>
47	Install Surface Mounted Detectable Warning Surface	15	EA.	\$ <u>700.00</u>	\$ <u>10,500</u>
48	Adjust Existing Water Valve to Grade	2	EA.	\$ <u>950.00</u>	\$ <u>1,900</u>
49	Adjust Existing Water Meter to Grade	1	EA.	\$ <u>800.00</u>	\$ <u>800.00</u>
50	Remove and Salvage Existing Fire Hydrant, and Install New Fire Hydrant	1	EA.	\$ <u>12,500</u>	\$ <u>12,500</u>
51	Root Prune Existing Tree and Install Root Barrier	8	EA.	\$ <u>700.00</u>	\$ <u>5,600</u>
52	Construct Class A Topsoil	115	C.Y.	\$ <u>85.00</u>	\$ <u>9,775</u>
53	Adjust Manhole to Grade (per City of Costa Mesa Plan Sheets)	19	E.A.	\$ <u>1,025</u>	\$ <u>19,475</u>
54	Adjust Valve to Grade (per City of Costa Mesa Plan Sheets)	14	E.A.	\$ <u>950.00</u>	\$ <u>13,300</u>

PROPOSAL SCHEDULE  
FAIRVIEW ROAD SAFETY IMPROVEMENT PROJECT  
FEDERAL PROJECT NO. HSIPL-5312 (102)

55	Reset Survey Monument	3	E.A.	\$ <u>700.00</u>	\$ <u>2,100.00</u>
PART B SUBTOTAL:				\$ <u>390,000.00</u>	
BASE BID TOTAL:				\$ <u>1,230,000.00</u>	

TOTAL BASE BID AMOUNT (IN FIGURES) \$ 1,230,000.00

TOTAL BASE BID AMOUNT (IN WORDS) One million two hundred thirty thousand dollars

The award of the Contract shall be based on the lowest responsive Base Bid amount. The CITY also reserves the right to reject all Bids.

[Signature]  
Bidder's Initial

**PROPOSAL SCHEDULE  
(CONTINUED)**

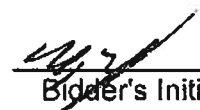
NOTES:

1. The accuracy of estimate quantities as shown is not guaranteed; the Bidder shall make his/her own estimate from the drawings and field review for verification. If the unit price and the total amount are different, the unit price will control the bid. Payment shall be based on actual work done and/or actual quantities used.
2. The City reserves the right to delete one or more bid items and/or to increase or decrease bid items' quantities, at no additional cost to the City.
3. FA designates force account. Payment shall be made on a time and materials basis, only if directed by the Engineer.
4. (F) Designates Final Pay Item. When an item of work is designated as "FINAL PAY ITEM" in the Specifications, the estimated quantity for that item of work shall be the final pay quantity, unless the dimensions of any portion of that item are revised by the Engineer, or the item or any portion of the item is eliminated. If the dimensions of any portion of the item are revised, and the revisions result in an increase or decrease in the estimated quantity of that item of work, the final pay quantity for the item will be revised in the amount represented by the changes in the dimensions. If a final pay item is eliminated, the estimated quantity for the item will be eliminated. If a portion of a final pay item is eliminated, the final pay quantity will be revised in the amount represented by the eliminated portion of the item of work.

The estimated quantity for each item of work designated as "FINAL PAY ITEM" in the Specifications, shall be considered as approximate only, and no guarantee is made that the quantity which can be determined by computations, based on the details and dimensions shown on the plans, will equal the estimated quantity. No allowance will be made in the event that the quantity based on computations does not equal the estimated quantity.

In case of discrepancy between the quantity shown in the Engineer's Estimate for a final pay item and the quantity or summation of quantities for the same item shown on the plans, payment will be based on the quantity shown in the Engineer's Estimate.

5. Bidder declares that it has read and understands Items 14 & 15 of Information for Bidders (Page B-2 and B-3).

  
Bidder's Initial

Michael Murray - Vice President

**PROPOSAL SCHEDULE  
(CONTINUED)**

(Please Type or Print)

Total Amount for Base Bid (in written words) one million two hundred thirty thousand dollars (\$ 1,230,000.00 )

Contractor's Lawful Name: Hardy & Harper, Inc. in figures

Bidder's Name: Michael Murray - Vice President Bidder's Initials: 

Contractor's License No. 215952 Expiration: 12/31/2021

Contractor's Taxpayer I.D. Number: 95-2251022

Contractor's DIR Registration Number: 1000000076

Signature: \_\_\_\_\_ Date: 07/31/2020

Contractor's Address: 32 Rancho Circle Lake Forest, CA 92630

Telephone Number: (714 ) 444-1851 Mobile No.: ( 714 ) 444-1851

Fax Number: ( 714 ) 444-2801 E-mail: ablanchard@hardyandharper.com

**24-Hour Emergency Contacts:**

Cody Gawryluk - Sr. Estimator  
Name

Telephone Number: ( 714 ) 444-1851

Mobile No.: ( )

Courtney Chapas - Project Manager  
Name

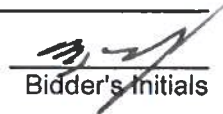
Telephone No.: ( 714 ) 444-1851

Mobile No.: ( )

\_\_\_\_\_  
Name

Telephone No.: ( )

Mobile No.: ( )

  
Bidder's Initials

Michael Murray - Vice President

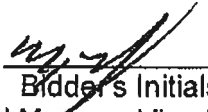
**PROPOSAL SCHEDULE  
(CONTINUED)**

The Contractor agrees that the City will not be held responsible if any of the approximate quantities shown in the foregoing proposal shall be found incorrect, and he shall not make any claim for damages or for loss of profits because of a difference between the quantities of the various classes of work as estimated and the work actually done. If any error, omission or misstatements shall be discovered in the estimated quantities, it shall not invalidate this contract or release the Contractor from the execution and completion of the whole or part of the work herein specified, in accordance with the specifications and the plans herein mentioned and the prices herein agreed upon and fixed therefore, or excuse him from any of the obligations or liabilities hereunder, or entitle him to any damages or compensation otherwise than as provided for in this contract.

The Contractor agrees that the City shall have the right to increase or decrease the quantity of any bid item or portion of the work or to omit portions of the work as may be deemed necessary or expedient, and that the payment for incidental items or work, not separately provided in the proposal shall be considered included in the price bid for other various items or work.

Accompanying this proposal is "Cash," "Certified Check," or "Bidder's Bond" (circle one) in the amount of Bidder's Bond  
(\$ 10%) equal to at least ten (10%) percent of the total bid price, payable to the City of Costa Mesa, to guarantee that within fourteen (14) days after written notice is deposited in the mail, or the bidder has received notice by telephone, the bidder will furnish proper Certificates of Insurance, and required bonds satisfactory to the City and execute a contract in accordance with the proposal and in the manner and form required by the contract documents.

The undersigned deposits the above-named security as a proposal guarantee and agrees that it shall be forfeited to the City of Costa Mesa as Liquidated Damages if the above requirements are not complied with.

  
Bidder's Initials  
Michael Murray - Vice President

Project and Specifications  
Federal Project No. HSIPL-5312(102)  
City Project No. 19-10

Respectfully Submitted,

Hardy & Harper, Inc.  
Contractor's Business Name  
32 Rancho Circle  
Business Address: Street  
Lake Forest, CA 92630  
City State Zip  
714-444-1851  
Business Phone Number  
  
Name Title  
  
City State Zip

Michael Murray - Vice President  
Contractor Title  
  
Singed By Title  
215952; A, C-8 & C12; 12/31/2021  
Contractor's License No. and Classification Exp. Date  
07/31/2020  
Date  
Lake Forest, CA  
Residence: Street  
714-444-1851  
Residence phone Number

If the bid is by a corporation, state the names of the officers who can sign an agreement on behalf of the corporation and whether more than one officer must sign.

Corporation

Taxpayer I.D. Number: 95-2251022

Name Michael Murray - Vice President  
Name Kristen S. Paulino - Corporate Secretary  
Name Tanner Hambright - Vice President

Can Sign

Must Sign

If the bid is by a partnership or a joint venture, state the names and addresses of all general partners and joint ventures.

Partnership or Joint Ventures

Taxpayer I.D. Number: \_\_\_\_\_

Name N/A

Address \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

If the bidder is a sole proprietorship or another entity that does business under a fictitious name, the bid shall be in the real name of the bidder with a designation following showing "DBA (the fictitious name)"; provided, however, no fictitious name shall be used unless there is a current registration with the Orange County Recorder.

The full names and residences of all persons and parties interested in the foregoing proposal, as principals, are as follows:

NOTE: Give first and last names in full; in case of corporation, give names of President, Secretary, Treasurer and Manager, and affix corporate seal; in case of partnerships and joint ventures, give names of all the individual members.

Dan T. Maas - President, CFO  
Michael Murray - Vice President  
Tanner Hambright - Vice President  
Steve Kirschner - Vice President

Kristen S. Paulino - Corporate Secretary  
\_\_\_\_\_  
\_\_\_\_\_

  
Bidder's Initials  
Michael Murray - Vice President



**PUBLIC WORKS REFERENCES  
2017/2019**

Attachment A

Owner/Agency	Contact	Project (Amount & Completion Date)
<b>City of Jurupa Valley</b> 8930 Limonite Ave Jurupa Valley, CA 92509	Mike Myers (951) 332-6464 <a href="mailto:mmyers@jurupavalley.org">mmyers@jurupavalley.org</a>	T.R.I.P Pavement Rehab. Phase I \$1,254,012.21                      03/17
<b>City of Newport Beach</b> 100 Civic Center Drive Newport Beach, CA 92660	Frank Tran (949) 644-3340 <a href="mailto:ftran@newportbeachca.gov">ftran@newportbeachca.gov</a>	MacArthur Blvd Pavement Rehabilitation \$2,142,045.66                      3/17
<b>City of Rancho Cucamonga</b> 10500 Civic Center Drive Rancho Cucamonga, CA 91730	Romeo M. David (909) 477-2740 <a href="mailto:Romeo.David@cityofrc.us">Romeo.David@cityofrc.us</a>	Red Hill Park Pedestrian Trail Renovation Project \$171,888.70                          3/17
<b>City of Signal Hill</b> 2175 Cherry Ave Signal Hill, CA 90755	Anthony Caraveo (562) 989-7352 <a href="mailto:acaraveo@cityofsignalhill.org">acaraveo@cityofsignalhill.org</a>	Willow Street Improvement Project \$922,100.43                          6/17
<b>City of Laguna Hills</b> 24035 El Toro Rd Laguna Hills	Frank Tran (949) 644-3340 <a href="mailto:ftran@newportbeachca.gov">ftran@newportbeachca.gov</a>	Arterial Pavement Mngmt. Project Street Rehabilitation \$1,375,406.90                      6/17
<b>City of Highland</b> 27215 Base Line Highland, CA 92346	John Egan (909) 890-1255 <a href="mailto:jeggan@erscinc.com">jeggan@erscinc.com</a>	West Highland Bikeways Infrastructure & Pavement Imprv. \$2,678,788.77                      7/17
<b>City of Irvine</b> One Civic Center Plaza Irvine, CA 92623	Brian Brown (949) 724-6000 <a href="mailto:bbrown@cityofirvine.org">bbrown@cityofirvine.org</a>	Yale Ave Rehabilitation Irvine Center Drive Bid No. 17-1160 \$2,453,343.83                      7/17
<b>City of Pasadena</b> 100 N. Garfield Ave Pasadena, CA 91109	Tony An (626) 744-7403 <a href="mailto:tan@cityofpasadena.net">tan@cityofpasadena.net</a>	Preventative Maintenance of Street 2016 \$945,932.59                          8/17
<b>City of Ontario</b> 303 East B Street Ontario, CA 91764	Miguel Sotomayor (909) 395-2108 <a href="mailto:msotomayor@ontarioca.gov">msotomayor@ontarioca.gov</a>	ATP Cycle I Safe Routes to School Sidewalk Imprv. \$824,850.88                          10/17
<b>City of Inglewood</b> One Manchester Blvd Inglewood, CA 90301	Hunter Nguyen (310) 412-5333 <a href="mailto:hhunter@cityofinglewood.org">hhunter@cityofinglewood.org</a>	Streets & Alleys Rehabilitation Project \$2,639,330.06                      11/17



**PUBLIC WORKS REFERENCES  
2017/2019**

Attachment A

Owner/Agency	Contact	Project (Amount & Completion Date)
<b>City of Covina</b> 125 E. College Covina, CA 91723	Chris Marcarello (626) 384-5490 <a href="mailto:pw@covinaca.gov">pw@covinaca.gov</a>	Grand Ave. Street Rehabilitation Fed Project NO. :STPL-5118(020) \$3,030,000.00 <span style="float:right">5/18</span>
<b>City of Rancho Palos Verdes</b> 30940 Hawthorn Blvd. Rancho Palos Verdes, CA 90275	Ron Dragoo (310)544-5252 <a href="mailto:gkwolek@lcf.ca.gov">gkwolek@lcf.ca.gov</a>	Residential St. Rehab. Project \$2,227,000.00 <span style="float:right">5/18</span>
<b>City of Downey</b> 11111 Brookshire Ave. Downey, CA 90241	Edwin. Norris (562) 904-7110 <a href="mailto:enorris@downeyca.org">enorris@downeyca.org</a>	CIP No. 18-02 Residential St. Pavement Rehab. Project \$1,808,000.00 <span style="float:right">03/19</span>
<b>City of Dana point</b> 33282 Golden Lantern Dana Point, Ca 92629	Matthew Sinacori (949) 248-3500 <a href="mailto:msinacori@danapoint.org">msinacori@danapoint.org</a>	Arterial Roadway Resurface & Pavement Preservation Project \$3,993,000.00 <span style="float:right">1/18</span>
<b>City of Fountain Valley</b> 10200 Slater Ave. Fountain Valley, CA 92708	Fatana Temory (714)593-4433 <a href="mailto:fatana.Temory@fountainvalley.org">fatana.Temory@fountainvalley.org</a>	Resurface & Rehab. Of Euclid Street from Slater Ave. to Warner ave. No. TI-271 \$1,077,000.00 <span style="float:right">9/18</span>
<b>City of Pomona</b> 505 South Garey Ave. Pomona, CA 91766	Public Works (909)620-2261 <a href="mailto:pwengineering@ci.pomona.ca.us">pwengineering@ci.pomona.ca.us</a>	Major Street Improvements \$3,839,000.00 <span style="float:right">8/18</span>
<b>City of Lancaster</b> 44933 Fern Ave. Lancaster, CA 93534	Luis Garibay (661)723-6110 <a href="mailto:lgaribay@cityoflanaster.org">lgaribay@cityoflanaster.org</a>	2018 Sidewalk, Curb & Gutter Repairs \$1,976,000.00 <span style="float:right">12/18</span>
<b>City of Tustin</b> 300 Centennial way Tustin, CA 92780	Mario Medina (949)394-8955 <a href="mailto:mmedina@tustinca.org">mmedina@tustinca.org</a>	FY 2017-18 Roadway Rehab. & Sidewalk Repair Project \$1,575,125.00 <span style="float:right">10 /18</span>
<b>City of Vernon</b> 4305 S. Santa fe Ave. Vernon, CA 90058	Daniel Wall (323) 583-8811 x305 <a href="mailto:PublicWorksBids@ci.vernon.ca.us">PublicWorksBids@ci.vernon.ca.us</a>	Downey Road Improvements \$2,584,000.00 <span style="float:right">1/17</span>
<b>City of Diamond Bar</b> 21810 Copley Drive	Jason Williams (909)839-7050	Residential & Collector Road Rehab. Project

**PUBLIC WORKS REFERENCES**  
**2017/2019**

Attachment A

Diamond Bar, CA 91765	<a href="mailto:jwilliams@diamondbarca.gov">jwilliams@diamondbarca.gov</a>	\$1,551,000.00	12/18
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**DESIGNATION OF SUBCONTRACTORS**

In compliance with the "Subletting and Subcontracting Fair Practices Act" being Sections 4100-4113 of the Public Contract Code of the State of California, and any amendments thereto, each bidder shall set forth below the name and location of the place of business of each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvement in an amount in excess of one-half (½) of one percent (1%) of the prime contractor's total bid or in the case of bids for the construction of streets or highways, including bridges, in excess of one-half (½) of one percent (1%) of the prime contractor's total bid or ten thousand (\$10,000) dollars, whichever is greater. Bidder shall further set forth the portion of the work, which will be done by each such subcontractor with its Department of Industrial Relations (DIR) registration number. Only one subcontractor for each such portion shall be listed.

If the contractor fails to specify a subcontractor for any portion of the work to be performed under the contract, he/she/it shall be deemed to have agreed to perform the balance of all work, which is not covered, and he/she/it shall not be permitted to subcontract that portion of the work except under the conditions hereinafter set forth.

Subletting or subcontracting of any portion of the work to which no subcontractor was designated in the original bid, shall only be permitted in cases of public emergency or necessity, and then only after a finding reduced to writing as a public record of the Legislative Body of the Owner.

*All information must be filled out and typed. Please use additional pages in this format if needed.*

Bid Item (s) Number	% Portion of Work	Name, Address and E-mail of Subcontractor	State License Number	Class	DIR Registration Number
13, 40	4%	All American Corona, CA	267073	A	1000001051
34	21%	Belco chino, CA	738518	A	1000004804
32, 52	3%	Kato Fountain Valley, CA	806122	C-32	1000006912
33	3%	CAT Tracking, Riverside, CA	991122	A, C-32	10000011750
55	1%	CL Survey, Corona	8231	A	10000071166
4, 31, 51	1%	NFE Orange, CA	654506	C-27	1000001936
27-29, 11, 30, 50	3%	O'Duffy Romoland, CA	647025	A	1000006692
48, 53, 54	3%	EBS Corona, CA	932798	A	1000004286

By submission of this proposal, the Bidder certifies:

1. That I(we)(it) is able to and will perform the balance of all work which is not covered in the above subcontractors listing.
2. That the AGENCY will be furnished copies of all subcontracts entered into by subcontractor for this project.

  
 Bidder's Initials  
 Michael Murray - Vice President

**CITY OF COSTA MESA BIDDERS LIST**

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If Bidders List information is not submitted with the bid, it shall be submitted to the City of Costa Mesa, Construction Management Division, 77 Fair Drive, Costa Mesa, CA 92626, no later than 4:00 p.m. on the fourth day, not including Saturdays, Sundays and legal holidays, following the bid opening. Bidders List information sent by U.S. Postal Service certified mail with return receipt and certificate of mailing and mailed on or before the third day, not including Saturdays, Sundays and legal holidays, following bid opening will be accepted even if it is received after the fourth day following bid opening. Failure to submit the required Bidders List information by the time specified will be grounds for finding the bid or proposal non-responsive.

Firm Name: Hardy & Harper, Inc. Phone: 714-444-1851

Address: 32 Rancho Circle Lake Forest, CA 92630 Fax: 714-444-2801

Contact Person: Ashlie Blanchard - Bid Coordinator No. of years in business: 74

Is the firm currently certified as a DBE under 49 CFR Part 26?  YES  NO

Type of work/services/materials provided by firm? Asphalt Paving

What was your firm's Gross Annual receipts for last year?

- Less than \$1 Million
- Less than \$5 Million
- Less than \$10 Million
- Less than \$15 Million
- More than \$15 Million

This form can be duplicated if necessary to report all bidders (DBE subcontractors, non-DBE subcontractors and/or suppliers' information).



Bidder's Initials

Michael Murray - Vice President

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Firm Name: All American Phone: 951-736-7600

Address: Corona, CA Fax: \_\_\_\_\_

Contact Person: \_\_\_\_\_ No. of years in business: 37

Is the firm currently certified as a DBE under 49 CFR Part 26?  YES  NO

Type of work/services/materials provided by firm? slurry

What was your firm's Gross Annual receipts for last year?

- Less than \$1 Million
- Less than \$5 Million
- Less than \$10 Million
- Less than \$15 Million
- More than \$15 Million

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Bidder's Initials

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Firm Name: Belco Phone: 909-993-5170

Address: Chino, CA Fax: \_\_\_\_\_

Contact Person: \_\_\_\_\_ No. of years in business: 15

Is the firm currently certified as a DBE under 49 CFR Part 26?  YES  NO

Type of work/services/materials provided by firm? electrical

What was your firm's Gross Annual receipts for last year?

- Less than \$1 Million
- Less than \$5 Million
- Less than \$10 Million
- Less than \$15 Million
- More than \$15 Million

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Firm Name: Kato Landscaping Phone: 714-964-6396

Address: \_\_\_\_\_ Fax: \_\_\_\_\_

Contact Person: \_\_\_\_\_ No. of years in business: \_\_\_\_\_

Is the firm currently certified as a DBE under 49 CFR Part 26?  YES  NO

Type of work/services/materials provided by firm? Landscape

What was your firm's Gross Annual receipts for last year?

- Less than \$1 Million
- Less than \$5 Million
- Less than \$10 Million
- Less than \$15 Million
- More than \$15 Million

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Firm Name: CAT TRACKING Phone: 951-682-1494

Address: Riverside, CA Fax: \_\_\_\_\_

Contact Person: \_\_\_\_\_ No. of years in business: 10

Is the firm currently certified as a DBE under 49 CFR Part 26?  YES  NO

Type of work/services/materials provided by firm? SURVEY

What was your firm's Gross Annual receipts for last year?

- Less than \$1 Million
- Less than \$5 Million
- Less than \$10 Million
- Less than \$15 Million
- More than \$15 Million

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Firm Name: CL Survey Phone: 909-484-4200

Address: Corona, CA Fax: \_\_\_\_\_

Contact Person: Jennifer McMeans No. of years in business: 10

Is the firm currently certified as a DBE under 49 CFR Part 26?  YES  NO

Type of work/services/materials provided by firm? survey

What was your firm's Gross Annual receipts for last year?

- Less than \$1 Million
- Less than \$5 Million
- Less than \$10 Million
- Less than \$15 Million
- More than \$15 Million

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Bidder's Initials

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Firm Name: VBE Phone: 714-997-0903

Address: Orange, CA Fax: \_\_\_\_\_

Contact Person: John Payton No. of years in business: 10

Is the firm currently certified as a DBE under 49 CFR Part 26?  YES  NO

Type of work/services/materials provided by firm? Tree work

What was your firm's Gross Annual receipts for last year?

- Less than \$1 Million
- Less than \$5 Million
- Less than \$10 Million
- Less than \$15 Million
- More than \$15 Million

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Firm Name: EBS Phone: 951-279-6869

Address: Corona, CA Fax: \_\_\_\_\_

Contact Person: Art Ballin No. of years in business: 10


Is the firm currently certified as a DBE under 49 CFR Part 26?  YES  NO

Type of work/services/materials provided by firm? manhole adjusting

What was your firm's Gross Annual receipts for last year?

- Less than \$1 Million
- Less than \$5 Million
- Less than \$10 Million
- Less than \$15 Million
- More than \$15 Million

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Bidder's Initials

Project and Specifications  
Federal Project No. HSIPL-5312(102)  
City Project No. 19-10

**BIDDER'S BOND TO ACCOMPANY PROPOSAL**

(Required If the bidder desires to submit bond instead of a certified or cashier's check.)

KNOW ALL PEOPLE BY THESE PRESENTS:

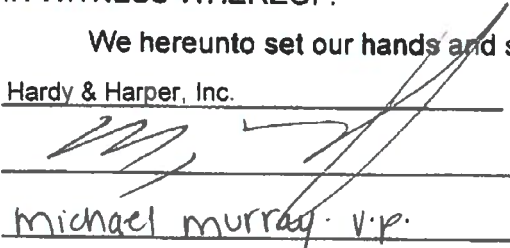
That we, Hardy & Harper, Inc. as principals, and Fidelity and Deposit Company of Maryland as surety, are held and firmly bound unto the City of Costa Mesa, a municipal corporation, organized under the laws of the State of California and situated in Orange County in the sum of Ten Percent of Amount Bid (\$ 10% ) to be paid to the City, 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 is the certain proposal of the above bounden, Hardy & Harper, Inc., if accepted by the City of Costa Mesa, and if the above bounden, Hardy & Harper, Inc., his heirs, executors, administrators, successors and assigns, shall duly enter into and execute a contract for such construction, and shall execute and deliver the CERTIFICATE OF INSURANCE and the LABOR AND MATERIAL and the FAITHFUL PERFORMANCE BONDS described within fourteen (14) days from the date of the mailing of a notice of the above bounden, Hardy & Harper, Inc., by and from the City, that said contract is ready for execution, then this obligation shall become null and void; otherwise it shall be and remain in full force and virtue.

IN WITNESS WHEREOF:

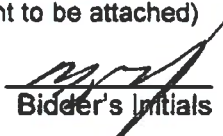
We hereunto set our hands and seals this 29th day of July, 2020.

Hardy & Harper, Inc.  
  
Michael Murray - v.p.

Contractor/ Principal  
(Notary Acknowledgement to be attached)

Fidelity and Deposit Company of Maryland  
  
Dwight Reilly, Attorney-in-Fact

Surety/Power of Attorney  
(Notary Acknowledgment to be attached)

  
Bidder's Initials

## ACKNOWLEDGMENT

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

State of California  
County of Orange

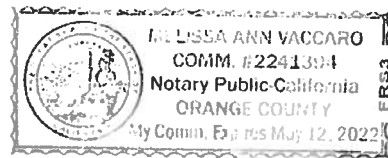
On 07/29/2020 before me, Melissa Ann Vaccaro, Notary Public  
(insert name and title of the officer)

personally appeared Dwight Reilly  
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 Melissa Ann Vaccaro (Seal)  
Melissa Ann Vaccaro



ZURICH AMERICAN INSURANCE COMPANY  
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY  
FIDELITY AND DEPOSIT COMPANY OF MARYLAND  
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Illinois, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Illinois (herein collectively called the "Companies"), by Robert D. Murray, Vice President, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint Daniel HUCKABAY, Dwight REILLY, Arturo AYALA, Shaunna ROZELLE OSTROM, Frank MORONES, Ben STONG, Michael D. STONG and R. NAPPI, all of Orange, California, EACH its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver. for. and on its behalf as surety, and as its act and deed; any and all bonds and undertakings, and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York, the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND, this 15th day of January, A.D. 2020.



ATTEST:  
ZURICH AMERICAN INSURANCE COMPANY  
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY  
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: Robert D. Murray  
Vice President

By: Dawn E. Brown  
Secretary

State of Maryland  
County of Baltimore

On this 15th day of January, A.D. 2020, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, Robert D. Murray, Vice President and Dawn E. Brown, Secretary of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, depose and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

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



Constance A. Dunn, Notary Public  
My Commission Expires: July 9, 2023

**EXTRACT FROM BY-LAWS OF THE COMPANIES**

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify or revoke any such appointment or authority at any time."

**CERTIFICATE**

I, the undersigned, Secretary of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 29th day of July, 2020.



By: Brian M. Hodges  
Vice President

**TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT A COMPLETE DESCRIPTION OF THE CLAIM INCLUDING THE PRINCIPAL ON THE BOND, THE BOND NUMBER, AND YOUR CONTACT INFORMATION TO:**

Zurich Surety Claims  
1299 Zurich Way  
Schaumburg, IL 60196-1056  
[www.reportsfclaims@zurichna.com](http://www.reportsfclaims@zurichna.com)  
800-626-4577

**CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT**

**CIVIL CODE § 1189**

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

State of California )  
County of Orange )

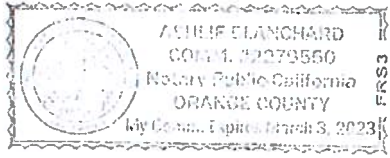
On July 29, 2020 before me, Ashlie Blanchard, Notary Public  
*Date Here Insert Name and Title of the Officer*

personally appeared Michael Murray  
*Name(s) of Signer(s)*

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

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

WITNESS my hand and official seal.



Signature Ashlie Blanchard  
*Signature of Notary Public*

*Place Notary Seal Above*

**OPTIONAL**

*Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.*

**Description of Attached Document**

Title or Type of Document: \_\_\_\_\_ Document Date: \_\_\_\_\_  
Number of Pages: \_\_\_\_\_ Signer(s) Other Than Named Above: \_\_\_\_\_

**Capacity(ies) Claimed by Signer(s)**

Signer's Name: \_\_\_\_\_  
 Corporate Officer — Title(s): \_\_\_\_\_  
 Partner —  Limited  General  
 Individual  Attorney in Fact  
 Trustee  Guardian or Conservator  
 Other: \_\_\_\_\_  
Signer Is Representing: \_\_\_\_\_


Signer's Name: \_\_\_\_\_  
 Corporate Officer — Title(s): \_\_\_\_\_  
 Partner —  Limited  General  
 Individual  Attorney in Fact  
 Trustee  Guardian or Conservator  
 Other: \_\_\_\_\_  
Signer Is Representing: \_\_\_\_\_



**CONTRACT ASSURANCE**

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 recipient deems appropriate.

The CONTRACTOR will require that the above provision is included in all subcontracts.

  
Bidder's Initials

Michael Murray - Vice President

**NONCOLLUSION AFFIDAVIT**

The bidders, by its officers and agents or representatives present at the time of filing this bid, being duly sworn on their oaths say, that neither they nor any of them have in any way directly or indirectly entered into any arrangement or agreement with any other bidder, or with any public officer of such CITY OF COSTA MESA whereby such affiant or affiants or either of them has paid or is to pay to such bidder or public officer any sum of money, or has given or is to give to such other bidder or public officer anything of value whatever, or such affiant or affiants or either of them has not directly or indirectly, entered into any arrangement or agreement with any other bidder or bidders, which tends to or does lessen or destroy free competition in the letting of the contract sought for on the attached bids; that no bid has been accepted from any subcontractor or supplier through any bid depository, the By-Laws, Rules, or Regulations of which prohibit or prevent the Contractor from considering any bid from any subcontractor or supplier which is not processed through said bid depository, or which prevent any subcontractor or supplier from bidding to any Contractor who does not use the facilities or accept bids from or through such bid depository; that bidder has not bid as subcontractor to other bidders; that no inducement of any form or character other than that which appears upon the face of the bid will be suggested, offered, paid or delivered to any person of the contract, nor has this bidder any agreement or understanding of any kind whatsoever, with any person whomsoever to pay, deliver to, or share with any other person in any way or manner, any of the proceeds of the contracts sought by this bid.

Hardy & Harper, Inc.

Contractor Firm Name

Michael Murray

Name of Principal

Vice President

Title

Signature

Subscribed and sworn to before me by:

This \_\_\_ day of \_\_\_\_\_, 20\_\_.

My Commission Expires: \_\_\_\_\_

Notary Public

Bidder's Initials

Michael Murray - Vice President



**CONTRACTOR'S CERTIFICATION  
OF  
WORKERS' COMPENSATION INSURANCE REQUIREMENTS  
FOR  
PUBLIC WORKS PROJECTS  
(Labor Code §1861)**

I am aware of the provisions of Section 3700 of the California 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 the work of this contract.

Dated: 07/31/2020

CONTRACTOR

Hardy & Harper, Inc.

\_\_\_\_\_  
Company Name

PROJECT: FAIRVIEW ROAD HSIPL IMPROVEMENT PROJECT (ADAMS AVE. TO  
BAKER ST.), FEDERAL PROJECT NO. HSIPL-5312(102), CITY  
PROJECT NO. 19-10

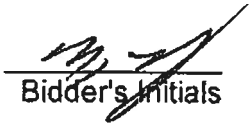
  
Bidder's Initials

Michael Murray - Vice President

## DRUG-FREE WORKPLACE POLICY

CONTRACTOR, upon notification of contract award, shall establish a Drug-Free Awareness Program to inform employees of the dangers of drug abuse in the workplace, the penalties that may be imposed upon employees for drug abuse violations occurring in the workplace, and the employee assistance programs available to employees. Each employee engaged in the performance of a CITY contract must be notified of this Drug-Free Awareness Program, and must abide by its terms. Failure to establish a program, notify employees, or inform CITY of a drug-related workplace conviction will constitute a material breach of contract and cause for immediate termination of the contract by CITY.

CONTRACTOR shall conform to all the requirements of CITY'S Policy No. 100-5. A copy of this policy is attached to the sample contract agreement as an attachment in the Project Specifications.

  
Bidder's Initials

Michael Murray - Vice President



**SECTION 14. FEDERAL REQUIREMENTS FOR FEDERAL-AID CONSTRUCTION  
PROJECTS**

Refer to "FR" pages within the Special Provisions Section and the following seven (7) pages.

**FEDERAL REQUIREMENTS  
(BID PROPOSAL)**

***Federal Lobbying Restrictions:***

Section 1352, Title 31, United States Code prohibits Federal funds from being expended by the recipient or any lower tier subrecipient of a Federal-aid contract to pay for any person for influencing or attempting to influence a federal agency or Congress in connection with the awarding of any federal-aid contract, the making of any federal grant or loan, or the entering into of any cooperative agreement.

If any funds other than federal funds have been paid for the same purposes in connection with this federal-aid contract, the recipient shall submit an executed certification and, if required, submit a completed disclosure form as part of the bid documents.

A certification for federal-aid contracts regarding payment of funds to lobby Congress or a federal agency is included in the Proposal. Standard Form - LLL, "Disclosure of Lobbying Activities," with instructions for completion of the Standard Form is also included in the Proposal. Signing the Proposal shall constitute signature of the Certification.

The above referenced certification and disclosure of lobbying activities shall be included in each subcontract and any lower-tier contracts exceeding \$100,000. All disclosure forms, but not certifications, shall be forwarded from tier to tier until received by the Engineer.

The Contractor, subcontractors and any lower-tier contractors shall file a disclosure form at the end of each calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed by the Contractor, subcontractors and any lower-tier contractors. An event that materially affects the accuracy of the information reported includes:

- (1) A cumulative increase of \$25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered federal action; or
  - (2) A change in the person(s) or individual(s) influencing or attempting to influence a covered federal action;
- or
- (3) A change in the officer(s), employee(s), or Member(s) contacted to influence or attempt to influence a covered Federal Action.



## **Design Engineer May Not Bid On Construction Contract**

No engineering or architectural firm which has provided design services for a project shall be eligible to bid on the contract to construct the project. The firms ineligible to bid include the prime contractor for design, subcontractors of portions of the design, and affiliates of either. An affiliate is a firm which is subject to the control of the same persons, through joint ownership or otherwise.

## DEBARMENT AND SUSPENSION CERTIFICATION

### TITLE 49, CODE OF FEDERAL REGULATIONS, PART 29

The bidder, under penalty of perjury, certifies that, except as noted below, he/she or any other person associated therewith in the capacity of owner, partner, director, officer, and 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 3 years;
- Does not have a proposed debarment pending; and
- Has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

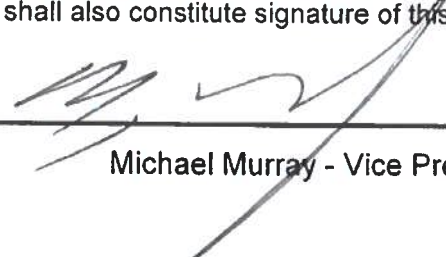
If there are any exceptions to this certification, insert the exceptions in the following space.

N/A

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of action.

Notes: Providing false information may result in criminal prosecution or administrative sanctions.

The above certification is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Certification.



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Michael Murray - Vice President

## **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:

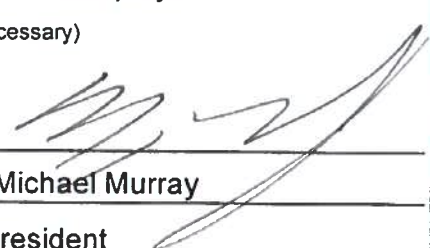
- (1) No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress 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 accordance 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

<b>1. Type of Federal Action:</b> <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	<b>2. Status of Federal Action:</b> <input type="checkbox"/> a. bid/offer/application <input type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award	<b>3. Report Type:</b> <input type="checkbox"/> a. initial <input type="checkbox"/> b. material change  <b>For Material Change Only:</b> year _____ quarter _____ date of last report _____
<b>4. Name and Address of Reporting Entity</b> <input checked="" type="checkbox"/> Prime <input type="checkbox"/> Subawardee Tier _____, if known  Congressional District, if known	<b>5. If Reporting Entity in No. 4 is Subawardee, Enter Name and Address of Prime:</b>  N/A  Congressional District, if known	
<b>6. Federal Department/Agency:</b>  N/A	<b>7. Federal Program Name/Description:</b>  CFDA Number, if applicable _____	
<b>8. Federal Action Number, if known:</b>	<b>9. Award Amount, if known:</b>  N/A	
<b>10. a. Name and Address of Lobby Entity</b> (If individual, last name, first name, MI)  N/A	<b>b. Individuals Performing Services</b> (including address if different from No. 10a) (last name, first name, MI)	
(attach Continuation Sheet(s) if necessary)		
<b>11. Amount of Payment (check all that apply)</b> \$ _____ <input type="checkbox"/> actual <input type="checkbox"/> planned	<b>13. Type of Payment (check all that apply)</b> <input type="checkbox"/> a. retainer <input type="checkbox"/> b. one-time fee <input type="checkbox"/> c. commission <input type="checkbox"/> d. contingent fee      N/A <input type="checkbox"/> e. deferred <input type="checkbox"/> f. other, specify _____	
<b>12. Form of Payment (check all that apply):</b> <input type="checkbox"/> a. cash <input type="checkbox"/> b. in-kind; specify: nature _____ value _____		
<b>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:</b>  Hardy & Harper, Inc. has not contributed any funds to this project.  (attach Continuation Sheet(s) if necessary)		
<b>15. Continuation Sheet(s) attached:</b> Yes <input type="checkbox"/> No <input type="checkbox"/>		
<b>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.</b>		
		Signature:  Print Name: <u>Michael Murray</u> Title: <u>Vice President</u> Telephone No.: <u>714-444-1851</u> Date: <u>07/31/2020</u>
<b>Federal Use Only:</b>		Authorized for Local Reproduction Standard Form - LLL

**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(es). 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(es). 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.

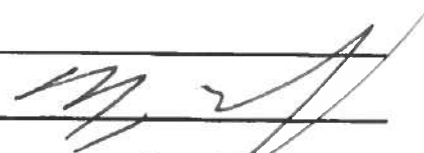
Public reporting burden for this collection of information is estimated to average 30 minutes per response, including time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding 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»

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: 07/31/2020



  
Michael Murray - Vice President  
Signature and Title of Bidder

Business Address 32 Rancho Circle Lake Forest, CA 92630

Place of Business 32 Rancho Circle Lake Forest, CA 92630

Place of Residence Lake Forest, CA

## 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   x   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 check mark 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.

  
\_\_\_\_\_  
Michael Murray - Vice President  
**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   x  

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

N/A

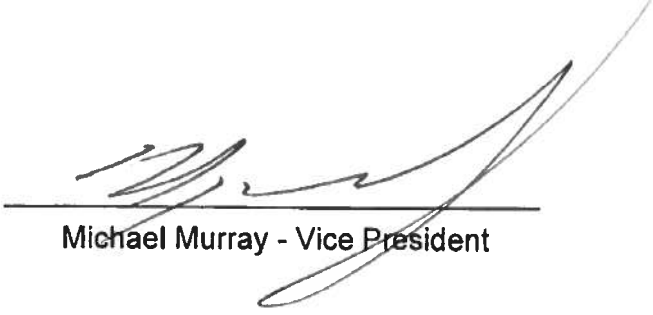


## PUBLIC CONTRACT CODE 10232 STATEMENT

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.



Michael Murray - Vice President

**AFFIRMATIVE ACTION QUESTIONNAIRE  
ORDINANCE NUMBER 1451**

Paragraph B.1, Section 1.

1. All contractors and subcontractors shall submit for approval to the Affirmative Action Officer of the City and Federal Government, when necessary, prior to the award of a contract, a written Affirmative Action Program in which the contractor or subcontractor, as the case may be, agrees to meet the following minimum requirements:
  - a. The contractor or subcontractor shall recruit and hire a work force that reflects the ethnic composition of the resident population of the City. The most current census data shall be used as a guide in determining such required composition. In order to further the purpose of the project, the work force shall be recruited from the following areas in the order of their priority:
    1. The resident population of the official target areas of the City, as may be designated by the Affirmative Action Department or the Council;
    2. The resident population of the City as a whole; and
    3. No contractor or subcontractor shall be found to be in noncompliance solely on account of its goals within its timetable, but such contractors shall be given the opportunity to demonstrate that it has instituted all of the specific affirmative action steps specified in Paragraph B, Subsection I, and has made every good faith effort to make these steps work toward the attainment of its goals within its timetables, all to the purpose of expanding minority and residential manpower utilization on all of its projects in the Costa Mesa community;
    4. The resident population of the unincorporated areas of the County contiguous to the City.
  - b. The contractor and all subcontractors shall be required to establish a plan for the hiring of minority workers. Such a plan shall include referral procedures for hiring programs, or any other comparable programs. The contractor or subcontractor pursuant to any such plan shall utilize any applicable Federal or locally subsidized program for the training and hiring of minority workers.
2. Upon acceptance of the respective Affirmative Action Programs by the Affirmative Action Officer of the City, such programs shall become a part of the contractor's and subcontractor's contracts as if fully set forth in its terms and conditions.

3. Compliance with the Affirmative Action Program Requirements shall be measured from the initial day of performance under the contract.

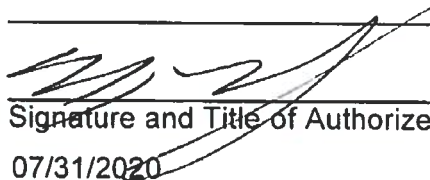
Title of Officer Signing Michael Murray - Vice President

Signature 

Date 07/31/2020

**IMPORTANT:** This report must be completed by the prime contractor and each subcontractor. Complete all items unless otherwise instructed. If additional space is needed, use separate 8-1/2 x 11 blank sheets. **SUBMIT ORIGINAL OF THIS QUESTIONNAIRE TO: City Manager, City Manager's Office, P.O. Box 1200, Costa Mesa, California 92626.**

Part I Subcontractor Prime Contractor Hardy & Harper, Inc.

1. Name and address of reporting unit covered by this questionnaire.  
\_\_\_\_\_
2. Name and address of principal official or manager.  
Hardy & Harper, Inc. 32 Rancho Circle Lake Forest, CA 92630
3. Name and address of principal officer of the company.  
Michael Murray - Vice President - 32 Rancho Circle. Lake Forest, CA 92630 - 714-444-1851
4. Name and address of parent company if an affiliated corporation.  
N/A
5. Name and address of subcontractor(s). (Complete only if this is a subcontractor's report.)  
\_\_\_\_\_
6. Name and address of prime contractor. (Complete only if this is a subcontractor's report.)  
\_\_\_\_\_
7.  Michael Murray - Vice President  
Signature and Title of Authorized Representative
8. 07/31/2020  
Date

Part II

1. Attach a statement of your company's policy on equal employment opportunity to all persons without regard to race, creed, color, national origin, or ancestry and describe what specific steps have been taken to put this policy into effect.
2. Have you informed company officials and representatives regarding the nondiscrimination provisions of City of Costa Mesa contracts? Yes

3. Have you examined your company's practices regarding assignments, layoffs, or transfers of your employees from one job to another for evidence of practice or employment pattern that might appear to be discriminatory and based upon race, religion, or national origin? Are they nondiscriminatory? Yes
4. Do you have educational or training programs sponsored or financed for the benefit of employees or prospective employees? Yes - Safety Programs
- a) How many people participate in these programs? 125
- b) How many are minorities? 70%
- c) Does your help wanted advertising state that you are an equal opportunity employer, male or female? Yes
5. Are any apprentices obtained from sources outside the employer's work force? Yes If yes, have you circulated information about apprenticeship openings or opportunities to the following?

State Employment Office \_\_\_\_\_

Newspapers or other media \_\_\_\_\_

High schools, including those in minority group areas \_\_\_\_\_

Local trade or vocational schools, including those with minority group students \_\_\_\_\_

Agencies and/or organizations specializing in minority employment \_\_\_\_\_

Federal or State apprenticeship representatives Union

Name \_\_\_\_\_

Other - Name \_\_\_\_\_

6. If you are a prime contractor, have all subcontractors covered by these compliance inspection reports been instructed as to their contractual obligations relating to the nondiscrimination provisions of the City of Costa Mesa contracts? Yes
7. Have all recruitment sources been advised that all qualified applicants will receive consideration for employment without regard to race, color, creed or national origin? Yes
8. Identify (names and addresses) the employment agencies, personal recruitment organizations, newspaper advertising or other nonunion sources from which the company recruits its personnel.

Please see attached.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Part III

1. Have you a collective bargaining agreement with a labor union or other organization?  
Yes.
2. If yes, specify the union(s) or organization(s).  
\_\_\_\_\_
3. Have you advised the labor union and/or worker organization of the company's responsibility under the nondiscrimination provisions of City contracts? Yes.
4. Approximately what percentage of your employees covered by union agreements are referred by or hired through the unions?  
100%
5. Does the company's collective bargaining agreement or other contract or understanding with a labor union (or unions) or other worker organization include a nondiscrimination in employment provision? Yes
6. Is there any labor union or worker organization policy which prevents you from fulfilling your obligations under the nondiscrimination provisions of City contracts? No  
If so, specify N/A  
\_\_\_\_\_  
\_\_\_\_\_
7. Specify the trade(s) or craft(s) involved in this contract.  
Laborers, Operators and Cement Masons  
\_\_\_\_\_  
\_\_\_\_\_

**CERTIFICATION WITH REGARD TO THE PERFORMANCE  
OF PREVIOUS CONTRACTS OR SUBCONTRACTS  
SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE  
AND THE FILING OF REQUIRED REPORTS**

The bidder Hardy & Harper, Inc.  
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.

**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 only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of \$10,000 or under are exempt.)

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.





## FEDERAL REQUIREMENTS FOR DISADVANTAGED BUSINESS ENTERPRISES

### GENERAL

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.

Take necessary and reasonable steps to ensure that DBEs have opportunity to participate in the contract (49 CFR 26).

To ensure equal participation of DBEs provided in 49 CFR 26.5, the Agency shows a 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](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:

1. 100 percent counts if the materials or supplies are obtained from a DBE manufacturer.
2. 60 percent counts 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 count if obtained from a DBE that is neither a manufacturer or regular dealer. 49 CFR 26.55 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 49 CFR 26.55(d)(1) through (4) and (6).

#### **DBE Commitment Submittal**

Submit Local Agency Bidder DBE Commitment (Construction Contracts), Exhibit 15-G, form, 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, the apparent low bidder, the 2nd low bidder, and the 3rd low bidder must complete and submit the DBE Commitment form to the Agency. DBE Commitment form must be received by the Agency no later than 4:00 p.m. on the 4th business day after bid opening.

Other bidders do not need to submit the DBE Commitment form unless the Agency requests it. If the Agency requests you to submit a DBE Commitment form, submit the completed form within 4 business days of the request.

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 finds your bid nonresponsive.

### **Good Faith Efforts Submittal**

If you have not met the DBE goal, complete and submit the DBE Information - Good Faith Efforts, exhibit 15-H, form with the bid showing that you made adequate good faith efforts to meet the goal. Only good faith efforts directed towards obtaining participation by DBEs will be considered. If good faith efforts documentation is not submitted with the bid, it must be received by the Agency no later than 4:00 p.m. on the 4th business day after bid opening.

If your DBE Commitment form shows that you have met the DBE goal or if you are required to submit the DBE Commitment form, you must also submit good faith efforts documentation within the specified time to protect 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 its own forces and those items that have been broken down into economically feasible units to facilitate DBE participation. For each item listed, show the dollar 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 of the 2nd and 3rd bidders when determining whether the low bidder made good faith efforts to meet the DBE goal.

**SUBCONTRACTOR AND DISADVANTAGED BUSINESS ENTERPRISE RECORDS**

Use each DBE subcontractor as listed on the List of Subcontractors form and the Local Agency Bidder DBE Commitment (Construction Contracts), Exhibit 15-G, forms unless you receive authorization for a substitution.

The Agency requests the Contractor to:

1. Notify the Engineer of any changes to its anticipated DBE participation
2. Provide this notification before starting the affected work

Maintain records including:

1. Name and business address of each 1st-tier subcontractor
2. Name and business address of each DBE subcontractor, DBE vendor, and DBE trucking company, regardless of tier
3. Date of payment and total amount paid to each business

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 a Final Report – Utilization of Disadvantaged Business Enterprises (DBE), First-Tier Subcontractors, Exhibit 17-F, form. Submit it within 90 days of contract acceptance. The Agency withholds \$10,000 until the form is submitted. The Agency releases the withhold upon submission of the completed form.

## PERFORMANCE OF DISADVANTAGED BUSINESS ENTERPRISES

DBEs must perform work or supply materials as listed in the Local Agency Bidder DBE Commitment (Construction Contracts), Exhibit 15-G, 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 it 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. 1 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, 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 the DBE goal.

The substitute DBE must be certified as a DBE at the time of request for substitution.

Unless the Agency 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, the Agency does not pay for work listed on the Local Agency Bidder DBE Commitment (Construction Contracts), Exhibit 15-G, form unless it is performed or supplied by the listed DBE or an authorized substitute.

**EXHIBIT 15-G CONSTRUCTION CONTRACT DBE COMMITMENT**

1. Local Agency: CITY OF COSTA MESA 2. Contract DBE Goal: 12%  
 3. Project Description: FAIRVIEW RD. HSIP IMPROVEMENT PROJ., FED. PROJ. NO. HSIPL-5312(102)  
 4. Project Location: Bear Street @ Adams Ave. TO Baker St.  
 5. Bidder's Name: Hardy & Harper, Inc. 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

<b>Local Agency to Complete this Section upon Execution of Award</b>		<b>15. TOTAL CLAIMED DBE PARTICIPATION</b>	<b>\$ 0.00</b>
21. Local Agency Contract Number: _____	22. Federal-Aid Project Number: _____		<b>0</b>
23. Bid Opening Date: _____	24. Contract Award Date: _____	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.	
25. Award Amount: _____	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 _____	16. Preparer's Signature _____	17. Date <u>07/31/2020</u>
28. Local Agency Representative's Name _____	29. Phone _____	18. Preparer's Name <u>Michael Murray</u>	19. Phone <u>714-444-1851</u>
30. Local Agency Representative's Title _____		20. Preparer's Title <u>Vice President</u>	

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.

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30. Local Agency Representative Title - Enter the position/title of the Local Agency Representative certifying the contractor's DBE commitment form.

**EXHIBIT 15-H: PROPOSER/CONTRACTOR GOOD FAITH EFFORTS**

Cost Proposal Due Date \_\_\_\_\_ PE/CE  
Federal-aid Project No(s). HS12-5312(102) Bid Opening Date 08/04/2020 CON

The City of Costa Mesa 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) calendar days from cost proposal due date or 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

Please see attached.

- 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

Please see attached.



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 meet or exceed the DBE contract goal.

Items of Work	Proposer or Bidder Normally Performs Item (Y/N)	Breakdown of Items	Amount (\$)	Percentage Of Contract
Please see attached.				
	Pick			0.00%
	Pick	<i>please see attached.</i>		0.00%
	Pick			0.00%
	Pick			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:

*please see attached.*

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:





**INSTRUCTIONS – FINAL REPORT-UTILIZATION OF DISADVANTAGED BUSINESS  
ENTERPRISES (DBE) AND FIRST-TIER SUBCONTRACTORS**

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. **Description of Work, Services, or Materials Supplied** - Enter description of work, services, or materials provided. Indicate all work to be performed by DBEs including work performed by the prime contractor/consultant'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.
10. **Company Name and Business Address** - Enter the name, address, and phone number of all subcontracted contractors/consultants. Also, enter the prime contractor/consultant's name and phone number, if the prime is a DBE.
11. **DBE Certification Number** - Enter the DBE's Certification Identification Number. Leave blank if subcontractor is not a DBE.
12. **Contract Payments** - Enter the subcontracted dollar amount of the work performed or service provided. Include the prime contractor/consultant if the prime is a DBE. The Non-DBE column is used to enter the dollar value of work performed by firms that are not certified DBE or for work after a DBE becomes decertified.
13. **Date Work Completed** - Enter the date the subcontractor/subconsultant's item work was completed.
14. **Date of Final Payment** - Enter the date when the prime contractor/consultant made the final payment to the subcontractor/subconsultant for the portion of work listed as being completed.
15. **Original DBE Commitment Amount** - Enter the "Total Claimed DBE Participation Dollars" from Exhibits 15-G or 10-O2 for the contract.
16. **Total** - Enter the sum of the "Contract Payments" Non-DBE and DBE columns.
17. **Contractor/Consultant Representative's Signature** - The person completing the form on behalf of the contractor/consultant's firm must sign their name.
18. **Contractor/Consultant Representative's Name** - Enter the name of the person preparing and signing the form.
19. **Phone** - Enter the area code and telephone number of the person signing the form.
20. **Date** - Enter the date the form is signed by the contractor's preparer.
21. **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.
22. **Local Agency Representative's Name** - Enter the name of the Local Agency Representative signing the form.
23. **Phone** - Enter the area code and telephone number of the person signing the form.
24. **Date** - Enter the date the form is signed by the Local Agency Representative.



**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 (OBE) or the date of the Certification Certificate mailed out by OBE.
- 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.

**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.htm>

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: HSIPL-5312(102)

Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor		DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
				License Number	DIR Reg Number			
Name:								<input type="checkbox"/> <\$1 million
City, State:								<input type="checkbox"/> <\$5 million
Name:								<input type="checkbox"/> <\$10 million
City, State:								<input type="checkbox"/> <\$15 million
Name:								Age of Firm: ___ yrs.
City, State:								<input type="checkbox"/> <\$1 million
Name:								<input type="checkbox"/> <\$5 million
City, State:								<input type="checkbox"/> <\$10 million
Name:								<input type="checkbox"/> <\$15 million
City, State:								Age of Firm: ___ yrs.
Name:								<input type="checkbox"/> <\$1 million
City, State:								<input type="checkbox"/> <\$5 million
Name:								<input type="checkbox"/> <\$10 million
City, State:								<input type="checkbox"/> <\$15 million
Name:								Age of Firm: ___ yrs.
City, State:								<input type="checkbox"/> <\$1 million
Name:								<input type="checkbox"/> <\$5 million
City, State:								<input type="checkbox"/> <\$10 million
Name:								<input type="checkbox"/> <\$15 million
City, State:								Age of Firm: ___ yrs.
Name:								<input type="checkbox"/> <\$1 million
City, State:								<input type="checkbox"/> <\$5 million
Name:								<input type="checkbox"/> <\$10 million
City, State:								<input type="checkbox"/> <\$15 million
Name:								Age of Firm: ___ yrs.
City, State:								<input type="checkbox"/> <\$1 million
Name:								<input type="checkbox"/> <\$5 million
City, State:								<input type="checkbox"/> <\$10 million
Name:								<input type="checkbox"/> <\$15 million
City, State:								Age of Firm: ___ yrs.

Distribution: 1) Original-Local Agency File 2) Copy-DLAE w/ Award Package

Bidder's List of Subcontractors (DBE and Non-DBE)

**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: **HSIPL-5312(102)**

Subcontractor Name and Location	Line Item & Description	Subcontract Amount	Percentage of Bid Item Sub-contracted	Contractor		DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
				License Number	DIR Reg Number			
Name:								<input type="checkbox"/> <\$1 million
City, State:								<input type="checkbox"/> <\$5 million
Name:								<input type="checkbox"/> <\$10 million
City, State:								<input type="checkbox"/> <\$15 million
Name:								Age of Firm: ___ yrs.
City, State:								<input type="checkbox"/> <\$1 million
Name:								<input type="checkbox"/> <\$5 million
City, State:								<input type="checkbox"/> <\$10 million
Name:								<input type="checkbox"/> <\$15 million
Name:								Age of Firm: ___ yrs.
City, State:								<input type="checkbox"/> <\$1 million
Name:								<input type="checkbox"/> <\$5 million
City, State:								<input type="checkbox"/> <\$10 million
Name:								<input type="checkbox"/> <\$15 million
Name:								Age of Firm: ___ yrs.
City, State:								<input type="checkbox"/> <\$1 million
Name:								<input type="checkbox"/> <\$5 million
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Name:								<input type="checkbox"/> <\$15 million
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City, State:								<input type="checkbox"/> <\$1 million
Name:								<input type="checkbox"/> <\$5 million
City, State:								<input type="checkbox"/> <\$10 million
Name:								<input type="checkbox"/> <\$15 million
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Name:								<input type="checkbox"/> <\$5 million
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Name:								Age of Firm: ___ yrs.
City, State:								<input type="checkbox"/> <\$1 million
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Name:								Age of Firm: ___ yrs.
City, State:								<input type="checkbox"/> <\$1 million
Name:								<input type="checkbox"/> <\$5 million
City, State:								



Hardy & Harper, Inc.  
32 Rancho Circle  
LAKE FOREST, CA 92630  
Tel: (714) 444-1851  
Fax: (714) 444-2801

## **Ad Proofs**

**Project Name:** FAIRVIEW ROAD HSIP IMPROVEMENT  
PROJECT

**Contract/Bid #:** HSIPL-5312(102)

**Awarding Agency:** CITY OF COSTA MESA

# Focus Journal Ad

Publication: DBE GoodFaith (DBEGoodFaith.com)  
Published On: 07/31/2020 @ 02:14:43 PM Pacific  
Expired On: 08/04/2020 @ 11:59:59 PM Pacific  
Message Notifications Sent To: ablanchard@hardyandharper.com  
Published At: [https://dbegoodfaith.com/item.php?item\\_type=ads&ad\\_adid=48649](https://dbegoodfaith.com/item.php?item_type=ads&ad_adid=48649)



**Hardy & Harper, Inc.**  
*asphalt paving contractor*

**Hardy & Harper, Inc.**

**Is seeking qualified DBEs**

## Project Name

**FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT**

## Project #

**HSIPL-5312(102)**

## Awarding Agency

**CITY OF COSTA MESA**

## Project Location

**COSTA MESA, ORANGE County, CA**

## Bid Date

**08/04/2020 at 10:00**

## Project Details

**MOBILIZATION -  
TRAFFIC CONTROL -  
CLEARING AND GRUBBING -  
TREE REMOVAL -  
ROOT PRUNE -  
ROOT BARRIER INSTALLATION -  
LANDSCAPING AND IRRIGATION -  
SIGNING & STRIPING -  
TRAFFIC SIGNAL INSTALLATION -  
REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP -  
CONSTRUCT CATCH BASIN -  
REMOVE & SALVAGE EXISTING FIRE HYDRANT -  
INSTALL NEW FIRE HYDRANT -  
MANHOLE ADJUSTMENTS -  
SURVEY**

## Get in Touch

### Outreach Coordinator

**ASHLIE BLANCHARD**

### Telephone

**(714) 444-1851**

### Fax

**(714) 444-2801**

### Address

**32 Rancho Circle  
LAKE FOREST, CA 92630**

[Send a message](#)

We are an equal opportunity employer. The plans and specs are available for your review at our office or we can fax you the proposal schedule. Bonds will not be required from qualified subcontractors.

## How to get in touch

Outreach Coordinator  
**ASHLIE BLANCHARD**

Telephone  
**(714) 444-1851**

Fax  
**(714) 444-2801**

Address  
**32 Rancho Circle  
LAKE FOREST, CA 92630**

[Send a message](#)

# Trade Journal Ad

Publication: DBE Journal (DBEJournal.com)

Published On: 07/31/2020 @ 02:14:43 PM Pacific

Expired On: 08/04/2020 @ 11:59:59 PM Pacific

Published At:

[http://dbejournal.com/index.php?show\\_ad=48649&ad\\_project\\_name=FAIRVIEW+ROAD+HSIP+IMPROVEMENT+PROJECT+&co\\_name=Hardy+%26+Harper%2C+Inc.](http://dbejournal.com/index.php?show_ad=48649&ad_project_name=FAIRVIEW+ROAD+HSIP+IMPROVEMENT+PROJECT+&co_name=Hardy+%26+Harper%2C+Inc.)



## Hardy & Harper, Inc. is seeking qualified DBEs

### Outreach Coordinator

ASHLIE BLANCHARD

### Contact Information

32 Rancho Circle  
LAKE FOREST, CA 92630

### Telephone

(714) 444-1851

### Fax

(714) 444-2801

### Project Name

FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT

### Bid/Contract #

HSIPL-5312(102)

### Awarding Agency

CITY OF COSTA MESA

### Project Location

COSTA MESA, ORANGE County, CA

### Bid Date

08/04/2020 at 10:00

### Project Details

MOBILIZATION - TRAFFIC CONTROL - CLEARING AND GRUBBING -  
TREE REMOVAL - ROOT PRUNE - ROOT BARRIER INSTALLATION -  
LANDSCAPING AND IRRIGATION - SIGNING & STRIPING - TRAFFIC  
SIGNAL INSTALLATION - REMOVE CATCH BASIN AND INTERFERING  
PORTIONS OF RCP - CONSTRUCT CATCH BASIN - REMOVE & SALVAGE  
EXISTING FIRE HYDRANT - INSTALL NEW FIRE HYDRANT - MANHOLE  
ADJUSTMENTS - SURVEY

We are an equal opportunity employer. The plans and specs are available for your review at our office or we can fax you the proposal schedule. Bonds will not be required from qualified subcontractors.

# Tweet

Published On: 07/31/2020 @ 02:18:04 PM Pacific

Published At: <https://twitter.com/dbegoodfaith/status/1289309376025681920>

PLEASE NOTE - The image below is a representation of what your tweet may look like. The appearance of your tweet can vary depending on a variety of factors, including the type of device the tweet is displayed on and Twitter's internal settings. For a real-time copy of your tweet, please use the link provided above to view on Twitter.com & print the screen from your browser. You do not need a Twitter account to view or print this tweet.

The image is a screenshot of a tweet. At the top left is the profile picture of DBEGoodFaith.com, which consists of the letters 'DB' in a stylized font. To the right of the profile picture is the name 'DBEGoodFaith.com' and the handle '@dbegoodfaith'. On the right side of the tweet header is a 'Follow' button. The main text of the tweet reads: 'Hardy & Harper, Inc. is seeking DBEs in COSTA MESA - dbegoodfaith.com/item.php?item\_...'. Below the text is a large image of the Hardy & Harper, Inc. logo. The logo features a stylized 'H' on the left and the text 'Hardy & Harper, Inc.' in a bold, serif font on the right. Below the company name, there is a smaller line of text that appears to be 'Quality Building Construction'. At the bottom of the tweet, there are icons for retweeting, replying, and liking, along with a timestamp that reads '12:18 PM · Jul 31, 2020'.

**Hardy & Harper, Inc.**  
32 Rancho Circle  
LAKE FOREST, CA 92630

# EMAIL & FAX PROOFS

**Project Name:** FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT

**Contract/Bid #:** HSIPL-5312(102)

**Awarding Agency:** CITY OF COSTA MESA

## Log details

- This document contains a copy of the email notice sent and a copy of each fax notice sent to solicited companies.

## EMAIL PROOF

Hardy & Harper, Inc. is seeking qualified DBEs and invites you to bid on the following contract.

PROJECT NAME: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT  
BID #: HSIPL-5312(102)  
BID DUE DATE: 2020-08-04 at 10:00  
AWARDING AGENCY/OWNER: CITY OF COSTA MESA  
PROJECT LOCATION: COSTA MESA, ORANGE, CA

MOBILIZATION -  
TRAFFIC CONTROL -  
CLEARING AND GRUBBING -  
TREE REMOVAL -  
ROOT PRUNE -  
ROOT BARRIER INSTALLATION -  
LANDSCAPING AND IRRIGATION -  
SIGNING & STRIPING -  
TRAFFIC SIGNAL INSTALLATION -  
REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP -  
CONSTRUCT CATCH BASIN -  
REMOVE & SALVAGE EXISTING FIRE HYDRANT -  
INSTALL NEW FIRE HYDRANT -  
MANHOLE ADJUSTMENTS -  
SURVEY

We are an equal opportunity employer. The plans and specs are available for your review at our office or we can fax you the proposal schedule. Bonds will not be required from qualified subcontractors.

If interested please contact:

ASHLIE BLANCHARD  
32 Rancho Circle  
LAKE FOREST, CA, 92630  
Tel: 7144441851  
Fax: 7144442801  
Email: [ablanchard@hardyandharper.com](mailto:ablanchard@hardyandharper.com)

### INVITATION TO BID

FROM: Hardy & Harper, Inc.  
 32 Rancho Circle  
 LAKE FOREST, CA, 92630  
 Tel: (714) 444-1851  
 Fax: (714) 444-2801  
 ablanchard@hardyandharper.com  
 CONTACT NAME: ASHLIE BLANCHARD

TO: ACME SAFETY & SUPPLY CORP  
 Tel: (619) 299-5100  
 Fax: (619) 542-0763

**Hardy & Harper, Inc. Is Seeking Qualified DBEs**

BID DUE DATE: 2020-08-04 at 10:00  
 BID No.: HSIPL-5312(102)  
 PROJECT NAME: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT  
 AGENCY NAME: CITY OF COSTA MESA  
 PROJECT LOCATION: COSTA MESA, ORANGE, CA

MOBILIZATION - TRAFFIC CONTROL - CLEARING AND GRUBBING - TREE REMOVAL - ROOT PRUNE -  
 ROOT BARRIER INSTALLATION - LANDSCAPING AND IRRIGATION - SIGNING & STRIPING - TRAFFIC  
 SIGNAL INSTALLATION - REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP -  
 CONSTRUCT CATCH BASIN - REMOVE & SALVAGE EXISTING FIRE HYDRANT - INSTALL NEW FIRE  
 HYDRANT - MANHOLE ADJUSTMENTS - SURVEY

We are an equal opportunity employer. The plans and specs are available for your review at our office or we can fax you the proposal schedule. Bonds will not be required from qualified subcontractors.

RETURN SECTION
Visit <a href="http://www.dbegoodfaith.com/respond">www.dbegoodfaith.com/respond</a> to reply with the Solicitation ID below. 1614403-48649
-- OR --
Fax back this invitation with your response to: (714) 444-2801 <input type="checkbox"/> Yes, we will send a fax quote by the bid date. <input type="checkbox"/> No, we are not interested. <input type="checkbox"/> Interested, but we would like more information. Please contact us at _____

This solicitation was sent by DBE GoodFaith Inc. at 07/31/2020 02:48:04 pm PST on behalf of Hardy & Harper, Inc.  
 For additional information about DBE, M/WBE, DVBE, SBE and other diversity participation projects, visit [www.dbegoodfaith.com](http://www.dbegoodfaith.com)



### INVITATION TO BID

FROM: Hardy & Harper, Inc.  
 32 Rancho Circle  
 LAKE FOREST, CA, 92630  
 Tel: (714) 444-1851  
 Fax: (714) 444-2801  
 ablanchard@hardyandharper.com  
 CONTACT NAME: ASHLIE BLANCHARD

TO: AXIOM ENGINEERING & SCIENCE CORP  
 Tel: (714) 247-1002  
 Fax: (714) 247-1006

**Hardy & Harper, Inc. is Seeking Qualified DBEs**  
 BID DUE DATE: 2020-08-04 at 10:00  
 BID No.: HSIPL-5312(102)  
 PROJECT NAME: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT  
 AGENCY NAME: CITY OF COSTA MESA  
 PROJECT LOCATION: COSTA MESA, ORANGE, CA

MOBILIZATION - TRAFFIC CONTROL - CLEARING AND GRUBBING - TREE REMOVAL - ROOT PRUNE - ROOT BARRIER INSTALLATION - LANDSCAPING AND IRRIGATION - SIGNING & STRIPING - TRAFFIC SIGNAL INSTALLATION - REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP - CONSTRUCT CATCH BASIN - REMOVE & SALVAGE EXISTING FIRE HYDRANT - INSTALL NEW FIRE HYDRANT - MANHOLE ADJUSTMENTS - SURVEY

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RETURN SECTION
<p>Visit <a href="http://www.dbegoodfaith.com/respond">www.dbegoodfaith.com/respond</a> to reply with the Solicitation ID below.            1614374-48649</p>
<p>-- OR --</p>
<p>Fax back this invitation with your response to: (714) 444-2801  <input type="checkbox"/> Yes, we will send a fax quote by the bid date.  <input type="checkbox"/> No, we are not interested.  <input type="checkbox"/> Interested, but we would like more information. Please contact us at _____.</p>

This solicitation was sent by DBE GoodFaith Inc. at 07/31/2020 02:48:20 pm PST on behalf of Hardy & Harper, Inc.  
 For additional information about DBE, M/WBE, DVBE, SBE and other diversity participation projects, visit [www.dbegoodfaith.com](http://www.dbegoodfaith.com)

### INVITATION TO BID

FROM: Hardy & Harper, Inc.  
 32 Rancho Circle  
 LAKE FOREST, CA, 92630  
 Tel: (714) 444-1851  
 Fax: (714) 444-2801  
 ablanchard@hardyandharper.com  
 CONTACT NAME: ASHLIE BLANCHARD

TO: BERT W SALAS, INC.  
 Tel: (619) 562-7711  
 Fax: (619) 258-3515

**Hardy & Harper, Inc. is Seeking Qualified DBEs**

BID DUE DATE: 2020-08-04 at 10:00  
 BID No.: HSIPL-5312(102)  
 PROJECT NAME: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT  
 AGENCY NAME: CITY OF COSTA MESA  
 PROJECT LOCATION: COSTA MESA, ORANGE, CA

MOBILIZATION - TRAFFIC CONTROL - CLEARING AND GRUBBING - TREE REMOVAL - ROOT PRUNE -  
 ROOT BARRIER INSTALLATION - LANDSCAPING AND IRRIGATION - SIGNING & STRIPING - TRAFFIC  
 SIGNAL INSTALLATION - REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP -  
 CONSTRUCT CATCH BASIN - REMOVE & SALVAGE EXISTING FIRE HYDRANT - INSTALL NEW FIRE  
 HYDRANT - MANHOLE ADJUSTMENTS - SURVEY

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RETURN SECTION
Visit <a href="http://www.dbegoodfaith.com/respond">www.dbegoodfaith.com/respond</a> to reply with the Solicitation ID below. 1614404-48649
-- OR --
Fax back this Invitation with your response to: (714) 444-2801 <input type="checkbox"/> Yes, we will send a fax quote by the bid date. <input type="checkbox"/> No, we are not interested. <input type="checkbox"/> Interested, but we would like more information. Please contact us at _____.

This solicitation was sent by DBE GoodFaith Inc. at 07/31/2020 02:48:15 pm PST on behalf of Hardy & Harper, Inc.  
 For additional information about DBE, M/WBE, DVBE, SBE and other diversity participation projects, visit [www.dbegoodfaith.com](http://www.dbegoodfaith.com)

### INVITATION TO BID

FROM: Hardy & Harper, Inc.  
 32 Rancho Circle  
 LAKE FOREST, CA, 92630  
 Tel: (714) 444-1851  
 Fax: (714) 444-2801  
 ablanchard@hardyandharper.com  
 CONTACT NAME: ASHLIE BLANCHARD

TO: BLANCO CONSTRUCTION  
 Tel: (951) 250-6692  
 Fax: (951) 602-2050

**Hardy & Harper, Inc. is Seeking Qualified DBEs**  
 BID DUE DATE: 2020-08-04 at 10:00  
 BID No.: HSIPL-5312(102)  
 PROJECT NAME: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT  
 AGENCY NAME: CITY OF COSTA MESA  
 PROJECT LOCATION: COSTA MESA, ORANGE, CA

MOBILIZATION - TRAFFIC CONTROL - CLEARING AND GRUBBING - TREE REMOVAL - ROOT PRUNE -  
 ROOT BARRIER INSTALLATION - LANDSCAPING AND IRRIGATION - SIGNING & STRIPING - TRAFFIC  
 SIGNAL INSTALLATION - REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP -  
 CONSTRUCT CATCH BASIN - REMOVE & SALVAGE EXISTING FIRE HYDRANT - INSTALL NEW FIRE  
 HYDRANT - MANHOLE ADJUSTMENTS - SURVEY

We are an equal opportunity employer. The plans and specs are available for your review at our office or we can fax you the proposal schedule. Bonds will not be required from qualified subcontractors.

<b>RETURN SECTION</b>
<p>Visit <a href="http://www.dbegoodfaith.com/respond">www.dbegoodfaith.com/respond</a> to reply with the Solicitation ID below.          1614405-48649</p>
-- OR --
<p>Fax back this invitation with your response to: (714) 444-2801  <input type="checkbox"/> Yes, we will send a fax quote by the bid date.  <input type="checkbox"/> No, we are not interested.  <input type="checkbox"/> Interested, but we would like more information. Please contact us at          _____.</p>

This solicitation was sent by DBE GoodFaith Inc. at 07/31/2020 02:45:58 pm PST on behalf of Hardy & Harper, Inc.  
 For additional information about DBE, M/WBE, DVBE, SBE and other diversity participation projects, visit  
[www.dbegoodfaith.com](http://www.dbegoodfaith.com)

### INVITATION TO BID

FROM: Hardy & Harper, Inc.  
 32 Rancho Circle  
 LAKE FOREST, CA, 92630  
 Tel: (714) 444-1851  
 Fax: (714) 444-2801  
 ablanchard@hardyandharper.com  
 CONTACT NAME: ASHLIE BLANCHARD

TO: BUENA VISTA LANDSCAPE, INC  
 Tel: (714) 771-2563  
 Fax: (714) 771-2569

**Hardy & Harper, Inc. is Seeking Qualified DBEs**

BID DUE DATE: 2020-08-04 at 10:00  
 BID No.: HSIPL-5312(102)  
 PROJECT NAME: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT  
 AGENCY NAME: CITY OF COSTA MESA  
 PROJECT LOCATION: COSTA MESA, ORANGE, CA

MOBILIZATION - TRAFFIC CONTROL - CLEARING AND GRUBBING - TREE REMOVAL - ROOT PRUNE -  
 ROOT BARRIER INSTALLATION - LANDSCAPING AND IRRIGATION - SIGNING & STRIPING - TRAFFIC  
 SIGNAL INSTALLATION - REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP -  
 CONSTRUCT CATCH BASIN - REMOVE & SALVAGE EXISTING FIRE HYDRANT - INSTALL NEW FIRE  
 HYDRANT - MANHOLE ADJUSTMENTS - SURVEY

We are an equal opportunity employer. The plans and specs are available for your review at our office or we can fax you the proposal schedule. Bonds will not be required from qualified subcontractors.

RETURN SECTION
Visit <a href="http://www.dbegoodfaith.com/respond">www.dbegoodfaith.com/respond</a> to reply with the Solicitation ID below. 1614376-48649
-- OR --
Fax back this invitation with your response to: (714) 444-2801 <input type="checkbox"/> Yes, we will send a fax quote by the bid date. <input type="checkbox"/> No, we are not interested. <input type="checkbox"/> Interested, but we would like more information. Please contact us at _____

This solicitation was sent by DBE GoodFaith Inc. at 07/31/2020 02:46:03 pm PST on behalf of Hardy & Harper, Inc.  
 For additional information about DBE, M/WBE, DVBE, SBE and other diversity participation projects, visit [www.dbegoodfaith.com](http://www.dbegoodfaith.com)

### INVITATION TO BID

FROM: Hardy & Harper, Inc.  
 32 Rancho Circle  
 LAKE FOREST, CA, 92630  
 Tel: (714) 444-1851  
 Fax: (714) 444-2801  
 ablanchard@hardyandharper.com  
 CONTACT NAME: ASHLIE BLANCHARD

TO: C.W. CROSSER CONSTRUCTION, INC  
 Tel: (714) 693-9800  
 Fax: (714) 693-0800

**Hardy & Harper, Inc. is Seeking Qualified DBEs**

BID DUE DATE: 2020-08-04 at 10:00  
 BID No.: HSIPL-5312(102)  
 PROJECT NAME: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT  
 AGENCY NAME: CITY OF COSTA MESA  
 PROJECT LOCATION: COSTA MESA, ORANGE, CA

MOBILIZATION - TRAFFIC CONTROL - CLEARING AND GRUBBING - TREE REMOVAL - ROOT PRUNE -  
 ROOT BARRIER INSTALLATION - LANDSCAPING AND IRRIGATION - SIGNING & STRIPING - TRAFFIC  
 SIGNAL INSTALLATION - REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP -  
 CONSTRUCT CATCH BASIN - REMOVE & SALVAGE EXISTING FIRE HYDRANT - INSTALL NEW FIRE  
 HYDRANT - MANHOLE ADJUSTMENTS - SURVEY

We are an equal opportunity employer. The plans and specs are available for your review at our office or we can fax you the proposal schedule. Bonds will not be required from qualified subcontractors.

RETURN SECTION
<p>Visit <a href="http://www.dbegoodfaith.com/respond">www.dbegoodfaith.com/respond</a> to reply with the Solicitation ID below.            1614378-48649</p>
<p>-- OR --</p>
<p>Fax back this invitation with your response to: (714) 444-2801  <input type="checkbox"/> Yes, we will send a fax quote by the bid date.  <input type="checkbox"/> No, we are not interested.  <input type="checkbox"/> Interested, but we would like more information. Please contact us at            _____</p>

This solicitation was sent by DBE GoodFaith Inc. at 07/31/2020 02:48:30 pm PST on behalf of Hardy & Harper, Inc.  
 For additional information about DBE, M/WBE, DVBE, SBE and other diversity participation projects, visit  
[www.dbegoodfaith.com](http://www.dbegoodfaith.com)

# INVITATION TO BID

FROM: Hardy & Harper, Inc.  
 32 Rancho Circle  
 LAKE FOREST, CA, 92630  
 Tel: (714) 444-1851  
 Fax: (714) 444-2801  
 ablanchard@hardyandharper.com  
 CONTACT NAME: ASHLIE BLANCHARD

TO: COAST SURVEYING, INC  
 Tel: (714) 918-6266  
 Fax: (714) 918-6277

**Hardy & Harper, Inc. is Seeking Qualified DBEs**

BID DUE DATE: 2020-08-04 at 10:00  
 BID No.: HSIPL-5312(102)  
 PROJECT NAME: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT  
 AGENCY NAME: CITY OF COSTA MESA  
 PROJECT LOCATION: COSTA MESA, ORANGE, CA

MOBILIZATION - TRAFFIC CONTROL - CLEARING AND GRUBBING - TREE REMOVAL - ROOT PRUNE -  
 ROOT BARRIER INSTALLATION - LANDSCAPING AND IRRIGATION - SIGNING & STRIPING - TRAFFIC  
 SIGNAL INSTALLATION - REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP -  
 CONSTRUCT CATCH BASIN - REMOVE & SALVAGE EXISTING FIRE HYDRANT - INSTALL NEW FIRE  
 HYDRANT - MANHOLE ADJUSTMENTS - SURVEY

We are an equal opportunity employer. The plans and specs are available for your review at our office or we can fax you the proposal schedule. Bonds will not be required from qualified subcontractors.

<b>RETURN SECTION</b>
<p>Visit <a href="http://www.dbegoodfaith.com/respond">www.dbegoodfaith.com/respond</a> to reply with the Solicitation ID below.          1614380-48649</p>
-- OR --
<p>Fax back this invitation with your response to: (714) 444-2801  <input type="checkbox"/> Yes, we will send a fax quote by the bid date.  <input type="checkbox"/> No, we are not interested.  <input type="checkbox"/> Interested, but we would like more information. Please contact us at          _____.</p>

This solicitation was sent by DBE GoodFaith Inc. at 07/31/2020 02:48:12 pm PST on behalf of Hardy & Harper, Inc.  
 For additional information about DBE, M/WBE, DVBE, SBE and other diversity participation projects, visit  
[www.dbegoodfaith.com](http://www.dbegoodfaith.com)

### INVITATION TO BID

FROM: Hardy & Harper, Inc.  
 32 Rancho Circle  
 LAKE FOREST, CA, 92630  
 Tel: (714) 444-1851  
 Fax: (714) 444-2801  
 ablanchard@hardyandharper.com  
 CONTACT NAME: ASHLIE BLANCHARD

TO: DAVID'S TREE SERVICE  
 Tel: (714) 842-6345  
 Fax: (714) 842-0135

**Hardy & Harper, Inc. is Seeking Qualified DBEs**

BID DUE DATE: 2020-08-04 at 10:00  
 BID No.: HSIPL-5312(102)  
 PROJECT NAME: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT  
 AGENCY NAME: CITY OF COSTA MESA  
 PROJECT LOCATION: COSTA MESA, ORANGE, CA

MOBILIZATION - TRAFFIC CONTROL - CLEARING AND GRUBBING - TREE REMOVAL - ROOT PRUNE - ROOT BARRIER INSTALLATION - LANDSCAPING AND IRRIGATION - SIGNING & STRIPING - TRAFFIC SIGNAL INSTALLATION - REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP - CONSTRUCT CATCH BASIN - REMOVE & SALVAGE EXISTING FIRE HYDRANT - INSTALL NEW FIRE HYDRANT - MANHOLE ADJUSTMENTS - SURVEY

We are an equal opportunity employer. The plans and specs are available for your review at our office or we can fax you the proposal schedule. Bonds will not be required from qualified subcontractors.

RETURN SECTION
Visit <a href="http://www.dbegoodfaith.com/respond">www.dbegoodfaith.com/respond</a> to reply with the Solicitation ID below. 1614381-48649
-- OR --
Fax back this invitation with your response to: (714) 444-2801 <input type="checkbox"/> Yes, we will send a fax quote by the bid date. <input type="checkbox"/> No, we are not interested. <input type="checkbox"/> Interested, but we would like more information. Please contact us at _____

This solicitation was sent by DBE GoodFaith Inc. at 07/31/2020 02:46:19 pm PST on behalf of Hardy & Harper, Inc.  
 For additional information about DBE, M/WBE, DVBE, SBE and other diversity participation projects, visit [www.dbegoodfaith.com](http://www.dbegoodfaith.com)

## INVITATION TO BID

FROM: Hardy & Harper, Inc.  
 32 Rancho Circle  
 LAKE FOREST, CA, 92630  
 Tel: (714) 444-1851  
 Fax: (714) 444-2801  
 ablanchard@hardyandharper.com  
 CONTACT NAME: ASHLIE BLANCHARD

TO: E-NOR INNOVATIONS INC.  
 Tel: (310) 513-6209  
 Fax: (310) 513-6299

### Hardy & Harper, Inc. Is Seeking Qualified DBEs

BID DUE DATE: 2020-08-04 at 10:00

BID No.: HSIPL-5312(102)

PROJECT NAME: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT

AGENCY NAME: CITY OF COSTA MESA

PROJECT LOCATION: COSTA MESA, ORANGE, CA

MOBILIZATION - TRAFFIC CONTROL - CLEARING AND GRUBBING - TREE REMOVAL - ROOT PRUNE -  
 ROOT BARRIER INSTALLATION - LANDSCAPING AND IRRIGATION - SIGNING & STRIPING - TRAFFIC  
 SIGNAL INSTALLATION - REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP -  
 CONSTRUCT CATCH BASIN - REMOVE & SALVAGE EXISTING FIRE HYDRANT - INSTALL NEW FIRE  
 HYDRANT - MANHOLE ADJUSTMENTS - SURVEY

We are an equal opportunity employer. The plans and specs are available for your review at our office or we can fax you the proposal schedule. Bonds will not be required from qualified subcontractors.

RETURN SECTION
Visit <a href="http://www.dbegoodfaith.com/respond">www.dbegoodfaith.com/respond</a> to reply with the Solicitation ID below. 1614406-48649
-- OR --
Fax back this invitation with your response to: (714) 444-2801 <input type="checkbox"/> Yes, we will send a fax quote by the bid date. <input type="checkbox"/> No, we are not interested. <input type="checkbox"/> Interested, but we would like more information. Please contact us at _____

This solicitation was sent by DBE GoodFaith Inc. at 07/31/2020 02:46:12 pm PST on behalf of Hardy & Harper, Inc.  
 For additional information about DBE, M/WBE, DVBE, SBE and other diversity participation projects, visit  
[www.dbegoodfaith.com](http://www.dbegoodfaith.com)



### INVITATION TO BID

FROM: Hardy & Harper, Inc.  
 32 Rancho Circle  
 LAKE FOREST, CA, 92630  
 Tel: (714) 444-1851  
 Fax: (714) 444-2801  
 ablanchard@hardyandharper.com  
 CONTACT NAME: ASHLIE BLANCHARD

TO: EZ LINE STRIPING CORP.  
 Tel: (714) 994-1701  
 Fax: (714) 994-1702

**Hardy & Harper, Inc. is Seeking Qualified DBEs**

BID DUE DATE: 2020-08-04 at 10:00  
 BID No.: HSIPL-5312(102)  
 PROJECT NAME: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT  
 AGENCY NAME: CITY OF COSTA MESA  
 PROJECT LOCATION: COSTA MESA, ORANGE, CA

MOBILIZATION - TRAFFIC CONTROL - CLEARING AND GRUBBING - TREE REMOVAL - ROOT PRUNE - ROOT BARRIER INSTALLATION - LANDSCAPING AND IRRIGATION - SIGNING & STRIPING - TRAFFIC SIGNAL INSTALLATION - REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP - CONSTRUCT CATCH BASIN - REMOVE & SALVAGE EXISTING FIRE HYDRANT - INSTALL NEW FIRE HYDRANT - MANHOLE ADJUSTMENTS - SURVEY

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RETURN SECTION
<p>Visit <a href="http://www.dbegoodfaith.com/respond">www.dbegoodfaith.com/respond</a> to reply with the Solicitation ID below.            1614384-48649</p>
<p>-- OR --</p>
<p>Fax back this invitation with your response to: (714) 444-2801  <input type="checkbox"/> Yes, we will send a fax quote by the bid date.  <input type="checkbox"/> No, we are not interested.  <input type="checkbox"/> Interested, but we would like more information. Please contact us at _____</p>

This solicitation was sent by DBE GoodFaith Inc. at 07/31/2020 02:46:10 pm PST on behalf of Hardy & Harper, Inc.  
 For additional information about DBE, M/WBE, DVBE, SBE and other diversity participation projects, visit [www.dbegoodfaith.com](http://www.dbegoodfaith.com)

### INVITATION TO BID

FROM: Hardy & Harper, Inc.  
 32 Rancho Circle  
 LAKE FOREST, CA, 92630  
 Tel: (714) 444-1851  
 Fax: (714) 444-2801  
 abianchard@hardyandharper.com  
 CONTACT NAME: ASHLIE BLANCHARD

TO: FULL TRAFFIC MAINTENANCE, INC.  
 Tel: (951) 520-9990  
 Fax: (951) 520-9980

**Hardy & Harper, Inc. is Seeking Qualified DBEs**

BID DUE DATE: 2020-08-04 at 10:00  
 BID No.: HSIPL-5312(102)  
 PROJECT NAME: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT  
 AGENCY NAME: CITY OF COSTA MESA  
 PROJECT LOCATION: COSTA MESA, ORANGE, CA

MOBILIZATION - TRAFFIC CONTROL - CLEARING AND GRUBBING - TREE REMOVAL - ROOT PRUNE -  
 ROOT BARRIER INSTALLATION - LANDSCAPING AND IRRIGATION - SIGNING & STRIPING - TRAFFIC  
 SIGNAL INSTALLATION - REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP -  
 CONSTRUCT CATCH BASIN - REMOVE & SALVAGE EXISTING FIRE HYDRANT - INSTALL NEW FIRE  
 HYDRANT - MANHOLE ADJUSTMENTS - SURVEY

We are an equal opportunity employer. The plans and specs are available for your review at our office or we can fax you the proposal schedule. Bonds will not be required from qualified subcontractors.

<b>RETURN SECTION</b>
<p>Visit <a href="http://www.dbegoodfaith.com/respond">www.dbegoodfaith.com/respond</a> to reply with the Solicitation ID below.          1614408-48649</p>
-- OR --
<p>Fax back this invitation with your response to: (714) 444-2801  <input type="checkbox"/> Yes, we will send a fax quote by the bid date.  <input type="checkbox"/> No, we are not interested.  <input type="checkbox"/> Interested, but we would like more information. Please contact us at          _____.</p>

This solicitation was sent by DBE GoodFaith Inc. at 07/31/2020 02:46:34 pm PST on behalf of Hardy & Harper, Inc.  
 For additional information about DBE, M/WBE, DVBE, SBE and other diversity participation projects, visit  
[www.dbegoodfaith.com](http://www.dbegoodfaith.com)

### INVITATION TO BID

FROM: Hardy & Harper, Inc.  
 32 Rancho Circle  
 LAKE FOREST, CA, 92630  
 Tel: (714) 444-1851  
 Fax: (714) 444-2801  
 ablanchard@hardyandharper.com  
 CONTACT NAME: ASHLIE BLANCHARD

TO: GLOBAL ROAD SEALING, INC  
 Tel: (714) 893-0845  
 Fax: (714) 893-0945

**Hardy & Harper, Inc. is Seeking Qualified DBEs**  
 BID DUE DATE: 2020-08-04 at 10:00  
 BID No.: HSIPL-5312(102)  
 PROJECT NAME: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT  
 AGENCY NAME: CITY OF COSTA MESA  
 PROJECT LOCATION: COSTA MESA, ORANGE, CA

MOBILIZATION - TRAFFIC CONTROL - CLEARING AND GRUBBING - TREE REMOVAL - ROOT PRUNE - ROOT BARRIER INSTALLATION - LANDSCAPING AND IRRIGATION - SIGNING & STRIPING - TRAFFIC SIGNAL INSTALLATION - REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP - CONSTRUCT CATCH BASIN - REMOVE & SALVAGE EXISTING FIRE HYDRANT - INSTALL NEW FIRE HYDRANT - MANHOLE ADJUSTMENTS - SURVEY

We are an equal opportunity employer. The plans and specs are available for your review at our office or we can fax you the proposal schedule. Bonds will not be required from qualified subcontractors.

<b>RETURN SECTION</b>
Visit <a href="http://www.dbegoodfaith.com/respond">www.dbegoodfaith.com/respond</a> to reply with the Solicitation ID below. 1614388-48649
-- OR --
Fax back this invitation with your response to: (714) 444-2801 <input type="checkbox"/> Yes, we will send a fax quote by the bid date. <input type="checkbox"/> No, we are not interested. <input type="checkbox"/> Interested, but we would like more information. Please contact us at _____

This solicitation was sent by DBE GoodFaith Inc. at 07/31/2020 02:45:54 pm PST on behalf of Hardy & Harper, Inc.  
 For additional information about DBE, M/WBE, DVBE, SBE and other diversity participation projects, visit [www.dbegoodfaith.com](http://www.dbegoodfaith.com)

### INVITATION TO BID

FROM: Hardy & Harper, Inc.  
 32 Rancho Circle  
 LAKE FOREST, CA, 92630  
 Tel: (714) 444-1851  
 Fax: (714) 444-2801  
 ablanchard@hardyandharper.com  
 CONTACT NAME: ASHLIE BLANCHARD

TO: HARDY LANDSCAPE  
 Tel: (909) 632-6052  
 Fax: (909) 895-7314

**Hardy & Harper, Inc. is Seeking Qualified DBEs**

BID DUE DATE: 2020-08-04 at 10:00  
 BID No.: HSIPL-5312(102)  
 PROJECT NAME: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT  
 AGENCY NAME: CITY OF COSTA MESA  
 PROJECT LOCATION: COSTA MESA, ORANGE, CA

MOBILIZATION - TRAFFIC CONTROL - CLEARING AND GRUBBING - TREE REMOVAL - ROOT PRUNE -  
 ROOT BARRIER INSTALLATION - LANDSCAPING AND IRRIGATION - SIGNING & STRIPING - TRAFFIC  
 SIGNAL INSTALLATION - REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP -  
 CONSTRUCT CATCH BASIN - REMOVE & SALVAGE EXISTING FIRE HYDRANT - INSTALL NEW FIRE  
 HYDRANT - MANHOLE ADJUSTMENTS - SURVEY

We are an equal opportunity employer. The plans and specs are available for your review at our office or we can fax you the proposal schedule. Bonds will not be required from qualified subcontractors.

RETURN SECTION
Visit <a href="http://www.dbegoodfaith.com/respond">www.dbegoodfaith.com/respond</a> to reply with the Solicitation ID below. 1614412-48649
-- OR --
Fax back this invitation with your response to: (714) 444-2801 <input type="checkbox"/> Yes, we will send a fax quote by the bid date. <input type="checkbox"/> No, we are not interested. <input type="checkbox"/> Interested, but we would like more information. Please contact us at _____

This solicitation was sent by DBE GoodFaith Inc. at 07/31/2020 02:48:15 pm PST on behalf of Hardy & Harper, Inc.  
 For additional information about DBE, M/WBE, DVBE, SBE and other diversity participation projects, visit  
[www.dbegoodfaith.com](http://www.dbegoodfaith.com)

### INVITATION TO BID

FROM: Hardy & Harper, Inc.  
 32 Rancho Circle  
 LAKE FOREST, CA, 92630  
 Tel: (714) 444-1851  
 Fax: (714) 444-2801  
 ablanchard@hardyandharper.com  
 CONTACT NAME: ASHLIE BLANCHARD

TO: KATO LANDSCAPE, INC.  
 Tel: (714) 963-4615  
 Fax: (714) 963-6424

**Hardy & Harper, Inc. is Seeking Qualified DBEs**

BID DUE DATE: 2020-08-04 at 10:00  
 BID No.: HSIPL-5312(102)  
 PROJECT NAME: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT  
 AGENCY NAME: CITY OF COSTA MESA  
 PROJECT LOCATION: COSTA MESA, ORANGE, CA

MOBILIZATION - TRAFFIC CONTROL - CLEARING AND GRUBBING - TREE REMOVAL - ROOT PRUNE - ROOT BARRIER INSTALLATION - LANDSCAPING AND IRRIGATION - SIGNING & STRIPING - TRAFFIC SIGNAL INSTALLATION - REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP - CONSTRUCT CATCH BASIN - REMOVE & SALVAGE EXISTING FIRE HYDRANT - INSTALL NEW FIRE HYDRANT - MANHOLE ADJUSTMENTS - SURVEY

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<b>RETURN SECTION</b>
<p>Visit <a href="http://www.dbegoodfaith.com/respond">www.dbegoodfaith.com/respond</a> to reply with the Solicitation ID below.          1614389-48649</p>
-- OR --
<p>Fax back this invitation with your response to: (714) 444-2801</p> <p><input type="checkbox"/> Yes, we will send a fax quote by the bid date.</p> <p><input type="checkbox"/> No, we are not interested.</p> <p><input type="checkbox"/> Interested, but we would like more information. Please contact us at _____.</p>

This solicitation was sent by DBE GoodFaith Inc. at 07/31/2020 02:46:02 pm PST on behalf of Hardy & Harper, Inc. For additional information about DBE, M/WBE, DVBE, SBE and other diversity participation projects, visit [www.dbegoodfaith.com](http://www.dbegoodfaith.com)

### INVITATION TO BID

FROM: Hardy & Harper, Inc.  
 32 Rancho Circle  
 LAKE FOREST, CA, 92630  
 Tel: (714) 444-1851  
 Fax: (714) 444-2801  
 ablanchard@hardyandharper.com  
 CONTACT NAME: ASHLIE BLANCHARD

TO: KELSURVEYS INC  
 Tel: (949) 660-8016  
 Fax: (949) 660-1758

**Hardy & Harper, Inc. is Seeking Qualified DBEs**

BID DUE DATE: 2020-08-04 at 10:00  
 BID No.: HSIPL-5312(102)  
 PROJECT NAME: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT  
 AGENCY NAME: CITY OF COSTA MESA  
 PROJECT LOCATION: COSTA MESA, ORANGE, CA

MOBILIZATION - TRAFFIC CONTROL - CLEARING AND GRUBBING - TREE REMOVAL - ROOT PRUNE -  
 ROOT BARRIER INSTALLATION - LANDSCAPING AND IRRIGATION - SIGNING & STRIPING - TRAFFIC  
 SIGNAL INSTALLATION - REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP -  
 CONSTRUCT CATCH BASIN - REMOVE & SALVAGE EXISTING FIRE HYDRANT - INSTALL NEW FIRE  
 HYDRANT - MANHOLE ADJUSTMENTS - SURVEY

We are an equal opportunity employer. The plans and specs are available for your review at our office or we can fax you the proposal schedule. Bonds will not be required from qualified subcontractors.

RETURN SECTION
Visit <a href="http://www.dbegoodfaith.com/respond">www.dbegoodfaith.com/respond</a> to reply with the Solicitation ID below. 1614390-48649
-- OR --
Fax back this invitation with your response to: (714) 444-2801 <input type="checkbox"/> Yes, we will send a fax quote by the bid date. <input type="checkbox"/> No, we are not interested. <input type="checkbox"/> Interested, but we would like more information. Please contact us at _____

This solicitation was sent by DBE GoodFaith Inc. at 07/31/2020 02:45:37 pm PST on behalf of Hardy & Harper, Inc.  
 For additional information about DBE, M/WBE, DVBE, SBE and other diversity participation projects, visit  
[www.dbegoodfaith.com](http://www.dbegoodfaith.com)

**INVITATION TO BID**

FROM: Hardy &amp; Harper, Inc.

32 Rancho Circle

LAKE FOREST, CA, 92630

Tel: (714) 444-1851

Fax: (714) 444-2801

ablanchard@hardyandharper.com

CONTACT NAME: ASHLIE BLANCHARD

TO: MANERI TRAFFIC CONTROL

Tel: (951) 695-5104

Fax: (951) 695-5105

**Hardy & Harper, Inc. is Seeking Qualified DBEs**

BID DUE DATE: 2020-08-04 at 10:00

BID No.: HSIPL-5312(102)

PROJECT NAME: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT

AGENCY NAME: CITY OF COSTA MESA

PROJECT LOCATION: COSTA MESA, ORANGE, CA

MOBILIZATION - TRAFFIC CONTROL - CLEARING AND GRUBBING - TREE REMOVAL - ROOT PRUNE - ROOT BARRIER INSTALLATION - LANDSCAPING AND IRRIGATION - SIGNING & STRIPING - TRAFFIC SIGNAL INSTALLATION - REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP - CONSTRUCT CATCH BASIN - REMOVE & SALVAGE EXISTING FIRE HYDRANT - INSTALL NEW FIRE HYDRANT - MANHOLE ADJUSTMENTS - SURVEY

We are an equal opportunity employer. The plans and specs are available for your review at our office or we can fax you the proposal schedule. Bonds will not be required from qualified subcontractors.

RETURN SECTION
<p>Visit <a href="http://www.dbegoodfaith.com/respond">www.dbegoodfaith.com/respond</a> to reply with the Solicitation ID below. 1614409-48649</p>
<p>-- OR --</p>
<p>Fax back this invitation with your response to: (714) 444-2801</p> <p><input type="checkbox"/> Yes, we will send a fax quote by the bid date.</p> <p><input type="checkbox"/> No, we are not interested.</p> <p><input type="checkbox"/> Interested, but we would like more information. Please contact us at _____.</p>

This solicitation was sent by DBE GoodFaith Inc. at 07/31/2020 02:46:05 pm PST on behalf of Hardy & Harper, Inc.  
For additional information about DBE, M/WBE, DVBE, SBE and other diversity participation projects, visit [www.dbegoodfaith.com](http://www.dbegoodfaith.com)

## INVITATION TO BID

FROM: Hardy & Harper, Inc.

32 Rancho Circle

LAKE FOREST, CA, 92630

Tel: (714) 444-1851

Fax: (714) 444-2801

ablanchard@hardyandharper.com

CONTACT NAME: ASHLIE BLANCHARD

TO: PAYCO SPECIALTIES, INCORPORATED

Tel: (619) 422-9204

Fax: (619) 427-1620

**Hardy & Harper, Inc. is Seeking Qualified DBEs**

BID DUE DATE: 2020-08-04 at 10:00

BID No.: HSIPL-5312(102)

PROJECT NAME: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT

AGENCY NAME: CITY OF COSTA MESA

PROJECT LOCATION: COSTA MESA, ORANGE, CA

MOBILIZATION - TRAFFIC CONTROL - CLEARING AND GRUBBING - TREE REMOVAL - ROOT PRUNE - ROOT BARRIER INSTALLATION - LANDSCAPING AND IRRIGATION - SIGNING & STRIPING - TRAFFIC SIGNAL INSTALLATION - REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP - CONSTRUCT CATCH BASIN - REMOVE & SALVAGE EXISTING FIRE HYDRANT - INSTALL NEW FIRE HYDRANT - MANHOLE ADJUSTMENTS - SURVEY

We are an equal opportunity employer. The plans and specs are available for your review at our office or we can fax you the proposal schedule. Bonds will not be required from qualified subcontractors.

RETURN SECTION
Visit <a href="http://www.dbegoodfaith.com/respond">www.dbegoodfaith.com/respond</a> to reply with the Solicitation ID below. 1614410-48649
-- OR --
Fax back this invitation with your response to: (714) 444-2801 <input type="checkbox"/> Yes, we will send a fax quote by the bid date. <input type="checkbox"/> No, we are not interested. <input type="checkbox"/> Interested, but we would like more information. Please contact us at _____

This solicitation was sent by DBE GoodFaith Inc. at 07/31/2020 02:46:19 pm PST on behalf of Hardy & Harper, Inc.  
 For additional information about DBE, M/WBE, DVBE, SBE and other diversity participation projects, visit [www.dbegoodfaith.com](http://www.dbegoodfaith.com)



### INVITATION TO BID

FROM: Hardy & Harper, Inc.  
 32 Rancho Circle  
 LAKE FOREST, CA, 92630  
 Tel: (714) 444-1851  
 Fax: (714) 444-2801  
 ablanchard@hardyandharper.com  
 CONTACT NAME: ASHLIE BLANCHARD

TO: S.C. YAMAMOTO, INC.  
 Tel: (714) 992-5783  
 Fax: (562) 690-1540

**Hardy & Harper, Inc. is Seeking Qualified DBEs**

BID DUE DATE: 2020-08-04 at 10:00  
 BID No.: HSIPL-5312(102)  
 PROJECT NAME: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT  
 AGENCY NAME: CITY OF COSTA MESA  
 PROJECT LOCATION: COSTA MESA, ORANGE, CA

MOBILIZATION - TRAFFIC CONTROL - CLEARING AND GRUBBING - TREE REMOVAL - ROOT PRUNE -  
 ROOT BARRIER INSTALLATION - LANDSCAPING AND IRRIGATION - SIGNING & STRIPING - TRAFFIC  
 SIGNAL INSTALLATION - REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP -  
 CONSTRUCT CATCH BASIN - REMOVE & SALVAGE EXISTING FIRE HYDRANT - INSTALL NEW FIRE  
 HYDRANT - MANHOLE ADJUSTMENTS - SURVEY

We are an equal opportunity employer. The plans and specs are available for your review at our office or we can fax you the proposal schedule. Bonds will not be required from qualified subcontractors.

<b>RETURN SECTION</b>
Visit <a href="http://www.dbegoodfaith.com/respond">www.dbegoodfaith.com/respond</a> to reply with the Solicitation ID below. 1614396-48649
-- OR --
Fax back this invitation with your response to: (714) 444-2801 <input type="checkbox"/> Yes, we will send a fax quote by the bid date. <input type="checkbox"/> No, we are not interested. <input type="checkbox"/> Interested, but we would like more information. Please contact us at _____

This solicitation was sent by DBE GoodFaith Inc. at 07/31/2020 02:45:50 pm PST on behalf of Hardy & Harper, Inc.  
 For additional information about DBE, M/WBE, DVBE, SBE and other diversity participation projects, visit  
[www.dbegoodfaith.com](http://www.dbegoodfaith.com)

## INVITATION TO BID

FROM: Hardy & Harper, Inc.  
 32 Rancho Circle  
 LAKE FOREST, CA, 92630  
 Tel: (714) 444-1851  
 Fax: (714) 444-2801  
 ablanchard@hardyandharper.com  
 CONTACT NAME: ASHLIE BLANCHARD

TO: SADDLEBACK SURVEYS, INC.  
 Tel: (949) 215-8630  
 Fax: (949) 215-8631

### Hardy & Harper, Inc. Is Seeking Qualified DBEs

BID DUE DATE: 2020-08-04 at 10:00

BID No.: HSIPL-5312(102)

PROJECT NAME: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT

AGENCY NAME: CITY OF COSTA MESA

PROJECT LOCATION: COSTA MESA, ORANGE, CA

MOBILIZATION - TRAFFIC CONTROL - CLEARING AND GRUBBING - TREE REMOVAL - ROOT PRUNE -  
 ROOT BARRIER INSTALLATION - LANDSCAPING AND IRRIGATION - SIGNING & STRIPING - TRAFFIC  
 SIGNAL INSTALLATION - REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP -  
 CONSTRUCT CATCH BASIN - REMOVE & SALVAGE EXISTING FIRE HYDRANT - INSTALL NEW FIRE  
 HYDRANT - MANHOLE ADJUSTMENTS - SURVEY

We are an equal opportunity employer. The plans and specs are available for your review at our office or we can fax you the proposal schedule. Bonds will not be required from qualified subcontractors.

RETURN SECTION
Visit <a href="http://www.dbegoodfaith.com/respond">www.dbegoodfaith.com/respond</a> to reply with the Solicitation ID below. 1614397-48649
-- OR --
Fax back this invitation with your response to: (714) 444-2801 <input type="checkbox"/> Yes, we will send a fax quote by the bid date. <input type="checkbox"/> No, we are not interested. <input type="checkbox"/> Interested, but we would like more information. Please contact us at _____

This solicitation was sent by DBE GoodFaith Inc. at 07/31/2020 02:46:04 pm PST on behalf of Hardy & Harper, Inc.  
 For additional information about DBE, M/WBE, DVBE, SBE and other diversity participation projects, visit  
[www.dbegoodfaith.com](http://www.dbegoodfaith.com)

## INVITATION TO BID

FROM: Hardy & Harper, Inc.  
 32 Rancho Circle  
 LAKE FOREST, CA, 92630  
 Tel: (714) 444-1851  
 Fax: (714) 444-2801  
 abianchard@hardyandharper.com  
 CONTACT NAME: ASHLIE BLANCHARD

TO: TRAFFIC LOOPS CRACKFILLING, INC  
 Tel: (714) 520-4026  
 Fax: (714) 520-4027

### Hardy & Harper, Inc. is Seeking Qualified DBEs

BID DUE DATE: 2020-08-04 at 10:00  
 BID No.: HSIPL-5312(102)  
 PROJECT NAME: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT  
 AGENCY NAME: CITY OF COSTA MESA  
 PROJECT LOCATION: COSTA MESA, ORANGE, CA

MOBILIZATION - TRAFFIC CONTROL - CLEARING AND GRUBBING - TREE REMOVAL - ROOT PRUNE - ROOT BARRIER INSTALLATION - LANDSCAPING AND IRRIGATION - SIGNING & STRIPING - TRAFFIC SIGNAL INSTALLATION - REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP - CONSTRUCT CATCH BASIN - REMOVE & SALVAGE EXISTING FIRE HYDRANT - INSTALL NEW FIRE HYDRANT - MANHOLE ADJUSTMENTS - SURVEY

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RETURN SECTION
<p>Visit <a href="http://www.dbegoodfaith.com/respond">www.dbegoodfaith.com/respond</a> to reply with the Solicitation ID below.            1614400-48649</p>
<p>-- OR --</p>
<p>Fax back this invitation with your response to: (714) 444-2801  <input type="checkbox"/> Yes, we will send a fax quote by the bid date.  <input type="checkbox"/> No, we are not interested.  <input type="checkbox"/> Interested, but we would like more information. Please contact us at            _____</p>

This solicitation was sent by DBE GoodFaith Inc. at 07/31/2020 02:45:47 pm PST on behalf of Hardy & Harper, Inc.  
 For additional information about DBE, M/WBE, DVBE, SBE and other diversity participation projects, visit  
[www.dbegoodfaith.com](http://www.dbegoodfaith.com)

### INVITATION TO BID

FROM: Hardy & Harper, Inc.  
 32 Rancho Circle  
 LAKE FOREST, CA, 92630  
 Tel: (714) 444-1851  
 Fax: (714) 444-2801  
 ablanchard@hardyandharper.com  
 CONTACT NAME: ASHLIE BLANCHARD

TO: TREESMITH ENTERPRISES, INC  
 Tel: (714) 996-6037  
 Fax: (714) 996-6057

**Hardy & Harper, Inc. is Seeking Qualified DBEs**

BID DUE DATE: 2020-08-04 at 10:00

BID No.: HSIPL-5312(102)

PROJECT NAME: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT

AGENCY NAME: CITY OF COSTA MESA

PROJECT LOCATION: COSTA MESA, ORANGE, CA

MOBILIZATION - TRAFFIC CONTROL - CLEARING AND GRUBBING - TREE REMOVAL - ROOT PRUNE -  
 ROOT BARRIER INSTALLATION - LANDSCAPING AND IRRIGATION - SIGNING & STRIPING - TRAFFIC  
 SIGNAL INSTALLATION - REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP -  
 CONSTRUCT CATCH BASIN - REMOVE & SALVAGE EXISTING FIRE HYDRANT - INSTALL NEW FIRE  
 HYDRANT - MANHOLE ADJUSTMENTS - SURVEY

We are an equal opportunity employer. The plans and specs are available for your review at our office or we can fax you the proposal schedule. Bonds will not be required from qualified subcontractors.

RETURN SECTION
Visit <a href="http://www.dbegoodfaith.com/respond">www.dbegoodfaith.com/respond</a> to reply with the Solicitation ID below. 1614401-48649
-- OR --
Fax back this invitation with your response to: (714) 444-2801 <input type="checkbox"/> Yes, we will send a fax quote by the bid date. <input type="checkbox"/> No, we are not interested. <input type="checkbox"/> Interested, but we would like more information. Please contact us at _____

This solicitation was sent by DBE GoodFaith Inc. at 07/31/2020 02:46:34 pm PST on behalf of Hardy & Harper, Inc.  
 For additional information about DBE, M/WBE, DVBE, SBE and other diversity participation projects, visit [www.dbegoodfaith.com](http://www.dbegoodfaith.com)

Hardy & Harper, Inc.  
32 Rancho Circle  
LAKE FOREST, CA 92630  
Tel: (714) 444-1851  
Fax: (714) 444-2801

## **Email & Fax Solicitation Log**

**Project Name: FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT**

**Contract/Bid #: HSIPL-5312(102)**

**Awarding Agency: CITY OF COSTA MESA**

### **Log Details**

- All emails and faxes were sent and tracked through DBEGoodFaith.com's automated solicitation and logging system.
- The solicitation system makes up to 5 attempts to successfully delivery a fax as long as a human does not answer the call. If a human answers the call, only 1 attempt is made.
- The solicitation system attempts to successfully deliver emails until the response from the recipient's email server requests that no other attempts be made.

Company	Fax Send Date & Delivery Status	Email Send Date & Delivery Status
<b>A. M. CONSTRUCTION ENGINEERING, INC.</b> 12622 GLEN STREET GARDEN GROVE, CA 92840 Tel: 7143057263 Fax: None Listed ramon@amconstructioneng.com Cert: DBE	n/a	07/31/2020 02:42 pm PST Delivered
<b>ACME SAFETY &amp; SUPPLY CORP</b> 1616 WEST AVE NATIONAL CITY, CA 91950 Tel: 6192995100 Fax: 6195420763 candace@acmesafetysupply.com Cert: DBE	07/31/2020 02:48 pm PST Successful	07/31/2020 02:42 pm PST Bounced
<b>ARRIAGA TRUCKING</b> 1263 E. CALIFORNIA PLACE ANAHEIM, CA 92805 Tel: 7146125461 Fax: None Listed RachelArriaga73@yahoo.com Cert: DBE	n/a	07/31/2020 02:42 pm PST Delivered
<b>AXIOM ENGINEERING &amp; SCIENCE CORP</b> 1322 BELL AVE. STE. 1G TUSTIN, CA 92780 Tel: 7142471002 Fax: 7142471006 jphou@axiomes.net Cert: DBE	07/31/2020 02:48 pm PST Failed	07/31/2020 02:42 pm PST Delivered
<b>BERT W SALAS, INC.</b> 10769 WOODSIDE AVENUE, SUITE 201 SANTEE, CA 92071 Tel: 6195627711 Fax: 6192583515 bsalaz@bertsalasinc.com Cert: DBE	07/31/2020 02:48 pm PST Successful	07/31/2020 02:42 pm PST Delivered

**BLANCO CONSTRUCTION**  
19320 DALLAS AVENUE  
RIVERSIDE, CA 92508  
Tel: 9512506692  
Fax: 9516022050  
lawym2004@aol.com  
Cert: DBE

07/31/2020  
02:45 pm PST  
Successful

07/31/2020  
02:42 pm PST  
Delivered

**BLUE OCEAN CIVIL CONSULTING**  
201 W. HARVEY AVENUE  
SANTA ANA, CA 92707  
Tel: 9496981670  
Fax: None Listed  
JCassman@BlueOceanCivil.com  
Cert: DBE

n/a

07/31/2020  
02:42 pm PST  
Delivered

**BUENA VISTA LANDSCAPE, INC**  
1472 N HARDING ST.  
ORANGE, CA 92867  
Tel: 7147712563  
Fax: 7147712569  
b.v.landscape@pacbell.net  
Cert: DBE

07/31/2020  
02:46 pm PST  
Successful

07/31/2020  
02:42 pm PST  
Delivered

**G.W. CROSSER CONSTRUCTION, INC**  
1250 N. LAKEVIEW AVE, SUITE J  
ANAHEIM, CA 92807  
Tel: 7146939800  
Fax: 7146930800  
ychao@cwcrosser.com  
Cert: DBE

07/31/2020  
02:48 pm PST  
Successful

07/31/2020  
02:42 pm PST  
Delivered

**CHATILLO TRUCKING, INC.**  
1421 S. MAPLE STREET  
SANTA ANA, CA 92707  
Tel: 7142968339  
Fax: None Listed  
chatillo75@gmail.com  
Cert: DBE

n/a

07/31/2020  
02:42 pm PST  
Delivered

**COAST SURVEYING, INC**  
15031 PARKWAY LOOP, SUITE B  
TUSTIN, CA 92780  
Tel: 7149186266  
Fax: 7149186277  
ruel.delcastillo@coastsurvey.com  
Cert: DBE

07/31/2020  
02:48 pm PST  
Failed

07/31/2020  
02:42 pm PST  
Delivered

**DAVID'S TREE SERVICE**  
19051 GOTHARD ST.  
HUNTINGTON BEACH, CA 92648  
Tel: 7148426345  
Fax: 7148420135  
inf@davidstreeservice.com  
Cert: DBE

07/31/2020  
02:46 pm PST  
Successful

07/31/2020  
02:42 pm PST  
Delivered

**DV CONSTRUCTION & LANDSCAPING INC.**  
12641 HOOVER STREET  
GARDEN GROVE, CA 92841  
Tel: 8324197993  
Fax: None Listed  
hoa.w.vo@gmail.com  
Cert: DBE

n/a

07/31/2020  
02:42 pm PST  
Delivered

**E-NOR INNOVATIONS INC.**  
436 W. WALNUT ST.  
GARDENA, CA 90248  
Tel: 3105136209  
Fax: 3105136299  
ronnie@enortraffic.com  
Cert: DBE

07/31/2020  
02:46 pm PST  
Successful

07/31/2020  
02:42 pm PST  
Delivered

**EZ LINE STRIPING CORP.**  
7379 ORANGETHORPE AVENUE, SUITE E.  
BUENA PARK, CA 90621  
Tel: 7149941701  
Fax: 7149941702  
ALICIAP@EZLINESSTRIPING.COM  
Cert: DBE

07/31/2020  
02:46 pm PST  
Successful

07/31/2020  
02:42 pm PST  
Delivered



FRANCISCO A. GARCIA DBA CISCO'S TRUCKING  
11352 WOODBURY ROAD  
GARDEN GROVE, CA 92843  
Tel: 9492573688  
Fax: None Listed  
CiscoTrk@gmail.com  
Cert: DBE

07/31/2020  
02:42 pm PST  
Delivered

n/a

FULL TRAFFIC MAINTENANCE, INC.  
217 LEWIS COURT  
CORONA, CA 92882  
Tel: 9515209990  
Fax: 9515209980  
sammysalgado@sbcglobal.net  
Cert: DBE

07/31/2020  
02:42 pm PST  
Delivered

07/31/2020  
02:46 pm PST  
Successful

GLEZ TRUCKING, INC.  
8092 HOLDER STREET  
BUENA PARK, CA 90620  
Tel: 7149844443  
Fax: None Listed  
Glez01@sbcglobal.net  
Cert: DBE

07/31/2020  
02:42 pm PST  
Delivered

n/a

GLOBAL ROAD SEALING, INC  
10832 DOROTHY AVE  
GARDEN GROVE, CA 92843  
Tel: 7148930845  
Fax: 7148930945  
grs@globalroadsealing.com  
Cert: DBE

07/31/2020  
02:42 pm PST  
Delivered

07/31/2020  
02:45 pm PST  
Successful

HARDY LANDSCAPE  
21520 AMBUSHERS STREET  
DIAMOND BAR, CA 91765  
Tel: 9096326052  
Fax: 9098957314  
ranjithusa@yahoo.com  
Cert: DBE

07/31/2020  
02:42 pm PST  
Delivered

07/31/2020  
02:48 pm PST  
Failed

**KATO LANDSCAPE, INC.**  
18182 BUSHARD ST  
FOUNTAIN VALLEY, CA 92708  
Tel: 7149634615  
Fax: 7149636424  
van@katolandscaping.com  
Cert: DBE

07/31/2020  
02:46 pm PST  
Successful

07/31/2020  
02:42 pm PST  
Delivered

**KELSURVEYS INC**  
1740 E GARRY AVENUE STE. 110  
SANTA ANA, CA 92705  
Tel: 9496608016  
Fax: 9496601758  
kelvink@kelsurveys.com  
Cert: DBE

07/31/2020  
02:45 pm PST  
Successful

07/31/2020  
02:42 pm PST  
Delivered

**MANERI TRAFFIC CONTROL**  
47423 RAINBOW CANYON RD  
TEMECULA, CA 92592  
Tel: 9516955104  
Fax: 9516955105  
mmaneri@maneritrafficcontrol.com  
Cert: DBE

07/31/2020  
02:46 pm PST  
Successful

07/31/2020  
02:42 pm PST  
Delivered

**MORRIS TRUCKING**  
2338 HANS LANE  
SANTA ANA, CA 92706  
Tel: 714  
Fax: None Listed  
mchavez1503@yahoo.com  
Cert: DBE

n/a

07/31/2020  
02:42 pm PST  
Delivered

**PAYCO SPECIALTIES, INCORPORATED**  
120 NORTH SECOND AVE.  
CHULA VISTA, CA 91910  
Tel: 6194229204  
Fax: 6194271620  
rebecca@payco.biz  
Cert: DBE

07/31/2020  
02:46 pm PST  
Successful

07/31/2020  
02:42 pm PST  
Delivered

S.C. YAMAMOTO, INC.  
2031 EMERY AVENUE  
LA HABRA, CA 90631  
Tel: 7149925783  
Fax: 5626901540  
scjunior@aol.com  
Cert: DBE

07/31/2020  
02:45 pm PST  
Successful

07/31/2020  
02:42 pm PST  
Delivered

SADDLEBACK SURVEYS, INC.  
23392 MADERO SUITE C  
MISSION VIEJO, CA 92691  
Tel: 9492158630  
Fax: 9492158631  
kttreault@saddlebacksurveys.com  
Cert: DBE

07/31/2020  
02:46 pm PST  
Successful

07/31/2020  
02:42 pm PST  
Delivered

SAILROCK CONSTRUCTORS INC.  
113 BRIGHT POPPY  
IRVINE, CA 92618  
Tel: 9493783440  
Fax: None Listed  
courtney@sailrockinc.com  
Cert: DBE

n/a

07/31/2020  
02:42 pm PST  
Delivered

TRAFFIC LOOPS CRACKFILLING, INC  
1915 W BALL RD.  
ANAHEIM, CA 92804  
Tel: 7145204026  
Fax: 7145204027  
admin@trafficloops.net  
Cert: DBE

07/31/2020  
02:45 pm PST  
Successful

07/31/2020  
02:42 pm PST  
Delivered

TREESMITH ENTERPRISES, INC  
1551 N. MILLER ST  
ANAHEIM, CA 92806  
Tel: 7149966037  
Fax: 7149966057  
info@treesmith.net  
Cert: DBE

07/31/2020  
02:46 pm PST  
Successful

07/31/2020  
02:42 pm PST  
Delivered

---

**EXHIBIT B**  
**BID PACKAGE**

---

CITY OF COSTA MESA  
ORANGE COUNTY, CALIFORNIA

---

NOTICE TO BIDDERS, PROPOSAL, CONTRACT, AND  
SPECIAL PROVISIONS FOR

**FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT  
(ADAMS AVE. TO BAKER ST.)**

**FEDERAL PROJECT NO. HSIPL-5312(102)  
CITY PROJECT NO. 19-10**

---

Prepared Under the Direction of



**Baltazar Mejia, P.E.**

Interim City Engineer

Copy No. \_\_\_\_\_

Checked by \_\_\_\_\_

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**CITY OF COSTA MESA  
ORANGE COUNTY, CALIFORNIA  
NOTICE INVITING SEALED BIDS**

**NOTICE IS HEREBY GIVEN** that the City of Costa Mesa ("City") invites sealed bids for furnishing all labor, materials, equipment, transportation and such other facilities as may be required for:

**FAIRVIEW RD. HSIP IMPROVEMENT PROJECT (ADAMS AVE. TO BAKER ST.),  
FEDERAL PROJECT NO. HSIPL-5312(102), CITY PROJECT NO. 19-10**

1. **BID OPENING**: Sealed bids will be received by the City of Costa Mesa (City) at the Office of the City Clerk, 77 Fair Drive, Costa Mesa, California, before a submittal deadline of **10:00 A.M., Tuesday, August 4, 2020**. Sealed proposals shall bear the title of the work and name of the bidder but no other distinguishing marks. Any bid received after the scheduled closing time for the receipt of bids shall be returned to bidder unopened. It shall be the sole responsibility of the Bidder to see that its bid is received in proper time.

As a precautionary measure in response to the COVID-19 pandemic, a public bid opening will not be allowed and the following measures are being taken to ensure the health and safety of all parties during the bid opening process:

On the day of the submittal deadline, sealed proposals intended to be delivered in person to the City Clerk's office, Costa Mesa City Hall, 77 Fair Drive, Costa Mesa, California 92626 will be received at a table outside of City Hall in front of the north entry doors. Provided they are received by the City Clerk's office before the submittal deadline, sealed proposals will also be accepted by post mail.

The bid opening will be conducted at **2:00 P.M., Tuesday, August 4, 2020** by the City Clerk. NO public viewing of the bid opening will be allowed due to precautions related to COVID-19. Upon opening all the valid submitted bids, and verifying their contents, the City Clerk's office will contact each bidder via email and distribute the results and summary of the bid opening.

2. **FEDERALLY-FUNDED PROJECT**: This project is federally-funded and will be under federal regulations, which include the Davis-Bacon Act and related acts. The wage determinations will also be under the Davis-Bacon Act and related acts, including the State of California Department of Industrial Relations, in which the Contractor and all Subcontractors shall pay *not* less than the higher wage rate, as described herein Section 8, "PREVAILING WAGES" in this Notice Inviting Sealed Bids. **The Disadvantaged Business Enterprise (DBE) contract goal for this project is TWELVE PERCENT (12%).**
3. **BID CONTENTS**: All bids must be submitted on the proposal form included in the bid packet. No bid will be considered unless it is made on the proposal form furnished by the City and made in accordance with the provisions of the bid requirements. Each bid must be submitted in a sealed envelope addressed to the City Clerk with the Project Name, Project Number, and name of the bidder typed or clearly printed on the envelope. The sealed envelope shall not contain other distinguishing marks.
4. **BID DOCUMENTS**: Complete bid packets will be available electronically, at no cost, via **CIPList.com (a third-party website) at [http://ciplist.com/plans/?Costa Mesa/city/11556](http://ciplist.com/plans/?Costa+Mesa/city/11556). Hard copies will NOT be available for purchase from the City.**

All bidders must register with CIPLIST.com in order to retrieve plans, specifications, addenda, bidders list, etc. It is the responsibility of prospective bidders to download and print the bid documents for review and bid. It is also the responsibility of each prospective bidder to check CIPLIST.com on a DAILY basis through the close of bids for any applicable addenda or updates. Each addendum will include a confirmation sheet indicating receipt of the addendum. This sheet must be signed and included with the bid for each addendum issued. Bids which do not include the confirmation sheet(s) for each addendum, if any, may be rejected.

The City of Costa Mesa does not warrant, represent, or guarantee the accuracy, completeness, or adequacy of information provided from any third party source. The City shall not be responsible or liable in any way whatsoever for any loss or damages of whatever kind, nature, or scope, including, but not limited to, time, money or goodwill arising from errors, inaccuracies, or omissions in any documents and/or information retrieved from any third party source.

5. **BID SECURITY**: Each bid must be submitted with a certified check, cashier's check, or a bid bond, made payable to or in favor of the City of Costa Mesa, in an amount equal to at least ten percent (10%) of the total amount of the bid. No bid will be considered unless accompanied by such certified check, cashier's check, or bid bond.
6. **CONTRACTOR'S LICENSE**: A valid **California Contractor's License Class "A" (General Engineering Contractor)** issued by the California Contractors State License Board is required at the time the contract is awarded pursuant to California Public Contract Code Section 3300. Each bidder must also be qualified as required by law at the time of the bid opening.
7. **REGISTRATION WITH THE DEPARTMENT OF INDUSTRIAL RELATIONS**: Pursuant to California Labor Code Sections 1725.5 and 1771.1, no contractor or subcontractor shall be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work unless registered and qualified pursuant to Section 1725.5.
8. **PREVAILING WAGES**: This Project is a "public work" subject to prevailing wage requirements. Pursuant to provisions of Sections 1770 et seq. of the California Labor Code, all workers employed on the Project shall be paid not less than the general prevailing rate of per diem wages, as determined by the Director of the Department of Industrial Relations for work of a similar character in the locality in which the work is performed, and not less than the general prevailing rate of per diem wages for holiday and overtime work. Copies of the prevailing rate of per diem wages are on file with the Public Services Department of the City of Costa Mesa and are available to any interested party upon request. The applicable State prevailing wages are also set forth on the Department of Industrial Relations' website at <https://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>; these rates are subject to predetermined increases. The prime contractor shall post a copy of the Director's determination of the prevailing rate of per diem wages at each job site. This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.
9. **NON-DISCRIMINATION**: The bidding process and contract are subject to State and Federal non-discrimination requirements, including but not limited to the requirement that no person or business shall discriminate on the basis of race, color, national origin, ancestry, religious creed, physical disability, mental disability, medical condition, marital status, sex, gender, gender expression, gender identity, sexual orientation, age, or military or veteran status in its solicitation, selection, hiring, or treatment of individuals or businesses in connection with the bidding process or work performed for the City in connection with the Project.



10. **CITY'S RIGHT TO REJECT BIDS:** The City of Costa Mesa reserves the right, in its sole discretion, to reject any or all bids, or to waive any minor irregularities or informalities in any bid.
11. **PAYMENT BOND AND PERFORMANCE BOND:** A Payment Bond and a Performance Bond, each in the amount of 100% of the contract amount, will be required of the successful Bidder prior to award of the Contract.
12. **RETENTION:** In accordance with the Contract, five percent (5%) of any progress payment will be withheld as a retention. Pursuant to Section 22300 of the Public Contract Code, at the request and expense of the Contractor, approved securities equivalent to the amount withheld may be deposited with the City or with a state or federally chartered bank as the escrow agent, and City shall then pay such moneys to the Contractor. Refer to the Sample Contract for further clarification.
13. **ADDITIONAL REQUIREMENTS:** This Project is subject to local, State, and Federal regulations and requirements, as detailed in the bid packet and contract documents.

Brenda Green, City Clerk  
City of Costa Mesa  
Dated: July 1, 2020

For further information regarding this project, please contact **Seung Yang** at [seung.yang@costamesaca.gov](mailto:seung.yang@costamesaca.gov).

**DEPARTMENT OF TRANSPORTATION**

DISTRICT 12

1750 EAST 4<sup>TH</sup> STREET, SUITE 100

SANTA ANA, CA 92705

PHONE (657) 328-6000

FAX (657) 328-6522

TTY 711

[www.dot.ca.gov/caltrans-near-me/district12](http://www.dot.ca.gov/caltrans-near-me/district12)*Making Conservation  
a California Way of Life.*

May 14, 2020

Mr. Raja Sethuraman  
Director of Public Works  
Public Works Department  
77 Fair Drive  
Costa Mesa, CA 92628

CML-5312(102)  
Fairview Rd. from Adams Ave. to  
Baker St.  
City of Costa Mesa  
Raised Directional Median Island &  
Traffic Signal Safety Improvements  
Project

Dear Mr. Sethuraman:

We have reviewed and processed your obligation submittal for the above-referenced project through Caltrans Local Assistance and the Federal Highway Administration (FHWA). You are hereby authorized to begin the Construction phase of your project. Enclosed is a copy of the authorizing document (E-76) for your records.

Please note that FHWA requires Form FHWA-1273 be physically inserted, unmodified and in its entirety, into the executed contract, i.e., the document that contains the signatures of the contracting agency and the contractor, as well as into all subcontracts, except for purchase orders, rental agreements and other agreements for supplies or services. It is also required that Form FHWA-1273 still be included in bid documents to inform prospective bidders of the required contract provisions.

Please refer to Local Assistance Procedures Manual (LAPM), Chapter 15, for proper Advertising and Award procedures. The City shall follow its normal procedure in awarding the contract to the lowest responsible bidder and assuring us that all federal requirements have been met, including an approved Quality Assurance Program.

Please notify this office in writing of the date of the bid opening. After the bid opening and award, please send us the following items within 60 days after award:

- A complete award package as outlined in LAPM, Chapter 15, Section 15.7.

E-76A

Mr. Sethuraman  
CML-5312(102)  
May 14, 2020  
Page 2

- Provide the Letter of Notice to Proceed (NTP) to the awarded contractor.

Prospective bidders should be reminded of the Disadvantage Business Enterprise (DBE) requirements contained in LAPM, Chapter 9.

Effective October 1, 2017, if a consultant is to be used to execute the Construction Management/ Engineering portion, then local agencies must submit a completed LAPM, Exhibit #10-C for new or amended federally funded A&E consultant contracts online through <http://dlaaeoversight.dot.ca.gov/fmi/webd> for Caltrans review and acceptance prior to contract award. Execution of an A&E consultant contract without Caltrans acceptance of Exhibit 10-C may result in ineligibility for reimbursement. The Office of Guidance and Oversight (OGO) will notify the local agency and DLAE of Exhibit #10-C acceptance or rejection within 5 business days. If there are any changes to the contract after Caltrans acceptance of Exhibit #10-C, the local agency must notify the Office of OGO and provide a copy of an updated Exhibit #10-C and all contract amendments to [aeoversight@dot.ca.gov](mailto:aeoversight@dot.ca.gov).

Please be reminded of the invoice processing requirements and reimbursement process in Chapter 5 of the LAPM. Invoices for reimbursement cannot be submitted until after funds are encumbered via an executed Program Supplemental Agreement (PSA) and an executed Finance Letter.

If you have any questions, please call Monroe Johnson at (657) 328-6274.

Sincerely,



*for* Tifini Tran  
District Local Assistance Engineer

Attachment  
E-76 Construction Authorization

C  
Ruth Smith, City of Costa Mesa  
Jennifer Rosales, City of Costa Mesa

E-76B

AMENDMENT MODIFICATION SUMMARY - (E-76)

FEDERAL AID PROGRAM  
 DLA LOCATOR: 12-ORA-0-CMS  
 PREFIX: HSIPL  
 PROJECT NO: 5312(102)  
 SEQ NO: 2  
 STATE PROJ NO: 1217000032L-N  
 AGENCY: COSTA MESA  
 ROUTE:  
 DISASTER NO:  
 JIP DATA  
 MPO: SCAG  
 FSTIP YR: 19/20  
 STIP REF: 209-7000-1052  
 FSTIP ID NO: SCAG015  
 BRIDGE NO:

PROJECT LOCATION:  
 FAIRVIEW ROAD FROM ADAMS AVENUE TO BAKER STREET  
 TYPE OF WORK:  
 RAISED DIRECTIONAL MEDIAN ISLAND AND TRAFFIC SIGNAL  
 FED RR NO'S:  
 PUC CODES:  
 PROJ OVERSIGHT: ASSUMED/LOCAL ADMIN  
 ENV STATUS / DT: 01/23/2019  
 RW STATUS / DT: 1 05/01/2020  
 INV RTE:  
 BEG MP:  
 END MP:

PREV AUTH / AGREE DATES:  
 PE:  
 RW:  
 CON:  
 SPR:  
 MCS:  
 OTH:

PROG CODE	LINE NO	IMPV TYPE	FUNG SYS	URBAN AREA	URB/RURAL	DEMO ID	PROJECT COST	FEDERAL COST	AC COST
ZS30	10	15					\$70,000.00	\$63,000.00	\$0.00
								\$0.00	\$0.00
								\$63,000.00	\$0.00
ZS30	30	21						\$0.00	\$0.00
ZS30	31	17						\$0.00	\$0.00
FUNDING SUMMARY									
PHASE									
PE	PREV OBLIGATION						\$70,000.00	\$63,000.00	\$0.00
PE	THIS REQUEST						\$0.00	\$0.00	\$0.00
PE	SUBTOTAL						\$70,000.00	\$63,000.00	\$0.00
R/W	PREV OBLIGATION						\$0.00	\$0.00	\$0.00
R/W	THIS REQUEST						\$0.00	\$0.00	\$0.00
R/W	SUBTOTAL						\$0.00	\$0.00	\$0.00
CON	PREV OBLIGATION						\$0.00	\$0.00	\$0.00
CON	THIS REQUEST						\$1,483,493.00	\$567,540.00	\$0.00
CON	SUBTOTAL						\$1,483,493.00	\$567,540.00	\$0.00
OTH	PREV OBLIGATION						\$0.00	\$0.00	\$0.00
OTH	THIS REQUEST						\$0.00	\$0.00	\$0.00
OTH	SUBTOTAL						\$0.00	\$0.00	\$0.00
TOTAL:							\$1,553,493.00	\$630,540.00	\$0.00

STATE REMARKS

10/25/2016 Seq. #1 (10/25/16): This request is for Preliminary Engineering (PE) phase funding for the City of Costa Mesa administered safety project to cover preliminary design, NEPA clearance, & Final P,S&E (after NEPA approval) for their Highway Safety Improvement Program (HSIP) project #HSIPL-5312(102) / Advantage ID #12-17000032L-N. Project scope includes raised median island & new traffic signal. Cycle 7 HSIP project (ID #HSIP7-12-002). Programmed for FY 2017/18 in SCAG 2017 FTIP Amendment #17-02 (ID #SCAG015) approved on 2/21/17 & EFSP on 4/17/17 for FY 16/17. Reimburse on Pro Rata basis with ZS30 type federal HSIP funds at maximum reimbursement ratio of 90% for PE. MJ

04/21/2017 This is a request for Preliminary Engineering funding for construction of raised median island and new traffic signal on Fairview road from Baker Street to Adams Avenue in the City of Costa Mesa using Highway Safety and Improvement Program (HSIP) funds awarded on 1/12/2015 as a HSIP Cycle 7 project and programmed for FY 17-18 in Amendment #2 approved on 02/21/2017 to SCAG's 2017 FTIP and EFSP'd to FY 16-17 on 04/17/2017. Federal funding is capped at \$630,540 for all phases of work with a maximum reimbursement ratio of 90%. Reimburse with ZS30 HSIP funds at 90% on a pro rata reimbursement basis up to the federal amount shown for preliminary engineering. HSIP ID #HSIP7-12-002.

04/21/2017 This is a request for preliminary engineering funding to install traffic signals at the intersection of Fairview Road and Village Way and to construct a directional center median along a portion of Fairview Road adjacent to the shopping center just south of Baker Street in the City of Costa Mesa using Highway Safety and Improvement Program (HSIP) funds awarded on 1/12/15 as a HSIP Cycle 7 benefit cost project and programmed for FY 17-18 in Amendment #2 approved on 2/21/17 to SCAG's 2017 FTIP and EFSP'd to FY 16-17 on 4/17/17. Federal funding is capped at \$630,540 for all phases of work with a maximum reimbursement ratio of 90%. Reimburse with ZS30 HSIP funds at 90% on a pro rata reimbursement basis up to the federal amount shown for preliminary engineering. Cycle 7 HSIP ID #HSIP7-12-002.

04/14/2020 Seq. #2 (6/11/19, 4/14/20, & 5/4/20): This request is for Construction phase funding for the City of Costa Mesa administered safety project to construct raised median island & new traffic signal on Fairview Rd. from Baker St. to Adams Ave. using Highway Safety Improvement Program (HSIP) funds. Federal Project #HSIPL-5312(102) / Advantage ID #12-17000032L-N / Cycle 7 HSIP project (ID #HSIP7-12-002). Programmed for FY 2021 in SCAG 2019 FTIP Amendment #19-18 (ID #SCAG015) approved on 4/6/20 & EFSP to FY 19/20 on 4/14/20. Reimburse on Lump

Sum basis with ZS30-type federal HSIP funds at 64.50% & 71.00% for construction contract & CE, respectively. Construction phase funding capped at \$667,540. PE phase remains the same. Federal funding is capped at \$630,540 for all phases of work with a maximum reimbursement ratio of 90%. NEPA CE document approved on 1/23/19 & Re-Validated on 4/16/20. ROW Certification #1 approved on 3/19/20 & Revised on 5/1/20. MJ

05/05/2020 SEC#2: This sequence reflects the obligation via EPSP the amount of \$667,540 for Construction and Construction Engineering using Highway Safety and Improvement Program (HSIP) funds programmed for FY 19-20 in Amendment #18 approved on 4/6/2020 to SCAG's 2019 FTIP. Federal funding is capped at \$630,540 for all phases of work with a maximum reimbursement ratio of 90% for safety using countermeasure NST3 and NS3. Reimburse with ZS30 HSIP funds at 90% on a lump sum reimbursement basis up to the federal amounts shown for construction and construction engineering. Cycle 7 Project, HSIP ID HSIP7-12-002.

**FEDERAL REMARKS**

**AUTHORIZATION**

AUTHORIZATION TO PROCEED WITH REQUEST: CON  
 FOR: CONTRACT/CENG  
 DOCUMENT TYPE: AMOD

PREPARED IN FADS BY: JOHNSON, MONROE  
 REVIEWED IN FADS BY: BATATAN, FERDINAND  
 SUBMITTED IN FADS BY: BATATAN, FERDINAND  
 PROCESSED IN FADS BY: SIGNATURE, NOT\_REQUIRED  
 E-76 AUTHORIZED DATE IN FMIS BY: JIYOUNG AHN

ON 2020-05-04 724-2470  
 ON 2020-05-05 653-5070  
 ON 2020-05-06 FOR CALTRANS  
 ON 2020-05-06 FOR FHWA  
 ON 2020-05-12 15:06:29.0

**SIGNATURE HISTORY FOR PROJECT NUMBER 5312(102)LAS.OF.05/14/2020**

MOD #	SIGNED BY	SIGNED ON
1	JERILYNN FOGLE	05/07/2020
	JERILYNN FOGLE	05/07/2020
	JYOUNG AHN	05/12/2020
0	JERILYNN FOGLE	04/25/2017
	TAY DAM	04/26/2017
	JYOUNG AHN	04/28/2017

**FHWA FMIS 3.0 SIGNATURE HISTORY**

AMEND/AMOD	BATATAN, FERDINAND	SIGNED ON
		05/06/2020

**INFORMATION FOR BIDDERS**

1. **PREPARATION OF BID FORM:** The City of Costa Mesa (City) requires that bids be submitted on the proposal form attached at such time and place as is stated in the Notice Inviting Bids. All blanks in the bid form must be appropriately filled in. All bids shall be submitted in sealed envelopes bearing on the outside the name of the bidder, its address, and the name of the project for which the bid is submitted. It is the sole responsibility of the Bidder to see that his bid is received in proper time. Any bid received after the scheduled closing time for receipt of bids will be returned to the bidder unopened. Each Bidder is responsible for acknowledging addenda.
2. **QUALIFICATION OF BIDDERS:** Each Bidder shall submit a list of Construction Project References indicating Public Works and/or similar construction projects completed or in progress within the last 24 months. Forms for this purpose are furnished with the bid form.
3. **BID SECURITY:** Each bid shall be accompanied by one of the following: cash, cashier's check made payable to the City, a certified check made payable to the City, or a Bidder's Bond executed by an admitted surety insurer, made payable to the City, in an amount not less than 10% of the maximum amount of the bid. The Bidder's Bond shall be signed by both, the Bidder and the Surety; and both signatures shall be notarized. The bid security shall be given as a guarantee that the Bidder, if awarded the work, shall execute the contract in conformity with the Contract Documents and shall provide the surety bond or bonds as specified therein within fourteen (14) calendar days after a written Notice of Intent to Award Contract is deposited in the mail. In the case of refusal or failure to enter into said contract, the check or bond, as the case may be, shall be forfeited to the City.
4. **NONCOLLUSION AFFIDAVIT:** Each bid shall be accompanied by a notarized Noncollusion Affidavit on a form which is included in the Contract Documents.
5. **SIGNATURE:** The bid must be signed in the name of the Bidder and must bear the signature in longhand of the person or persons duly authorized to sign the bid on behalf of the Bidder.
6. **ERASURES:** The bid submitted **must not** contain any erasures, interlineations, or other corrections unless each such correction is suitably authenticated by affixing in the margin immediately opposite the correction, in ink, the initials, and/or surname or surnames of the person or persons signing the bid.
7. **DELIVERY OF PROPOSAL:** Proposals shall be enclosed in a sealed envelope plainly marked on the outside:

**“SEALED BID”  
for  
Fairview Rd. HSIP Improvement Project (Adams Ave. to Baker St.)  
Federal Project No. HSIPL-5312(102), City Project No. 19-10  
in the CITY OF COSTA MESA – DO NOT OPEN WITH REGULAR MAIL**

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 AGENCY's designated official prior to the bid opening hour stipulated in the Notice Inviting Sealed Bids. Late proposals will not be considered.

8. BID DEPOSIT RETURN: Deposits of three or more low bidders, the number being at the discretion of the City, will be held for sixty (60) calendar days or until posting by the successful bidder of the Bonds and Certificates of Insurance required and return of executed copies of the Agreement, whichever first occurs, at which time the deposits will be returned.
9. 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 which may be applicable.
10. WITHDRAWAL OF BIDS: Any bidder may withdraw his bid either personally, by written request, or by telegraphic request confirmed in the manner specified above at any time prior to the scheduled closing time for receipt of bids.
11. AGREEMENT AND BONDS: The Agreement form, which the successful bidder, as Contractor, will be required to execute, and the forms and amounts of surety bonds and Certificate of Insurance which he will be required to furnish prior to the execution of the Agreement, are included in the Contract Documents and should be carefully examined by the Bidder. The successful Bidder will be required to submit **THREE (3)** executed copies of the Agreement, the Performance Bond, the Payment Bond and the Certificate of Insurance. Payment and performance bonds shall be issued by a surety who is listed in the latest revision of U.S. Department of Treasury Circular 570 and Code of Civil Procedure Section 995.120. The Performance Bond and the Payment Bond shall be signed by both, the Bidder and the Surety; and both signatures shall be notarized.
12. FORFEITURE FOR FAILURE TO POST SECURITY AND EXECUTE AGREEMENT: In the event the Bidder to whom the Notice of Intent to Award Contract is given fails or refuses to post the required bonds and Certificate of Insurance and return executed copies of the Agreement within fourteen (14) calendar days after notification, the City may declare the Bidder's bid deposit or bond forfeited as damages caused by the failure of the bidder to post such security and execute such copies of the Agreement, and may give Notice of Intent to Award Contract to the next lowest responsive and responsible bidder, or may call for new bids.
13. BIDDERS INTERESTED IN MORE THAN ONE BID: No person, firm or corporation shall be allowed to make, or file or be interested in more than one bid for the same work unless alternate bids are specifically called for.
14. EXAMINATION OF SITE AND CONTRACT DOCUMENTS: Each bidder shall visit the site of the proposed work and fully acquaint himself with the conditions relating

to the construction and labor so that he may fully understand the facilities, difficulties, and restrictions attending the execution of the work under the contract. Bidders shall thoroughly examine and be familiar with the drawings and specifications. The failure or omission of any bidder to receive or examine any contract document, form, instrument, addendum, or other document or to visit the site and acquaint himself with conditions there existing shall in no way relieve any bidder from any obligation with respect to his bid or to the contract. The submission of a bid shall be taken as prima facie evidence of compliance with this section.

15. INTERPRETATION OF PLANS AND DOCUMENTS: If any Bidder contemplating submitting a bid for the proposed contract is in doubt as to the true meaning of any part of the drawings, specifications, or other Contract Documents, or finds discrepancies in, or omissions from the drawings and specifications, it may submit to the Engineer a written request for an interpretation or correction thereof. The Bidder submitting the Request for Interpretation (RFI) shall be responsible for its prompt delivery and on the form included within this IFB (Page B-6) Any interpretation or correction of the Contract Documents will be made only by addendum duly issued and a copy of such addendum will be mailed or delivered to each person receiving a set of the Contract Documents. No person is authorized to make any oral interpretation of any provision in the Contract Documents to any Bidder, and no Bidder is authorized to rely on any such unauthorized oral interpretation.
16. ADDENDA: The effect of all addenda to the Contract Documents shall be considered in the bid package and said addenda shall be made part of the Contract Documents and shall be returned with the bid package. Failure to submit any such addenda with the bid package may render the bid irregular and result in its rejection by the City.
17. QUESTIONS TO THE ENGINEER: Questions regarding the bid documents (i.e. Plans, Specifications, Contract Documents, Bid Forms, etc.) will be received by the Engineer up to five (5) working days prior to the bid opening as specified in the Notice Inviting Bids. Questions asked of the Engineer after this time will not be addressed.
18. EQUIVALENT MATERIALS: Requests for the use of equivalents to those specified, must be submitted to the City. Only substitutions approved prior to bid due date via addenda Product Substitutions, will be considered. No substitutions will be considered after bid due date and contract award. It is the sole responsibility of the successful bidder to prove to the City that such a material is truly an equivalent.
19. EVIDENCE OF RESPONSIBILITY: Upon the request of the City, a bidder whose bid is under consideration for the award of the contract shall submit promptly to the City satisfactory evidence showing the Bidder's financial resources, its construction experience, and its organization and plant facilities available for the performance of the contract.



20. **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 or 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 other Contract Documents, and to full compliance therewith. Additionally, any Bidder submitting a proposal shall, by such action thereby, agree to pay at least the minimum prevailing per diem wages as provided in Section 1773, et. seq. of the Labor Code for each craft, classification or type of workman required as set forth by the Director of Industrial Relations of the State of California.
21. **ANTI-DISCRIMINATION:** It is the policy of the City that in connection with all work performed under contracts, there be no discrimination against any prospective or active employee engaged in the work because of race, color, ancestry, national origin, religious creed, sex, age, or marital status. The Contractor agrees to comply with applicable Federal and California laws including, but not limited to, the California Fair Employment Practice Act, beginning with Government Code Section 12900, and Labor Code Section 1735. In addition, the Contractor agrees to require like compliance by any subcontractors employed on the work by him/her.
22. **DRUG-FREE WORKPLACE POLICY:** Contractor, upon notification of contract award, shall establish a Drug-Free Awareness Program to inform employees of the dangers of drug abuse in the workplace, the penalties that may be imposed upon employees for drug abuse violations occurring in the workplace, and the employee assistance programs available to employees. Each employee engaged in the performance of a City contract must be notified of this Drug-Free Awareness Program, and must abide by its terms. Contractor shall conform to all the requirements of City's Policy No. 100-5. Failure to establish a program, notify employees, or inform the City of a drug-related workplace conviction will constitute a material breach of contract and cause for immediate termination of the contract by the City.
23. **BID PROTEST PROCEDURES:** Any bid protest must be submitted in writing before 5:00 PM of the 5<sup>th</sup> business day following bid openings. The initial protest document shall contain a complete statement of the basis for the protest. The protest shall refer to the specific portion of the document which forms the basis for the protest. The protest shall include the name, address and telephone number of the person representing the protesting party. The party filing the protest shall concurrently transmit a copy of the initial protest document and any attached documentation to all other parties with a direct financial interest which may be adversely affected by the outcome of the protest. Such parties shall include all other Bidders or proposers who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest. Upon receipt of a bid protest, the matter shall be reviewed by the Public Services Director, whose decision shall be final. This procedure supersedes the procedure of appeal outlined in City of Costa Mesa Municipal Code Section 2-303.

24. ASSEMBLY BILL 626: Assembly Bill 626 (AB 626), adds section 9204 to the Public Contract Code creating a claims resolution process applicable to any claim (as defined) by a contractor against a public entity filed in connection with a public works project. Section 9204 applies to public works contracts entered into on and after January 1, 2017. The legislation was supposed to sunset (end) on January 1, 2020, unless extended by subsequent legislation. The summary of Section 9204 is specified as follows:

In the event of any dispute or controversy with the City over any matter whatsoever, the Contractor shall not cause any delay or cessation in or of Work, but shall proceed with the performance of the Work in dispute. The Contractor shall retain any and all rights provided that pertain to the resolution of disputes and protests between the parties. The Disputed Work will be categorized as an “unresolved dispute” and payment, if any, shall be as later determined by agreement or a court of law. The Contractor shall keep accurate, detailed records of all Disputed Work, claims and other disputed matters.

All claims arising out of or related to the Contract Documents or this Project, and the consideration and payment of such claims, are subject to the Government Claims Act (Government Code Section 810 et seq.) with regard to filing claims. All such claims are also subject to the dispute procedures set forth in Public Contract Code Section 9204 and Public Contract Code Section 20104, et seq. (Article 1.5), to the extent each is applicable. This Contract hereby incorporates those provisions as through fully set forth herein. Thus, the Contractor or any Subcontractor must file a claim in accordance with the Government Claims Act as a prerequisite to filing a construction claim in compliance with Section 9204 and Section 20104 et seq. (if applicable), and must then adhere to Section 20104, et seq. and Section 9204, as applicable, pursuant to the definition of “claim” as individually defined therein.

**REQUEST FOR INTERPRETATION OF CONTRACT DOCUMENTS**

**Date:** \_\_\_\_\_

**Time:** \_\_\_\_\_

**Company:** \_\_\_\_\_

**Contact Person:** \_\_\_\_\_

**Address:**

\_\_\_\_\_

**Telephone:** \_\_\_\_\_

**FAX:** \_\_\_\_\_

**Plan Sheet:** \_\_\_\_\_

**Specification Section:**

**INTERPRETATION REQUESTED:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**REPLY:**

\_\_\_\_\_

\_\_\_\_\_

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**TO A/E:** \_\_\_\_\_

**PROPOSAL  
FOR THE  
FAIRVIEW ROAD HSIPL IMPROVEMENT PROJECT (ADAMS AVE. TO BAKER ST.)  
FEDERAL PROJECT NO. HSIPL-5312(102)  
CITY PROJECT NO. 19-10**

The Honorable City Council  
City of Costa Mesa  
77 Fair Drive  
Costa Mesa, CA 92626

Dear Council Members:

In compliance with the NOTICE INVITING BIDS FOR THE **FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT, FEDERAL PROJECT NO. HSIPL-5312(102), CITY PROJECT NO. 19-10**, a copy which is hereto attached, the undersigned has carefully examined the location of the proposed Work, the Plans, Specifications and other Contract Documents and is therefore satisfied as to the conditions to be encountered, as to the character, quality and quantity of work to be performed and materials to be furnished and as to the requirements of the specifications and the Contract. It is mutually agreed that the submission of a proposal shall be considered prima facie evidence that the BIDDER has made such examination.

If awarded the Contract, the undersigned agrees to commence the Work under the Contract **WITHIN TEN (10) WORKING DAYS AFTER DATE OF CONTRACT, AND COMPLETE SAID WORK WITHIN NINETY (90) WORKING DAYS** from the first day of commencement of such work unless legal extension is granted in accordance with the terms set forth in the specifications, and to perform and complete the Work as shown on the Plans and in accordance with the Specifications and other Contract Documents, and to furnish all labor, materials, tools and equipment necessary to complete the Work in-place therefor, in the manner and time herein prescribed at the following prices, to wit:

PROPOSAL SCHEDULE  
 FAIRVIEW ROAD SAFETY IMPROVEMENT PROJECT  
 FEDERAL PROJECT NO. HSIPL-5312(102)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
PART A -ITEMS PARTICIPATING FOR FEDERAL REIMBURSEMENT					
1	Mobilization	1	L.S.	\$ _____	\$ _____
2	Traffic Control	1	L.S.	\$ _____	\$ _____
3	Clearing and Grubbing	1	L.S.	\$ _____	\$ _____
4	Remove Tree	1	EA.	\$ _____	\$ _____
5	Remove PCC Curb	1,400	L.F.	\$ _____	\$ _____
6	Remove PCC Curb and Gutter	265	L.F.	\$ _____	\$ _____
7	Remove PCC Sidewalk	1,750	S.F.	\$ _____	\$ _____
8	Remove PCC Driveway	395	S.F.	\$ _____	\$ _____
9	Remove PCC Median Hardscape	2,600	S.F.	\$ _____	\$ _____
10	Remove Existing Parkway Drain	2	EA.	\$ _____	\$ _____
11	<i>(Moved to Non-Participating Items)</i>	N/A	N/A	N/A	N/A
12	Unclassified Excavation	620	C.Y.	\$ _____	\$ _____
13	Cold Mill Existing Pavement 0.20' in Depth	25,400	S.F.	\$ _____	\$ _____
14	Construct Asphalt Rubber Hot Mix	500	TON	\$ _____	\$ _____
15	Construct Hot Mix Asphalt	580	TON	\$ _____	\$ _____

PROPOSAL SCHEDULE  
 FAIRVIEW ROAD SAFETY IMPROVEMENT PROJECT  
 FEDERAL PROJECT NO. HSIPL-5312 (102)

16	Construct 6-Inch PCC Curb over 6-Inch Crushed Miscellaneous Base	25	L.F.	\$ _____	\$ _____
17	Construct 8-Inch PCC Curb over 6-Inch Crushed Miscellaneous Base	1,450	L.F.	\$ _____	\$ _____
18	Construct Transition PCC Curb (6-Inch to Existing) over 6-Inch Crushed Miscellaneous Base	20	L.F.	\$ _____	\$ _____
19	Construct 8-Inch PCC Curb and Gutter over 6-Inch Crushed Miscellaneous Base	255	L.F.	\$ _____	\$ _____
20	Construct Transition PCC Curb and Gutter (8-Inch to Existing) over 6-Inch Crushed Miscellaneous Base	15	L.F.	\$ _____	\$ _____
21	Construct Solid PCC Median Nose	7	EA.	\$ _____	\$ _____
22	Construct Variable Height Retaining Curb (6-Inch Wide)	40	L.F.	\$ _____	\$ _____
23	Construct 4-Inch PCC Over 4-Inch CMB Sidewalk	2,460	S.F.	\$ _____	\$ _____
24	Construct Decorative Median Pavement	840	S.F.	\$ _____	\$ _____
25	Construct 6-Inch PCC Over 6" CMB Commercial Driveway	870	S.F.	\$ _____	\$ _____
26	Construct 4-Inch PCC Curb Ramp and Median Passageway with Retaining Curbs and Detectable Warning Surface (Construction Notes 11 and 13)	530	S.F.	\$ _____	\$ _____
27	Construct Parkway Drain No. 1	1	EA.	\$ _____	\$ _____
28	Construct Parkway Drain No. 2 and Connect to Catch Basin	1	EA.	\$ _____	\$ _____

PROPOSAL SCHEDULE  
 FAIRVIEW ROAD SAFETY IMPROVEMENT PROJECT  
 FEDERAL PROJECT NO. HSIPL-5312 (102)

29	Construct Local Depression	1	EA.	\$ _____	\$ _____
30	<i>(Moved to Non-Participating Items)</i>	N/A	N/A	N/A	N/A
31	Root Prune Existing Tree and Install Root Barrier	2	EA.	\$ _____	\$ _____
32	Landscaping and Irrigation Improvements	1	L.S.	\$ _____	\$ _____
33	Signing and Striping (Including Traffic Rated Pull Box, and Advanced Loops for Fairview Road/Adams Avenue and Fairview Road/Baker Street)	1	L.S.	\$ _____	\$ _____
34	Traffic Signal Installation	1	L.S.	\$ _____	\$ _____
PART A SUBTOTAL:				\$ _____	
PART B - ITEMS NON-PARTICIPATING FOR FEDERAL REIMBURSEMENT					
11	Remove Catch Basin and Interfering Portions of RCP	1	L.S.	\$ _____	\$ _____
30	Construct Catch Basin (W=7') with Trash Enclosure	1	L.F.	\$ _____	\$ _____
35	Remove PCC Curb	15	L.F.	\$ _____	\$ _____
36	Remove PCC Curb and Gutter	265	L.F.	\$ _____	\$ _____
37	Remove PCC Sidewalk	2,140	S.F.	\$ _____	\$ _____
38	Remove PCC Driveway	145	S.F.	\$ _____	\$ _____
39	Unclassified Excavation	25	C.Y.	\$ _____	\$ _____

PROPOSAL SCHEDULE  
 FAIRVIEW ROAD SAFETY IMPROVEMENT PROJECT  
 FEDERAL PROJECT NO. HSIPL-5312 (102)

40	Cold Mill Existing Pavement 0.20' in Depth	160,000	S.F.	\$ _____	\$ _____
41	Construct Asphalt Rubber Hot Mix	2,000	TON	\$ _____	\$ _____
42	Construct Hot Mix Asphalt	45	TON	\$ _____	\$ _____
43	Construct 8-Inch PCC Curb and Gutter over 6-Inch Crushed Miscellaneous Base	265	L.F.	\$ _____	\$ _____
44	Construct Variable Height Retaining Curb (1-Foot Wide)	15	L.F.	\$ _____	\$ _____
45	Construct 4-Inch PCC Over 4-Inch CMB Sidewalk	2,110	S.F.	\$ _____	\$ _____
46	Construct 6-Inch PCC Over 6" CMB Residential Driveway	175	S.F.	\$ _____	\$ _____
47	Install Surface Mounted Detectable Warning Surface	15	EA.	\$ _____	\$ _____
48	Adjust Existing Water Valve to Grade	2	EA.	\$ _____	\$ _____
49	Adjust Existing Water Meter to Grade	1	EA.	\$ _____	\$ _____
50	Remove and Salvage Existing Fire Hydrant, and Install New Fire Hydrant	1	EA.	\$ _____	\$ _____
51	Root Prune Existing Tree and Install Root Barrier	8	EA.	\$ _____	\$ _____
52	Construct Class A Topsoil	115	C.Y.	\$ _____	\$ _____
53	Adjust Manhole to Grade (per City of Costa Mesa Plan Sheets)	19	E.A.	\$ _____	\$ _____
54	Adjust Valve to Grade (per City of Costa Mesa Plan Sheets)	14	E.A.	\$ _____	\$ _____



PROPOSAL SCHEDULE  
 FAIRVIEW ROAD SAFETY IMPROVEMENT PROJECT  
 FEDERAL PROJECT NO. HSIPL-5312 (102)

55	Reset Survey Monument	3	E.A.	\$ _____	\$ _____
PART B SUBTOTAL:				\$ _____	
BASE BID TOTAL:				\$ _____	

**TOTAL BASE BID AMOUNT (IN FIGURES) \$** \_\_\_\_\_

**TOTAL BASE BID AMOUNT (IN WORDS)** \_\_\_\_\_

The award of the Contract shall be based on the lowest responsive Base Bid amount. The CITY also reserves the right to reject all Bids.

\_\_\_\_\_  
 Bidder's Initial

**PROPOSAL SCHEDULE  
(CONTINUED)**

NOTES:

1. The accuracy of estimate quantities as shown is not guaranteed; the Bidder shall make his/her own estimate from the drawings and field review for verification. If the unit price and the total amount are different, the unit price will control the bid. Payment shall be based on actual work done and/or actual quantities used.
2. The City reserves the right to delete one or more bid items and/or to increase or decrease bid items' quantities, at no additional cost to the City.
3. FA designates force account. Payment shall be made on a time and materials basis, only if directed by the Engineer.
4. (F) Designates Final Pay Item. When an item of work is designated as "FINAL PAY ITEM" in the Specifications, the estimated quantity for that item of work shall be the final pay quantity, unless the dimensions of any portion of that item are revised by the Engineer, or the item or any portion of the item is eliminated. If the dimensions of any portion of the item are revised, and the revisions result in an increase or decrease in the estimated quantity of that item of work, the final pay quantity for the item will be revised in the amount represented by the changes in the dimensions. If a final pay item is eliminated, the estimated quantity for the item will be eliminated. If a portion of a final pay item is eliminated, the final pay quantity will be revised in the amount represented by the eliminated portion of the item of work.

The estimated quantity for each item of work designated as "FINAL PAY ITEM" in the Specifications, shall be considered as approximate only, and no guarantee is made that the quantity which can be determined by computations, based on the details and dimensions shown on the plans, will equal the estimated quantity. No allowance will be made in the event that the quantity based on computations does not equal the estimated quantity.

In case of discrepancy between the quantity shown in the Engineer's Estimate for a final pay item and the quantity or summation of quantities for the same item shown on the plans, payment will be based on the quantity shown in the Engineer's Estimate.

5. Bidder declares that it has read and understands Items 14 & 15 of Information for Bidders (Page B-2 and B-3).

\_\_\_\_\_  
Bidder's Initial

**PROPOSAL SCHEDULE  
(CONTINUED)**

(Please Type or Print)

Total Amount for Base Bid (in written words) \_\_\_\_\_  
\_\_\_\_\_ (\$ \_\_\_\_\_ )  
\_\_\_\_\_ in figures

Contractor's Lawful Name: \_\_\_\_\_

Bidder's Name: \_\_\_\_\_ Bidder's Initials: \_\_\_\_\_

Contractor's License No. \_\_\_\_\_ Expiration: \_\_\_\_\_

Contractor's Taxpayer I.D. Number: \_\_\_\_\_

Contractor's DIR Registration Number: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Contractor's Address: \_\_\_\_\_  
\_\_\_\_\_

Telephone Number:( \_\_\_\_\_ ) Mobile No.:( \_\_\_\_\_ )

Fax Number: ( \_\_\_\_\_ ) E-mail: \_\_\_\_\_

24-Hour Emergency Contacts:

_____	Telephone Number: ( _____ )
Name	Mobile No.: ( _____ )
_____	Telephone No.: ( _____ )
Name	Mobile No.: ( _____ )
_____	Telephone No.: ( _____ )
Name	Mobile No.: ( _____ )

\_\_\_\_\_  
Bidder's Initials

**PROPOSAL SCHEDULE  
(CONTINUED)**

The Contractor agrees that the City will not be held responsible if any of the approximate quantities shown in the foregoing proposal shall be found incorrect, and he shall not make any claim for damages or for loss of profits because of a difference between the quantities of the various classes of work as estimated and the work actually done. If any error, omission or misstatements shall be discovered in the estimated quantities, it shall not invalidate this contract or release the Contractor from the execution and completion of the whole or part of the work herein specified, in accordance with the specifications and the plans herein mentioned and the prices herein agreed upon and fixed therefore, or excuse him from any of the obligations or liabilities hereunder, or entitle him to any damages or compensation otherwise than as provided for in this contract.

The Contractor agrees that the City shall have the right to increase or decrease the quantity of any bid item or portion of the work or to omit portions of the work as may be deemed necessary or expedient, and that the payment for incidental items or work, not separately provided in the proposal shall be considered included in the price bid for other various items or work.

Accompanying this proposal is "Cash," "Certified Check," or "Bidder's Bond" (circle one) in the amount of \_\_\_\_\_ (\$\_\_\_\_\_) equal to at least ten (10%) percent of the total bid price, payable to the City of Costa Mesa, to guarantee that within fourteen (14) days after written notice is deposited in the mail, or the bidder has received notice by telephone, the bidder will furnish proper Certificates of Insurance, and required bonds satisfactory to the City and execute a contract in accordance with the proposal and in the manner and form required by the contract documents.

The undersigned deposits the above-named security as a proposal guarantee and agrees that it shall be forfeited to the City of Costa Mesa as Liquidated Damages if the above requirements are not complied with.

\_\_\_\_\_  
Bidder's Initials

Project and Specifications  
 Federal Project No. HSIPL-5312(102)  
 City Project No. 19-10  
 Respectfully Submitted,

Contractor's Business Name		
Business Address: Street		
City	State	Zip
Business Phone Number		
Name		Title
City	State	Zip

Contractor	Title
Signed By	Title
Contractor's License No. and Classification	Exp. Date
Date	
Residence: Street	
Residence phone Number	

If the bid is by a corporation, state the names of the officers who can sign an agreement on behalf of the corporation and whether more than one officer must sign.

Corporation

Taxpayer I.D. Number: \_\_\_\_\_

Name \_\_\_\_\_  
 Name \_\_\_\_\_  
 Name \_\_\_\_\_

Can Sign

Must Sign

If the bid is by a partnership or a joint venture, state the names and addresses of all general partners and joint ventures.

Partnership or Joint Ventures

Taxpayer I.D. Number: \_\_\_\_\_

Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 Name \_\_\_\_\_  
 Address \_\_\_\_\_

If the bidder is a sole proprietorship or another entity that does business under a fictitious name, the bid shall be in the real name of the bidder with a designation following showing "DBA (the fictitious name)"; provided, however, no fictitious name shall be used unless there is a current registration with the Orange County Recorder.

The full names and residences of all persons and parties interested in the foregoing proposal, as principals, are as follows:

NOTE: Give first and last names in full; in case of corporation, give names of President, Secretary, Treasurer and Manager, and affix corporate seal; in case of partnerships and joint ventures, give names of all the individual members.


\_\_\_\_\_  
 Bidder's Initials



**DESIGNATION OF SUBCONTRACTORS**

In compliance with the "Subletting and Subcontracting Fair Practices Act" being Sections 4100-4113 of the Public Contract Code of the State of California, and any amendments thereto, each bidder shall set forth below the name and location of the place of business of each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvement in an amount in excess of one-half (1/2) of one percent (1%) of the prime contractor's total bid or in the case of bids for the construction of streets or highways, including bridges, in excess of one-half (1/2) of one percent (1%) of the prime contractor's total bid or ten thousand (\$10,000) dollars, whichever is greater. Bidder shall further set forth the portion of the work, which will be done by each such subcontractor with its Department of Industrial Relations (DIR) registration number. Only one subcontractor for each such portion shall be listed.

If the contractor fails to specify a subcontractor for any portion of the work to be performed under the contract, he/she/it shall be deemed to have agreed to perform the balance of all work, which is not covered, and he/she/it shall not be permitted to subcontract that portion of the work except under the conditions hereinafter set forth.

Subletting or subcontracting of any portion of the work to which no subcontractor was designated in the original bid, shall only be permitted in cases of public emergency or necessity, and then only after a finding reduced to writing as a public record of the Legislative Body of the Owner.

*All information must be filled out and typed. Please use additional pages in this format if needed.*

<i><b>Bid Item (s) Number</b></i>	<i><b>% Portion of Work</b></i>	<i><b>Name, Address and E-mail of Subcontractor</b></i>	<i><b>State License Number</b></i>	<i><b>Class</b></i>	<i><b>DIR Registration Number</b></i>

By submission of this proposal, the Bidder certifies:

1. That (I)(we)(it) is able to and will perform the balance of all work which is not covered in the above subcontractors listing.
2. That the AGENCY will be furnished copies of all subcontracts entered into by subcontractor for this project.

\_\_\_\_\_  
 Bidder's Initials

### CITY OF COSTA MESA BIDDERS LIST

All bidders/proposers are required to provide the following information for all DBE and non-DBE subcontractors and suppliers, who provided a proposal, bid, quote, or were contacted by the proposed prime. This information is also required from the proposed prime contractor, and must be submitted with their bid/proposal. City of Costa Mesa will use this information to maintain and update a "Bidders List" to assist in evaluating the level of DBE participation on all Public Works projects. To the extent permitted by law, all information submitted will be held in confidence.

If Bidders List information is not submitted with the bid, it shall be submitted to the City of Costa Mesa, Construction Management Division, 77 Fair Drive, Costa Mesa, CA 92626, no later than 4:00 p.m. on the fourth day, not including Saturdays, Sundays and legal holidays, following the bid opening. Bidders List information sent by U.S. Postal Service certified mail with return receipt and certificate of mailing and mailed on or before the third day, not including Saturdays, Sundays and legal holidays, following bid opening will be accepted even if it is received after the fourth day following bid opening. Failure to submit the required Bidders List information by the time specified will be grounds for finding the bid or proposal non-responsive.

Firm Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Address: \_\_\_\_\_ Fax: \_\_\_\_\_

\_\_\_\_\_

Contact Person: \_\_\_\_\_ No. of years in business: \_\_\_\_\_

Is the firm currently certified as a DBE under 49 CFR Part 26?  YES  NO

Type of work/services/materials provided by firm? \_\_\_\_\_

What was your firm's Gross Annual receipts for last year?

- Less than \$1 Million
- Less than \$5 Million
- Less than \$10 Million
- Less than \$15 Million
- More than \$15 Million

This form can be duplicated if necessary to report all bidders (DBE subcontractors, non-DBE subcontractors and/or suppliers' information).

\_\_\_\_\_  
Bidder's Initials



**BIDDER'S BOND TO ACCOMPANY PROPOSAL**

(Required if the bidder desires to submit bond instead of a certified or cashier's check.)

KNOW ALL PEOPLE BY THESE PRESENTS:

That we, \_\_\_\_\_ as principals, and \_\_\_\_\_ as surety, are held and firmly bound unto the City of Costa Mesa, a municipal corporation, organized under the laws of the State of California and situated in Orange County in the sum of \_\_\_\_\_ (\$ \_\_\_\_\_) to be paid to the City, 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 is the certain proposal of the above bounden, \_\_\_\_\_, if accepted by the City of Costa Mesa, and if the above bounden, \_\_\_\_\_, his heirs, executors, administrators, successors and assigns, shall duly enter into and execute a contract for such construction, and shall execute and deliver the CERTIFICATE OF INSURANCE and the LABOR AND MATERIAL and the FAITHFUL PERFORMANCE BONDS described within fourteen (14) days from the date of the mailing of a notice of the above bounden, \_\_\_\_\_, by and from the City, that said contract is ready for execution, then this obligation shall become null and void; otherwise it shall be and remain in full force and virtue.

IN WITNESS WHEREOF:

We hereunto set our hands and seals this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Contractor/ Principal  
(Notary Acknowledgement to be attached)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Surety/Power of Attorney  
(Notary Acknowledgment to be attached)

\_\_\_\_\_  
Bidder's Initials

## **CONTRACT ASSURANCE**

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 recipient deems appropriate.

The CONTRACTOR will require that the above provision is included in all subcontracts.

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Bidder's Initials

**NONCOLLUSION AFFIDAVIT**

The bidders, by its officers and agents or representatives present at the time of filing this bid, being duly sworn on their oaths say, that neither they nor any of them have in any way directly or indirectly entered into any arrangement or agreement with any other bidder, or with any public officer of such CITY OF COSTA MESA whereby such affiant or affiants or either of them has paid or is to pay to such bidder or public officer any sum of money, or has given or is to give to such other bidder or public officer anything of value whatever, or such affiant or affiants or either of them has not directly or indirectly, entered into any arrangement or agreement with any other bidder or bidders, which tends to or does lessen or destroy free competition in the letting of the contract sought for on the attached bids; that no bid has been accepted from any subcontractor or supplier through any bid depository, the By-Laws, Rules, or Regulations of which prohibit or prevent the Contractor from considering any bid from any subcontractor or supplier which is not processed through said bid depository, or which prevent any subcontractor or supplier from bidding to any Contractor who does not use the facilities or accept bids from or through such bid depository; that bidder has not bid as subcontractor to other bidders; that no inducement of any form or character other than that which appears upon the face of the bid will be suggested, offered, paid or delivered to any person of the contract, nor has this bidder any agreement or understanding of any kind whatsoever, with any person whomsoever to pay, deliver to, or share with any other person in any way or manner, any of the proceeds of the contracts sought by this bid.

\_\_\_\_\_  
Contractor Firm Name  
\_\_\_\_\_  
Name of Principal  
\_\_\_\_\_  
Title  
\_\_\_\_\_  
Signature

Subscribed and sworn to before me by:

\_\_\_\_\_  
This \_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.

My Commission Expires: \_\_\_\_\_

\_\_\_\_\_  
Notary Public

\_\_\_\_\_  
Bidder's Initials

**CONTRACTOR'S CERTIFICATION  
OF  
WORKERS' COMPENSATION INSURANCE REQUIREMENTS  
FOR  
PUBLIC WORKS PROJECTS  
(Labor Code §1861)**

I am aware of the provisions of Section 3700 of the California 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 the work of this contract.

Dated: \_\_\_\_\_

CONTRACTOR

\_\_\_\_\_  
\_\_\_\_\_  
Company Name

PROJECT: FAIRVIEW ROAD HSIPL IMPROVEMENT PROJECT (ADAMS AVE. TO  
BAKER ST.), FEDERAL PROJECT NO. HSIPL-5312(102), CITY  
PROJECT NO. 19-10

\_\_\_\_\_  
Bidder's Initials

## **DRUG-FREE WORKPLACE POLICY**

CONTRACTOR, upon notification of contract award, shall establish a Drug-Free Awareness Program to inform employees of the dangers of drug abuse in the workplace, the penalties that may be imposed upon employees for drug abuse violations occurring in the workplace, and the employee assistance programs available to employees. Each employee engaged in the performance of a CITY contract must be notified of this Drug-Free Awareness Program, and must abide by its terms. Failure to establish a program, notify employees, or inform CITY of a drug-related workplace conviction will constitute a material breach of contract and cause for immediate termination of the contract by CITY.

CONTRACTOR shall conform to all the requirements of CITY'S Policy No. 100-5. A copy of this policy is attached to the sample contract agreement as an attachment in the Project Specifications.

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Bidder's Initials



**SECTION 14. FEDERAL REQUIREMENTS FOR FEDERAL-AID CONSTRUCTION PROJECTS**

Refer to “FR” pages within the Special Provisions Section and the following seven (7) pages.

## **FEDERAL REQUIREMENTS (BID PROPOSAL)**

### ***Federal Lobbying Restrictions:***

Section 1352, Title 31, United States Code prohibits Federal funds from being expended by the recipient or any lower tier subrecipient of a Federal-aid contract to pay for any person for influencing or attempting to influence a federal agency or Congress in connection with the awarding of any federal-aid contract, the making of any federal grant or loan, or the entering into of any cooperative agreement.

If any funds other than federal funds have been paid for the same purposes in connection with this federal-aid contract, the recipient shall submit an executed certification and, if required, submit a completed disclosure form as part of the bid documents.

A certification for federal-aid contracts regarding payment of funds to lobby Congress or a federal agency is included in the Proposal. Standard Form - LLL, "Disclosure of Lobbying Activities," with instructions for completion of the Standard Form is also included in the Proposal. Signing the Proposal shall constitute signature of the Certification.

The above referenced certification and disclosure of lobbying activities shall be included in each subcontract and any lower-tier contracts exceeding \$100,000. All disclosure forms, but not certifications, shall be forwarded from tier to tier until received by the Engineer.

The Contractor, subcontractors and any lower-tier contractors shall file a disclosure form at the end of each calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed by the Contractor, subcontractors and any lower-tier contractors. An event that materially affects the accuracy of the information reported includes:

- (1) A cumulative increase of \$25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered federal action; or
  - (2) A change in the person(s) or individual(s) influencing or attempting to influence a covered federal action;
- or
- (3) A change in the officer(s), employee(s), or Member(s) contacted to influence or attempt to influence a covered Federal Action.



## **Design Engineer May Not Bid On Construction Contract**

No engineering or architectural firm which has provided design services for a project shall be eligible to bid on the contract to construct the project. The firms ineligible to bid include the prime contractor for design, subcontractors of portions of the design, and affiliates of either. An affiliate is a firm which is subject to the control of the same persons, through joint ownership or otherwise.

## **DEBARMENT AND SUSPENSION CERTIFICATION**

### TITLE 49, CODE OF FEDERAL REGULATIONS, PART 29

The bidder, under penalty of perjury, certifies that, except as noted below, he/she or any other person associated therewith in the capacity of owner, partner, director, officer, and 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 3 years;
- Does not have a proposed debarment pending; and
- Has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exceptions in the following space.

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of action.

Notes: Providing false information may result in criminal prosecution or administrative sanctions.

The above certification is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Certification.

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## **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 accordance 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

**1. Type of Federal Action:**

- a. contract  
b. grant  
c. cooperative agreement  
d. loan  
e. loan guarantee  
f. loan insurance

**2. Status of Federal Action:**

- a. bid/offer/application  
b. initial award  
c. post-award

**3. Report Type:**

- a. initial  
b. material change

**For Material Change Only:**

year \_\_\_\_ quarter \_\_\_\_  
date of last report \_\_\_\_

**4. Name and Address of Reporting Entity**

- Prime  Subawardee  
Tier \_\_\_\_\_, if known

**5. If Reporting Entity in No. 4 is Subawardee, Enter Name and Address of Prime:**

Congressional District, if known

Congressional District, if known

**6. Federal Department/Agency:**

**7. Federal Program Name/Description:**

CFDA Number, if applicable \_\_\_\_\_

**8. Federal Action Number, if known:**

**9. Award Amount, if known:**

**10. a. Name and Address of Lobby Entity**  
(If individual, last name, first name, MI)

**b. Individuals Performing Services** (including address if different from No. 10a)  
(last name, first name, MI)

(attach Continuation Sheet(s) if necessary)

**11. Amount of Payment (check all that apply)**

\$ \_\_\_\_\_  actual  planned

**13. Type of Payment (check all that apply)**

- a. retainer  
 b. one-time fee  
 c. commission  
 d. contingent fee  
 e. deferred  
 f. other, specify \_\_\_\_\_

**12. Form of Payment (check all that apply):**

- a. cash  
 b. in-kind; specify: nature \_\_\_\_\_  
value \_\_\_\_\_

**14. Brief Description of Services Performed or to be performed and Date(s) of Service, including officer(s), employee(s), or member(s) contacted, for Payment Indicated in Item 11:**

(attach Continuation Sheet(s) if necessary)

**15. Continuation Sheet(s) attached: Yes  No**

**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.

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(es). 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(es). 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»

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: \_\_\_\_\_



\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signature and Title of Bidder

Business Address \_\_\_\_\_

Place of Business \_\_\_\_\_

Place of Residence \_\_\_\_\_

## **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 check mark 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.

**AFFIRMATIVE ACTION QUESTIONNAIRE  
ORDINANCE NUMBER 1451**

Paragraph B.1, Section 1.

1. All contractors and subcontractors shall submit for approval to the Affirmative Action Officer of the City and Federal Government, when necessary, prior to the award of a contract, a written Affirmative Action Program in which the contractor or subcontractor, as the case may be, agrees to meet the following minimum requirements:
  - a. The contractor or subcontractor shall recruit and hire a work force that reflects the ethnic composition of the resident population of the City. The most current census data shall be used as a guide in determining such required composition. In order to further the purpose of the project, the work force shall be recruited from the following areas in the order of their priority:
    1. The resident population of the official target areas of the City, as may be designated by the Affirmative Action Department or the Council;
    2. The resident population of the City as a whole; and
    3. No contractor or subcontractor shall be found to be in noncompliance solely on account of its goals within its timetable, but such contractors shall be given the opportunity to demonstrate that it has instituted all of the specific affirmative action steps specified in Paragraph B, Subsection I, and has made every good faith effort to make these steps work toward the attainment of its goals within its timetables, all to the purpose of expanding minority and residential manpower utilization on all of its projects in the Costa Mesa community;
    4. The resident population of the unincorporated areas of the County contiguous to the City.
  - b. The contractor and all subcontractors shall be required to establish a plan for the hiring of minority workers. Such a plan shall include referral procedures for hiring programs, or any other comparable programs. The contractor or subcontractor pursuant to any such plan shall utilize any applicable Federal or locally subsidized program for the training and hiring of minority workers.
2. Upon acceptance of the respective Affirmative Action Programs by the Affirmative Action Officer of the City, such programs shall become a part of the contractor's and subcontractor's contracts as if fully set forth in its terms and conditions.

3. Compliance with the Affirmative Action Program Requirements shall be measured from the initial day of performance under the contract.

Title of Officer Signing \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

**IMPORTANT:** This report must be completed by the prime contractor and each subcontractor. Complete all items unless otherwise instructed. If additional space is needed, use separate 8-1/2 x 11 blank sheets. **SUBMIT ORIGINAL OF THIS QUESTIONNAIRE TO: City Manager, City Manager's Office, P.O. Box 1200, Costa Mesa, California 92626.**

Part I \_\_\_\_\_ Prime Contractor \_\_\_\_\_  
Subcontractor

1. Name and address of reporting unit covered by this questionnaire.  
\_\_\_\_\_
2. Name and address of principal official or manager.  
\_\_\_\_\_
3. Name and address of principal officer of the company.  
\_\_\_\_\_
4. Name and address of parent company if an affiliated corporation.  
\_\_\_\_\_
5. Name and address of subcontractor(s). (Complete only if this is a subcontractor's report.)  
\_\_\_\_\_
6. Name and address of prime contractor. (Complete only if this is a subcontractor's report.)  
\_\_\_\_\_
7. \_\_\_\_\_  
Signature and Title of Authorized Representative
8. \_\_\_\_\_  
Date

Part II

1. Attach a statement of your company's policy on equal employment opportunity to all persons without regard to race, creed, color, national origin, or ancestry and describe what specific steps have been taken to put this policy into effect.
2. Have you informed company officials and representatives regarding the nondiscrimination provisions of City of Costa Mesa contracts? \_\_\_\_\_

3. Have you examined your company's practices regarding assignments, layoffs, or transfers of your employees from one job to another for evidence of practice or employment pattern that might appear to be discriminatory and based upon race, religion, or national origin? Are they nondiscriminatory? \_\_\_\_\_
4. Do you have educational or training programs sponsored or financed for the benefit of employees or prospective employees? Yes - Safety Programs
  - a) How many people participate in these programs? \_\_\_\_\_
  - b) How many are minorities? \_\_\_\_\_
  - c) Does your help wanted advertising state that you are an equal opportunity employer, male or female? \_\_\_\_\_

5. Are any apprentices obtained from sources outside the employer's work force? \_\_\_\_\_ If yes, have you circulated information about apprenticeship openings or opportunities to the following?

State Employment Office \_\_\_\_\_

Newspapers or other media \_\_\_\_\_

High schools, including those in minority group areas \_\_\_\_\_

Local trade or vocational schools, including those with minority group students  
\_\_\_\_\_

Agencies and/or organizations specializing in minority employment \_\_\_\_\_

Federal or State apprenticeship representatives \_\_\_\_\_

Name \_\_\_\_\_

Other - Name \_\_\_\_\_

6. If you are a prime contractor, have all subcontractors covered by these compliance inspection reports been instructed as to their contractual obligations relating to the nondiscrimination provisions of the City of Costa Mesa contracts? \_\_\_\_\_
7. Have all recruitment sources been advised that all qualified applicants will receive consideration for employment without regard to race, color, creed or national origin? \_\_\_\_\_
8. Identify (names and addresses) the employment agencies, personal recruitment organizations, newspaper advertising or other nonunion sources from which the company recruits its personnel.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Part III

1. Have you a collective bargaining agreement with a labor union or other organization?  
\_\_\_\_\_

2. If yes, specify the union(s) or organization(s).  
\_\_\_\_\_

3. Have you advised the labor union and/or worker organization of the company's responsibility under the nondiscrimination provisions of City contracts? \_\_\_\_\_

4. Approximately what percentage of your employees covered by union agreements are referred by or hired through the unions?  
\_\_\_\_\_

5. Does the company's collective bargaining agreement or other contract or understanding with a labor union (or unions) or other worker organization include a nondiscrimination in employment provision? \_\_\_\_\_

6. Is there any labor union or worker organization policy which prevents you from fulfilling your obligations under the nondiscrimination provisions of City contracts? \_\_\_\_\_

If so, specify \_\_\_\_\_  
\_\_\_\_\_

7. Specify the trade(s) or craft(s) involved in this contract.  
\_\_\_\_\_  
\_\_\_\_\_

**CERTIFICATION WITH REGARD TO THE PERFORMANCE  
OF PREVIOUS CONTRACTS OR SUBCONTRACTS  
SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE  
AND THE FILING OF REQUIRED REPORTS**

The bidder \_\_\_\_\_,  
proposed subcontractor \_\_\_\_\_,  
hereby certifies that he has \_\_\_\_\_, 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.

**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 only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of \$10,000 or under are exempt.)

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.





# FEDERAL REQUIREMENTS FOR DISADVANTAGED BUSINESS ENTERPRISES

## GENERAL

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.

Take necessary and reasonable steps to ensure that DBEs have opportunity to participate in the contract (49 CFR 26).

To ensure equal participation of DBEs provided in 49 CFR 26.5, the Agency shows a 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](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:

1. 100 percent counts if the materials or supplies are obtained from a DBE manufacturer.
2. 60 percent counts 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 count if obtained from a DBE that is neither a manufacturer or regular dealer. 49 CFR 26.55 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 49 CFR 26.55(d)(1) through (4) and (6).

### **DBE Commitment Submittal**

Submit Local Agency Bidder DBE Commitment (Construction Contracts), Exhibit 15-G, form, 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, the apparent low bidder, the 2nd low bidder, and the 3rd low bidder must complete and submit the DBE Commitment form to the Agency. DBE Commitment form must be received by the Agency no later than 4:00 p.m. on the 4th business day after bid opening.

Other bidders do not need to submit the DBE Commitment form unless the Agency requests it. If the Agency requests you to submit a DBE Commitment form, submit the completed form within 4 business days of the request.

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 finds your bid nonresponsive.

### **Good Faith Efforts Submittal**

If you have not met the DBE goal, complete and submit the DBE Information - Good Faith Efforts, exhibit 15-H, form with the bid showing that you made adequate good faith efforts to meet the goal. Only good faith efforts directed towards obtaining participation by DBEs will be considered. If good faith efforts documentation is not submitted with the bid, it must be received by the Agency no later than 4:00 p.m. on the 4th business day after bid opening.

If your DBE Commitment form shows that you have met the DBE goal or if you are required to submit the DBE Commitment form, you must also submit good faith efforts documentation within the specified time to protect 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 its own forces and those items that have been broken down into economically feasible units to facilitate DBE participation. For each item listed, show the dollar 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 of the 2nd and 3rd bidders when determining whether the low bidder made good faith efforts to meet the DBE goal.

#### **SUBCONTRACTOR AND DISADVANTAGED BUSINESS ENTERPRISE RECORDS**

Use each DBE subcontractor as listed on the List of Subcontractors form and the Local Agency Bidder DBE Commitment (Construction Contracts), Exhibit 15-G, forms unless you receive authorization for a substitution.

The Agency requests the Contractor to:

1. Notify the Engineer of any changes to its anticipated DBE participation
2. Provide this notification before starting the affected work

Maintain records including:

1. Name and business address of each 1st-tier subcontractor
2. Name and business address of each DBE subcontractor, DBE vendor, and DBE trucking company, regardless of tier
3. Date of payment and total amount paid to each business

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 a Final Report – Utilization of Disadvantaged Business Enterprises (DBE), First-Tier Subcontractors, Exhibit 17-F, form. Submit it within 90 days of contract acceptance. The Agency withholds \$10,000 until the form is submitted. The Agency releases the withhold upon submission of the completed form.

## PERFORMANCE OF DISADVANTAGED BUSINESS ENTERPRISES

DBEs must perform work or supply materials as listed in the Local Agency Bidder DBE Commitment (Construction Contracts), Exhibit 15-G, 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 it 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. 1 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, 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 the DBE goal.

The substitute DBE must be certified as a DBE at the time of request for substitution.

Unless the Agency 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, the Agency does not pay for work listed on the Local Agency Bidder DBE Commitment (Construction Contracts), Exhibit 15-G, form unless it is performed or supplied by the listed DBE or an authorized substitute.

**EXHIBIT 15-G CONSTRUCTION CONTRACT DBE COMMITMENT**

1. Local Agency: CITY OF COSTA MESA 2. Contract DBE Goal: 12%  
 3. Project Description: FAIRVIEW RD. HSIP IMPROVEMENT PROJ., FED. PROJ. NO. HSIPL-5312(102)  
 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
<b>Local Agency to Complete this Section upon Execution of Award</b> 21. Local Agency Contract Number: _____ 22. Federal-Aid Project Number: _____ 23. Bid Opening Date: _____ 24. Contract Award Date: _____ 25. Award Amount: _____			<b>15. TOTAL CLAIMED DBE PARTICIPATION</b> \$ 0.00 0 %	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.
Local Agency certifies that all DBE certifications are valid and information on this form is complete and accurate.			16. Preparer's Signature _____ 17. Date _____ 18. Preparer's Name _____ 19. Phone _____ 20. Preparer's Title _____	26. Local Agency Representative's Signature _____ 27. Date _____ 28. Local Agency Representative's Name _____ 29. Phone _____ 30. Local Agency Representative'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.

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**30. Local Agency Representative Title** - Enter the position/title of the Local Agency Representative certifying the contractor's DBE commitment form.

**EXHIBIT 15-H: PROPOSER/CONTRACTOR GOOD FAITH EFFORTS**

Cost Proposal Due Date \_\_\_\_\_ PE/CE  
Federal-aid Project No(s). \_\_\_\_\_ Bid Opening Date \_\_\_\_\_ CON

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) calendar days from cost proposal due date or 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



- 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 meet or exceed the DBE contract goal.

Items of Work	Proposer or Bidder Normally Performs Item (Y/N)	Breakdown of Items	Amount (\$)	Percentage Of Contract
	Pick			0.00%
	Pick			0.00%
	Pick			0.00%
	Pick			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 – FINAL REPORT-UTILIZATION OF DISADVANTAGED BUSINESS ENTERPRISES (DBE) AND FIRST-TIER SUBCONTRACTORS**

- 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. Description of Work, Services, or Materials Supplied** - Enter description of work, services, or materials provided. Indicate all work to be performed by DBEs including work performed by the prime contractor/consultant'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.
- 10. Company Name and Business Address** - Enter the name, address, and phone number of all subcontracted contractors/consultants. Also, enter the prime contractor/consultant's name and phone number, if the prime is a DBE.
- 11. DBE Certification Number** - Enter the DBE's Certification Identification Number. Leave blank if subcontractor is not a DBE.
- 12. Contract Payments** - Enter the subcontracted dollar amount of the work performed or service provided. Include the prime contractor/consultant if the prime is a DBE. The Non-DBE column is used to enter the dollar value of work performed by firms that are not certified DBE or for work after a DBE becomes decertified.
- 13. Date Work Completed** - Enter the date the subcontractor/subconsultant's item work was completed.
- 14. Date of Final Payment** - Enter the date when the prime contractor/consultant made the final payment to the subcontractor/subconsultant for the portion of work listed as being completed.
- 15. Original DBE Commitment Amount** - Enter the "Total Claimed DBE Participation Dollars" from Exhibits 15-G or 10-O2 for the contract.
- 16. Total** - Enter the sum of the "Contract Payments" Non-DBE and DBE columns.
- 17. Contractor/Consultant Representative's Signature** - The person completing the form on behalf of the contractor/consultant's firm must sign their name.
- 18. Contractor/Consultant Representative's Name** - Enter the name of the person preparing and signing the form.
- 19. Phone** - Enter the area code and telephone number of the person signing the form.
- 20. Date** - Enter the date the form is signed by the contractor's preparer.
- 21. 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.
- 22. Local Agency Representative's Name** - Enter the name of the Local Agency Representative signing the form.
- 23. Phone** - Enter the area code and telephone number of the person signing the form.
- 24. Date** - Enter the date the form is signed by the Local Agency Representative.



**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.

**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 DIR Reg Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
Name:							Age of Firm: ___ yrs.
City, State:							<input type="checkbox"/> <\$1 million
							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
Name:							Age of Firm: ___ yrs.
City, State:							<input type="checkbox"/> <\$1 million
							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
Name:							Age of Firm: ___ yrs.
City, State:							<input type="checkbox"/> <\$1 million
							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million
Name:							Age of Firm: ___ yrs.
City, State:							<input type="checkbox"/> <\$1 million
							<input type="checkbox"/> <\$5 million
							<input type="checkbox"/> <\$10 million
							<input type="checkbox"/> <\$15 million

Distribution: 1) Original-Local Agency File 2) Copy-DLAE w/ Award Package

Bidder's List of Subcontractors (DBE and NON-DBE)

**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 Subcontracted	Contractor License Number DIR Reg Number	DBE (Y/N)	DBE Cert Number	Annual Gross Receipts
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
Name:							<input type="checkbox"/> <\$10 million
City, State:							<input type="checkbox"/> <\$15 million
Name:							Age of Firm: ___ yrs.
City, State:							<input type="checkbox"/> <\$1 million
Name:							<input type="checkbox"/> <\$5 million
City, State:							<input type="checkbox"/> <\$10 million
Name:							<input type="checkbox"/> <\$15 million
City, State:							Age of Firm: ___ yrs.
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
Name:							<input type="checkbox"/> <\$10 million
City, State:							<input type="checkbox"/> <\$15 million
Name:							Age of Firm: ___ yrs.
City, State:							<input type="checkbox"/> <\$1 million
Name:							<input type="checkbox"/> <\$5 million
City, State:							<input type="checkbox"/> <\$10 million
Name:							<input type="checkbox"/> <\$15 million
City, State:							Age of Firm: ___ yrs.
Name:							<input type="checkbox"/> <\$1 million
City, State:							<input type="checkbox"/> <\$5 million
Name:							<input type="checkbox"/> <\$10 million
City, State:							<input type="checkbox"/> <\$15 million
Name:							Age of Firm: ___ yrs.
City, State:							<input type="checkbox"/> <\$1 million
Name:							<input type="checkbox"/> <\$5 million
City, State:							<input type="checkbox"/> <\$10 million
Name:							<input type="checkbox"/> <\$15 million
City, State:							Age of Firm: ___ yrs.

Distribution: 1) Original-Local Agency File 2) Copy-DLAE w/ Award Package



**CITY OF COSTA MESA**

**DEPARTMENT OF PUBLIC SERVICES**

**PART I - GENERAL PROVISIONS**

The work embraced herein shall be done in accordance with the **latest Edition of the Standard Specifications and the Standard Plans, of the California Department of Transportation (CALTRANS)** insofar as the same may apply and these special provisions.

In case of conflict between the CALTRANS Standard Specifications and these special provisions, the special provisions shall take precedence over and be used in lieu of the conflicting portions.

Amendments to the Standard Specifications set forth in these special provisions shall be considered as part of the Standard Specifications. In case of conflict between such amendments and the Standard Specifications, the amendments shall take precedence over and be used in lieu of the conflicting portions.

The referenced sections of the latest Edition of the Standard Specifications for Public Works Construction (GREENBOOK); the applicable City of Costa Mesa Standard Details and Specifications shall be considered as a part of these specifications.

**BEGINNING OF WORK, TIME OF COMPLETION AND LIQUIDATED DAMAGES:**

The Contractor shall begin work with ten (10) working days after the contract has been approved by the City of Costa Mesa.

The work shall be diligently prosecuted to the completion before the expiration of **ninety (90) WORKING DAYS** beginning on the **TENTH WORKING** days after the contract has been approved by the City of Costa Mesa.

The Contractor shall pay to the City of Costa Mesa the sum of \$3,600 per day, for each and every calendar day's delay in finishing the work in excess of the number of working days prescribed above.

**WORK TO BE DONE:**

The work to be performed consists of saw cutting and removal of A.C. pavement and base materials, providing, constructing and/or installation: Class A topsoil, PCC curb, PCC curb and gutter, relocation of a catch basin and lateral, construction of parkway way drains, AC pavement, utility adjustments, sign and striping improvements, and landscaping and irrigation; one new Traffic Signal and other work noted on the plans.

**LABOR SURCHARGE:**

The following shall have precedence over the mark-ups set forth in the Caltrans Labor Surcharge and Equipment Rental Rates. All other rates set forth in the equipment rental rates shall apply. The compensation for employer's payments of payroll taxes; workers compensation insurance; liability insurance; health and welfare; pension; vacation; apprenticeship funds; other direct costs resulting from Federal, State, or local laws; and for assessments or benefits required by lawful collective bargaining agreements to be applied to the actual cost for wages shall be 23 percent for regular time and overtime.

**MARKUP:**

**Work by Contractor:** The allowance for overhead and profit to be added to the Subcontractor's costs shall be as follows:

**Equipment and Material:** 15%

**Labor:** 20%

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

**Work by subcontractor:** The allowance for the Contractor's overhead and profit to be added to the sum of the Subcontractor's costs and markup shall be 5%.

No markups will be allowed for second tier or higher subcontractors.

**PAYMENT FOR ITEMS OF WORK REQUIRED BY CONTRACT DOCUMENTS OR SHOWN ON THE PLANS FOR WHICH THERE IS NO BID ITEM:**

The Contractor shall include the cost for compliance with the contract documents and the completion of work shown on the plans within the bid item of work. If there is no bid item of work, the costs are to be included in the mobilization bid item of work or the various items of work should there be no mobilization bid item. The Contractor shall address all items of work shown on the plans or in the specification within the project costs and no other compensation shall be allowed.

**SECTION 1. SPECIFICATIONS AND PLANS**

**1-1.01 GENERAL.** --The Standard Specifications and these special provisions, definitions have been revised to reflect the City of Costa Mesa as the awarding agency. The definitions and terms shall be understood to mean that the City of Costa Mesa is administering the project. All references utilizing similar definitions in the specifications in regard to ownership of facilities, ownership of right-of-way, and permit conditions shall remain as originally intended.

**1-1.07B Glossary** – revisions to the glossary to reflect the City of Costa Mesa's interpret terms.

**ACCEPTANCE.** -- The formal acceptance by the City Council of an entire contract which has been completed in all respects with the plans and specifications and any modifications thereof previously approved.

**AGENCY.** – The City of Costa Mesa

**CITY.** -- The City of Costa Mesa.

**CONTRACTOR.** -- The party who undertakes for a stated price to supply goods or to perform a construction job or other project for the City of Costa Mesa.

**DEPARTMENT.** -- City Council of the City of Costa Mesa, State of California.

**DIRECTOR.** -- The Director of Public Services for the City of Costa Mesa or his designee.

**ENGINEER.** -- The Project Manager for the City of Costa Mesa or his authorized representative.

**LABORATORY.** -- An established laboratory approved and authorized by the Engineer for testing materials and work involved in the contract.

**HOLIDAYS.** -- Those holidays observed by the City of Costa Mesa. The City observed holidays are: Every Sunday, New Years Day, Martin L. King Holiday, Presidents Day, Memorial Day, 4<sup>th</sup> of July, Labor Day, Veterans Day, Thanksgiving, the Friday after Thanksgiving, and Christmas. The observance date shall concur with Federal guidelines.

**LIQUIDATED DAMAGES.** -- The amount prescribed in the specifications to be paid to the City or to be deducted from any payments due or to become due the Contractor for each day's delay in completing the whole or any specified portion of the work beyond the time allowed in the specifications.

**OFFICE OF STRUCTURAL DESIGN.** -- The Project Manager for the City of Costa Mesa or his designated representative.

**PROPOSAL FORM.** -- The approved form upon which the City requires formal bids be submitted.

**PROPOSAL GUARANTY.** -- The cash, cashier's check, certified check, or Bidder's bond accompanying the proposal submitted by the Bidder, as a guaranty that the Bidder will enter into a contract with the City for the performance of the work if the contract is awarded to him.

**STATE.** -- The City of Costa Mesa, except in reference to laws, codes and other legal aspects.

**STATE HIGHWAY ENGINEER.** -- The City Engineer of the City of Costa Mesa, State of California.

**TRANSPORTATION BUILDING-SACRAMENTO.** -- City Hall, City of Costa Mesa, State of California.

**1-1.08 DISTRICTS** -- the district and office shall refer to the City of Costa Mesa, 77 Fair Drive, Costa Mesa, CA 92627.

**1-1.11 WEBSITES, ADDRESSES, AND TELEPHONE NUMBERS** -- shall reference the City of Costa Mesa.

**1-1.12 MISCELLANY** -- Make checks and bonds payable to the City of Costa Mesa.

**2.1.01A PROPOSAL REQUIREMENTS AND CONDITIONS** - The bidder's attention is directed to the provisions in Section 2, "Proposal Requirements and Conditions." Of the Standard Specification and these special provisions for the requirements and conditions which the bidder must observe in the preparation of the proposal form and the submission of the bid. In addition to the subcontractors required to be listed in conformance with Section 2-1.054. "Required Listing of Proposed Subcontractors," of the Standard Specifications, each proposal shall have listed therein the portion of work that will be done by each subcontractor listed. A sheet for listing the subcontractors is included in the Proposal.

The form of Bidder's Bond mentioned in the last paragraph in Section 2-1.07, "Proposal Guaranty," of the Standard Specifications will be found following the signature page of the Proposal.

In conformance with Public Contract Code Section 7106, a Noncollusion Affidavit is included in the Proposal. Signing the Proposal shall also constitute signature of the Noncollusion Affidavit.

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. Each subcontract signed by the bidder must include this assurance.

**2-01B FEDERAL LOBBYING RESTRICTIONS** - Section 1352, Title 1352, Title 31, United States Code prohibits Federal funds from being expended by the recipient or any lower tier subrecipient of a Federal-

aid contract to pay for any person for influencing or attempting to influence a Federal agency or Congress in connection with the awarding of any Federal-aid contract, the making of any Federal grant or loan, or the entering into of any cooperative agreement.

If any funds other than Federal funds have been paid for the same purposes in connection with this Federal-aid contract, the recipient shall submit an executed certification and, if required, submit a completed disclosure form as part of the bid documents.

A certification for Federal-aid contracts regarding payment of funds to lobby Congress or a Federal agency is included in the Proposal. Standard Form - LLL, "Disclosure of Lobbying Activities," with instructions for completion of the Standard Form is also included in the Proposal. Signing the Proposal shall constitute signature of the Certification.

The above referenced certification and disclosure of lobbying activities shall be included in each subcontract and any lower-tier contracts exceeding \$100,000. All disclosure forms, but not certifications, shall be forwarded from tier to tier until received by the Engineer.

The Contractor, subcontractors and any lower-tier contractors shall file a disclosure form at the end of each calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed by the Contractor, subcontractors and any lower-tier contractors. An event that materially affects the accuracy of the information reported includes:

- (1) A cumulative increase of \$25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or
- (2) A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or
- (3) A change in the officer(s), employee(s), or Member(s) contacted to influence or attempt to influence a covered Federal Action.

**2-1.01C REQUEST FOR INTERPRETATION.** -- If any person contemplating submitting a bid is in doubt as to the 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 may make a request to the Engineer, in writing, for an interpretation or correction thereof. The person submitting such a request shall be responsible for its prompt delivery. All such interpretations of the contract documents will be made only by addenda, duly issued, and a copy of each such addendum will be mailed, faxed or delivered to each person receiving a set of contract documents at his last address or record. The CITY will not be responsible for any other explanations or interpretations of the contract documents.

**2-1.06 BID DOCUMENTS** - The "Bid Book" book referenced in the Standard Specifications shall be the Proposal package insert within the Specifications. Proposal shall be made and submitted on proposal forms in accordance with the Notice Inviting Bids. In addition to the required signatures in the spaces provided in the proposal forms, each Bidder shall initial as requested.

Proposals with interlineations, alterations, and erasures shall be initialed by the Bidder's authorized agent. Alternative proposals, special conditions, or other limitations or provisions affecting the bid, except as such called for in the contract documents, will render the bid informal and may cause its rejection.

All proposals must give the prices bid for the various items of work and must be signed by the Bidder, who shall give his address. Each bid shall have thereon the affidavit of the Bidder that such bid is genuine and not sham nor collusive, nor made in the interest nor behalf of any other person not therein named and that the Bidder has not directly nor indirectly induced or solicited any other Bidder to put in a sham bid, nor induced nor solicited any person, firm, partnership, corporation, or combination thereof to refrain from bidding, and that the Bidder has not in any manner sought by collusion to secure himself an advantage over any other Bidder.

**2-1.06A GENERAL** – The Bid book shall refer to the PROPOSAL. The Notice to Bidders shall refer to the City's Notice Inviting Bids.

**2-1.06B SUPPLEMENTAL PROJECT INFORMATION** – Contact the ENGINEER for all available information.

**2-1.07 DIFFERING SITE CONDITIONS** - By submitting a bid, the Bidder acknowledges that he is satisfied with the quality of the work area including but not restricted to the conditions affecting, handling and storage of materials, disposal of excess materials, and the soil conditions.

**2-10A SUBCONTRACTING** - The provisions that the Contractor shall perform with the Contractor's own organization contract work amounting to not less than 50 percent of the original contract price, *is not* changed by the Federal Aid requirement specified under "Required Contract Provisions Federal-Aid Construction Contracts" in Section 14 of these special provisions that the Contractor perform not less than 30 percent of the original contract work with the Contractor's own organization.

Each subcontract and any lower tier subcontract that may in turn be made shall include the "Required Contract Provisions Federal-Aid Construction Contracts" in Section 14 of these special provisions. Noncompliance shall be corrected. Payment for subcontracted work involved will be withheld from progress payments due, or to become due, until correction is made. Failure to comply may result in termination of the contract.

Pursuant to the provisions in Section 1777.1 of the Labor Code, the Labor Commissioner publishes and distributes a list of contractor's ineligible to perform work as a subcontractor on a public works project. This list of debarred contractors is available from the Department of Industrial Relations web site at:

<http://www.dir.ca.gov/DLSE/Debar.html>.

**2-12A DISADVANTAGED BUSINESS ENTERPRISE (DBE) -**

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.

The Contractor shall take necessary and reasonable steps to ensure that DBEs have opportunity to participate in the contract as identified in the included Disadvantaged Business Enterprise (DBE) documents.

**2-1.15 DISABLED VETERAN BUSINESS ENTERPRISES** – This section does not apply to the contract.

**2-1.18 SMALL BUSINESS AND NON-SMALL BUSINESS SUBCONTRACTOR PREFERENCES** – This section does not apply to the contract.

**2-1.27 CALIFORNIA COMPANIES** – This section does not apply to the contract.

**2-1.33A GENERAL** – No Fax or electronic submissions of the PROPOSAL is acceptable. The PROPOSAL must be submitted on the proposal forms to Office of the City Clerk, City of Costa Mesa prior to the bid opening time.

**2-1.40 WITHDRAWAL OF PROPOSALS** - Any bidder may withdraw his bid, either personally, or by telegraphic or written request, at any time prior to the scheduled closing time for the receipt of bids. It is the sole responsibility of the Bidder to see that any such telegraphic or written request is delivered to the City Clerk prior to said closing time. Bid security of such Bidders will be returned promptly to the Bidder.

**2.1-43 BID OPENING** - The Agency publicly opens and reads bids at the time and place shown on the *Notice Inviting Bids*.

**2-1.50 BID RIGGING** - Section 2-1.50 applies to a federal-aid contract.

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.

**3-1 AWARD AND EXECUTION OF CONTRACT** - The award of the contract, if it be awarded, will be to the lowest responsible bidder whose proposal complies with all the requirements prescribed.

The contract shall be executed by the successful bidder and shall be returned, together with the contract bonds, to the Agency so that it is received within 10 days, not including Saturdays, Sundays and legal holidays, after the bidder has received the contract for execution. Failure to do so shall be just cause for forfeiture of the proposal guaranty. The executed contract documents shall be delivered to the following address: (Agency to provide detailed information if this paragraph is used)

A "LOCAL AGENCY BIDDER - DBE INFORMATION" form will be included in the contract documents to be executed by the successful bidder. The purpose of the form is to collect data required under 49 CFR 26. Even if no DBE participation will be reported, the successful bidder must execute and return the form.

The successful bidder's "LOCAL AGENCY BIDDER - DBE INFORMATION" form should include the names, addresses and phone numbers of DBE firms that will participate, with a complete description of work or supplies to be provided by each, and the dollar value of each DBE transaction. When 100 percent of a contract item of work is not to be performed or furnished by a DBE, a description of the exact portion of that work to be performed or furnished by that DBE should be included in the DBE information, including the planned location of that work. A successful bidder certified as a DBE should describe the work it has committed to performing with its own forces as well as any other work that it has committed to be performed by DBE subcontractors, suppliers and trucking companies.

The successful bidder is encouraged to provide written confirmation from each DBE that the DBE is participating in the contract. A copy of a DBE's quote will serve as written confirmation that the DBE is participating in the contract. If a DBE is participating as a joint venture partner, the successful bidder is encouraged to submit a copy of the joint venture agreement.

The "LOCAL AGENCY'S BIDDER - DBE INFORMATION" form should be completed and returned to the Agency by the successful bidder with the executed contract and contract bonds.

**3-1.01A AWARD OF CONTRACT** - The award of contract, if awarded, will be to the lowest responsible bidder whose proposal complies with all requirements of the Notice Inviting Bids, these special provisions, and the Standard Specifications. The BIDDER, upon notification as the "apparent low bidder," shall comply with the CITY'S insurance and bonding requirements by submitting the required insurance certificates and bonds within fourteen (14) days after the mailing of a notice to the BIDDER that the contract is ready for execution. The contract will be awarded within sixty (60) days of after the opening of proposals. The award of contract will occur after the receipt of properly approved insurance certificates and bonds pursuant to CITY requirements spelled out in these specifications. BIDDER must take particular note of "insurance requirements" contained in these specifications and sample agreement included within the contract

documents, and should provide that information to his insurance broker in order that a properly executed certificate is submitted. The CITY, however, reserves the right to reject any or all bids and to waive any informality in the bids received.

The award of the contract, if it be awarded, will be to the lowest responsible bidder whose proposal complies with all the requirements prescribed.

The contract shall be signed by the successful bidder and returned, together with the contract bonds and insurance, prior to the award of contract by City Council.

A "Local Agency Bidder-DBE Information (Construction Contracts), Exhibit 15-G" form is included in the Bid book to be executed by the successful bidder. The purpose of the form is to collect data required under 49 CFR 26. Even if no DBE participation will be reported, the successful bidder must execute and return the form.

The successful bidder's "Local Agency Bidder- Information (Construction Contracts), Exhibit 15-G" form should include the names, addresses and phone numbers of DBE firms that will participate, with a complete description of work or supplies to be provided by each, and the dollar value of each DBE transaction. When 100 percent of a contract item of work is not to be performed or furnished by a DBE, a description of the exact portion of that work to be performed or furnished by that DBE should be included in the DBE information, including the planned location of that work. A successful bidder certified as a DBE should describe the work it has committed to performing with its own forces as well as any other work that it has committed to be performed by DBE subcontractors, suppliers and trucking companies.

The successful bidder is encouraged to provide written confirmation from each DBE that the DBE is participating in the contract. A copy of a DBE's quote will serve as written confirmation that the DBE is participating in the contract. If a DBE is participating as a joint venture partner, the successful bidder is encouraged to submit a copy of the joint venture agreement.

The "Local Agency Bidder-DBE Information (Construction Contracts), Exhibit 15-G" form shall be completed and returned to the Agency by the successful bidder with the executed contract and contract bonds.

**3-1.05 CONTRACT BONDS** - The performance bond required shall not be reduced and shall continue in full force and effect for the duration of the guaranty period.

Before execution of the contract, Bidder shall file surety bonds with the Agency to be approved by the City Council in the amounts and for the purposes noted below. Bonds issued by a surety who is listed in the latest version of U.S. Department of Treasury Circular 570, who is authorized to issue bonds in California, and whose bonding limitation shown in said circular is sufficient to provide bonds in the amount required by the contract shall be deemed to be approved unless specifically rejected by the Agency. Bonds from all other sureties shall be accompanied by all of the documents enumerated in Code of Civil Procedure 995.660(a). The Bidder shall pay all bond premiums, costs, and incidentals.

Each bond shall incorporate, by reference, the contract and be signed by both the Bidder and surety and the signature of the authorized agent of the surety shall be notarized.

The Bidder shall provide two good and sufficient surety bonds. The "Payment Bond" (Material and Labor Bond) shall be for not less than 100 percent of the contract price, to satisfy claims of material suppliers and mechanics and laborers employed by it on the work. The bond shall be maintained by the Contractor in full force and effect until the work is accepted by the Agency and until all claims for materials and labor are paid, and shall otherwise comply with the Civil Code.

The "Performance Bond" shall be for 100 percent of the contract price to guarantee faithful performance of all work, within the time prescribed, in a manner satisfactory to the Agency, and that all materials and

workmanship will be free from original or developed defects. The bond must remain in effect until the end of all warranty periods set forth in the contract.

Should any bond become insufficient, the Contractor shall renew the bond within 10 days after receiving notice from the Agency.

Should any surety at any time be unsatisfactory to the City notice will be given the Contractor to that effect. No further payments shall be deemed due or will be made under the contract until a new surety shall qualify and be accepted by the City.

Changes in the work or extensions of time, made pursuant to the contract, shall in no way release the Contractor or surety from its obligations. Notice of such changes or extensions shall be waived by the surety.

The "Performance Bond" and the "Labor and Material Bond" as specified in this section shall be for one hundred percent (100%) of the contract price. The Labor and Material Bond shall be maintained by the Contractor in full force and effect for at least seven (7) months following the filing of the Notice of Completion. The Performance Bond shall also be kept by the Contractor in full force and effect for at least six (6) months following the filing of the Notice of Completion.

BIDDER shall provide the following:

A certified copy of the certificate of authority of the surety issued by the Insurance Commissioner.

A certificate from the clerk of the county in which the court or officer is located that the certificate of authority of the surety has not been surrendered, revoked, canceled, annulled, or suspended or, in the event that it has, that renewed authority has been granted.

Copies of the surety's most recent annual statement and quarterly statement filed with the Department of Insurance pursuant to Article 10 (commencing with Section 900) of Chapter 1 of Part 2 of Division 1 of the Insurance Code

**3-1.06 CONTRACTOR LICENSE** - The Contractor must be properly licensed as a contractor from contract award through Contract acceptance (Public Contract Code § 10164).

**3-1.18(a) FAILURE TO EXECUTE CONTRACT** - Failure to comply with insurance and bonding requirements as specified in the agreement and in the specifications, proposal, or Notice Inviting Bids shall be considered grounds for the revocation and rejection of the bid and forfeiture of bid security. No proposal shall be considered binding upon the City until the execution of the agreement by the City. In case of conflict, the agreement shall have precedence over all other written specifications.

**3-1.19 RETURN OF BID SECURITY** - The bid security of the BIDDER whose bid is accepted will be held by the CITY until the contract has been executed and the accompanying insurance certificates, performance bond and labor and materials bond are approved and filed, whereupon the bid security will then be returned to the BIDDER.

The bid security of the second and third lowest BIDDERS will be retained until the contract is awarded to and executed by the BIDDER whose bid is accepted, or until 60 days after the opening of bids, whichever period is shorter. The bid security of all BIDDERS other than the three lowest will be returned promptly after the opening of bids.

If a BIDDER fails or refuses promptly to execute the agreement to do the work or fails or refuses to comply with insurance and bonding requirements, the bid security shall be forfeited to the CITY and shall be collected and paid into the General Fund of the CITY.



**4-1.05 CHANGES AND EXTRA WORK** – This section has been modified, reference Section 9.01A herein.

**4-1.06 DIFFERING SITE CONDITIONS** – This section has been modified, reference Section 9.01A herein.

**5-1.01 PLANS AND SPECIFICATIONS.** --Contractor will obtain from the Engineer, free of charge, up to 10 copies of plans, and special provisions that are reasonably necessary for the execution of work.

Bidder shall, at his own expense, obtain copies of the Standard Specifications and the Standard Plans for his general use.

**5-1.02 PRECEDENCE OF CONTRACT DOCUMENTS.** --If there is conflict between Contract Documents, the document highest in precedence shall control. The precedence shall be:

1. Permits from other agencies as may be required.
2. Change Orders or Supplemental Agreements, whichever occurs last
3. Contracts / Agreements
4. Addenda
5. Bid Proposal
6. Special Provisions
7. Plans
8. Standard Plans (City of Costa Mesa)
9. Standard Plans (APWA)
10. Standard Plans (Caltrans)
11. Standard Specifications (Caltrans)
12. Reference Specifications (City of Costa Mesa, and GREENBOOK)

Detailed drawings shall have precedence over the general drawings.

**5-1.03 AUTHORITY OF BOARD AND ENGINEER** -- When any of the various units or operations of the work have been suspended, the Contractor shall give at least 24 hours advance notice of the time when he or his subcontractor will start or resume any of such units or operations. That notice is to be given during working hours, exclusive of Saturdays, Sundays or holidays, for the purpose of permitting the ENGINEER to make necessary assignments to his representative on the work.

Any work performed in conflict with said notice, without the presence or approval of the ENGINEER, or work covered up without notice, approval or consent may be rejected or ordered to be uncovered for examination at Contractor's expense and shall be removed at Contractor's expense, if so ordered by the ENGINEER or his representative on the work. Any unauthorized or defective work, defective material or workmanship or any unfaithful or imperfect work that may be discovered before the final payment and final acceptance of work shall be corrected immediately by the Contractor without extra charge even though it may have been overlooked in previous inspections and estimates or may have been caused due to failure to inspect the work.

All authorized alterations affecting the requirements and information given on the approved plans shall be in writing. No changes shall be made on any plan or drawing by the Contractor after the same has been approved by the ENGINEER, except by direction of the ENGINEER in writing. Deviations from the approved plans, as may be required by critical conditions of construction, must be authorized in writing by the ENGINEER.

All instructions, rulings and decisions of the ENGINEER shall be in writing and are binding on all parties unless a formal protest is made as provided in the following paragraph:

If the Contractor considers any work demanded of him to be outside the requirements of the contract, or if he considers any instruction, ruling or decision of the ENGINEER or ENGINEER'S representative to be unfair, the Contractor shall, within ten (10) days after any such demand is made, or instruction, ruling or

decision is given, file a written protest with the ENGINEER, stating clearly and in detail his objections and reasons therefor. Except for such protests and objections as are made of record, in the manner and within the time above stated, the Contractor shall be deemed to have waived and does hereby waive all claims for extra work, damages and extensions of time on account of demands, instructions, rulings and decisions of the ENGINEER.

Upon receipt of any such protest from the Contractor, the ENGINEER shall review the demand, instruction, ruling or decision objected to and shall promptly advise the Contractor, in writing, of his final decision, which shall be binding on all parties, unless within the ten (10) days thereafter the Contractor shall file with the BOARD a formal protest against said decision of the ENGINEER. The BOARD shall consider and render a final decision on any such protest within thirty (30) days of receipt of same. If the BOARD fails to consider and render a final decision on any such protest within thirty (30) days of receipt of the same, the protest shall be deemed denied.

**5-1.09 PARTNERING** -- The State will promote the formation of a "Partnering" relationship with the Contractor in order to effectively complete the contract to the benefit of both parties. The purpose of this relationship will be to maintain cooperative communication and mutually resolve conflicts at the lowest possible management level.

The establishment of a "Partnering" relationship will not change or modify the terms and conditions of the contract and will not relieve either party of the legal requirements of the contract.

**5-1.16 REPRESENTATIVE** -- Contractor shall file with the ENGINEER the addresses and telephone numbers where he or his designated representative may be reached during hours when the work is not in progress.

Instructions and information given by the ENGINEER to the Contractor's authorized representative or at the address or telephone numbers filed in accordance with this section shall be considered as having been given to the Contractor.

The Contractor shall have on the work site at all times a competent English-speaking superintendent, as his agent, capable of reading and thoroughly understanding the plans and specifications and other related documents.

**5-1.08 INSPECTION** -- If the Contractor requests and receives approval from the ENGINEER to receive inspection services from the CITY outside of a normal eight (8) hour day/forty (40) hour work week or on Saturday, Sunday, or CITY holidays, the Contractor shall arrange with the CITY and ENGINEER for the special inspection services and Contractor shall pay for such special inspection services at a fee of \$100 per hour as established by the ENGINEER to defray the cost for such service.

#### **5-1.13B(1) SUBCONTRACTOR AND DISADVANTAGED BUSINESS ENTERPRISE RECORDS**

The Contractor shall maintain records showing the name and business address of each first-tier subcontractor. The records shall also show the name and business address of every DBE subcontractor, DBE vendor of materials and DBE trucking company, regardless of tier. The records shall show the date of payment and the total dollar figure paid to all of these firms. DBE prime contractors shall also show the date of work performed by their own forces along with the corresponding dollar value of the work.

Use each DBE subcontractor as listed on the List of Subcontractors form and the Local Agency Bidder DBE Commitment (Construction Contracts), Exhibit 15-G, forms unless you receive authorization for a substitution.

The Agency requests the Contractor to:

1. Notify the Engineer of any changes to its anticipated DBE participation
2. Provide this notification before starting the affected work

Maintain records including:

1. Name and business address of each 1st-tier subcontractor
2. Name and business address of each DBE subcontractor, DBE vendor, and DBE trucking company, regardless of tier
3. Date of payment and total amount paid to each business

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.

Prior to the fifteenth of each month, the Contractor shall also submit documentation to the Engineer showing the amount paid to DBE trucking companies. The Contractor shall also obtain and submit documentation to the Engineer showing the amount paid by DBE trucking companies to all firms, including owner-operators, for the leasing of trucks. If the DBE leases trucks from a non-DBE, the Contractor may count only the fee or commission the DBE receives as a result of the lease arrangement.

The Contractor shall also obtain and submit documentation to the Engineer showing the truck number, owner's name, California Highway Patrol CA number, and if applicable, the DBE certification number of the owner of the truck for all trucks used during that month. This documentation shall be submitted on "Monthly DBE Trucking Verification" Form CEM-2404(F).

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 a Final Report – Utilization of Disadvantaged Business Enterprises (DBE), First-Tier Subcontractors, Exhibit 17-F, form. Submit it within 90 days of contract acceptance. The Agency withholds \$10,000 until the form is submitted. The Agency releases the withhold upon submission of the completed form.

#### **5-1.13(B)(2) PERFORMANCE OF DISADVANTAGED BUSINESS ENTERPRISES**

DBEs must perform work or supply materials as listed in the Local Agency Bidder DBE Commitment (Construction Contracts), Exhibit 15-G, 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 it 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. 1 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, 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 the DBE goal.

The substitute DBE must be certified as a DBE at the time of request for substitution.

Unless the Agency 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, the Agency does not pay for work listed on the Local Agency Bidder DBE Commitment (Construction Contracts), Exhibit 15-G, form unless it is performed or supplied by the listed DBE or an authorized substitute.

**5-1.20(B) UTILITIES: LOCATION** -- Locations of utilities shown on plans are approximate only and are based on a search of available records. Prior to commencing any other work, Contractor shall carefully excavate and determine precise locations and depths of all utilities, including service connections, shown on the plans and marked in the field, which may affect or be affected by Contractor's operations. This work shall be done in accordance with Section 8-1.10 of the Standard Specifications. Contractor shall not be compensated for any delays or extra work brought about by his failure to perform the above-mentioned work. Contractor shall be responsible for any damage to existing utilities shown on the plan.

Attention is directed to the possibility of utility mains or laterals within the project limits. The Contractor shall have the locations of the various utility facilities within reconstruction areas marked on the surface prior to construction and protect them during the removal and reconstruction procedures. The Contractor shall contact the City Transportation Services Department to locate traffic signal conduit within the reconstruction areas.

The Contractor shall remove any abandoned underground utility lines encountered during construction. The Contractor shall be responsible for any damage to existing utilities.

**5-1.20(C) UTILITIES: PROTECTION** -- The Contractor shall be responsible for protecting and supporting all existing utilities and maintaining the location of and access to all gate valves during construction. When damage to existing utilities is caused by the Contractor's operations, the Contractor shall, at his expense, repair or replace damaged facilities promptly, in accordance with Sections 8-1.10 and 15 of the Standard Specifications and the standards of each affected utility. Should the Contractor fail to perform the required repairs or replacements, the cost of performing such repairs or replacement by others shall be deducted from any monies due or to become due the Contractor.

**5-1.20(D) UTILITIES: RELOCATION AND ABANDONMENT** -- Any miscellaneous utilities to be relocated by the Contractor, as indicated on the plans, shall be relocated in a workmanlike manner, and all such work shall be done only at such times which are acceptable to the utility owner. The Contractor shall schedule his relocation work in cooperation with the utility owner and shall be responsible for any costs resulting from the Contractor's failure to do the work at times which are acceptable to the owner. The

Contractor shall notify owners of the following at least forty-eight (48) hours in advance of any work on any of their facilities.

Where existing utility main lines and conduits (excluding sewer main lines) and all utility service lines (excluding sewer laterals) are to be relocated or declared abandoned by the affected utility companies, the Contractor shall be responsible for contacting the respective utility representatives for coordinating the relocations and for determining the abandonment. The Contractor shall proceed with excavation in such a manner that will allow utility companies adequate and reasonable time to relocate service lines. The Contractor shall not be compensated for any delays caused by failure to coordinate the above work with utility companies.

AT&T (right-of-way)  
Valentina Gipson  
3939 E Coronado St, Rm 2030  
Anaheim, CA 92807  
(o) 714-618-9132  
Email: vk3921@att.com  
Steve Besneatte (Engineer for Costa Mesa)  
3939 E Coronado  
Anaheim, CA 92807  
(o) 714-618-9116  
Email: SB1658@att.com

Costa Mesa Sanitary District (CMSD)  
Michael Benesh  
290 Paularino Ave (inter-office mail okay)  
Costa Mesa, CA 92626  
(o) 949-548-1192  
(f) 949-548-6516  
Email: mlbenesh@robhamers.com

Costa Mesa Sanitary District (CMSD)  
Elizabeth Pham  
290 Paularino Ave (inter-office mail okay)  
Costa Mesa, CA 92626  
(o) 949-645-8400 ext 230  
(f) 949-548-6516  
Email: epham@cmsdca.gov

Irvine Regional Water District  
Kelly Lew  
15600 Sand Canyon Ave  
Irvine, CA 92618  
(o) 949-453-5586  
(p) 949-729-7300 (24-hour)  
(f) 888-496-1244  
Email: lew@irwd.com

Irvine Regional Water District  
Brad Jackson (Area Construction Inspector)  
15600 Sand Canyon Ave  
Irvine, CA 92618  
(o) 949-632-0627  
(p) 949-729-7300 (24-hour)  
Email: jackson@irwd.com

SCE (Utility Notice Requests)  
Kasey Chapman  
7333 Bolsa Ave  
Westminster, CA 92683  
(o) 714-895-0109  
(c) 800-611-1911 (24-hour)  
(f) 714-934-0892  
Email: [Kasey.chapman@sce.com](mailto:Kasey.chapman@sce.com)\*

Mesa Water District  
Phil Lauri  
1965 Placentia Ave (inter-office mail okay)  
Costa Mesa, CA 92627  
(o) 949-207-5449  
(c) 949-631-1200 (24-hour)  
(f) 949-574-1035  
Email: phill@mesawater.org

Mpower Communications, Inc.  
Mark Denning  
2698 White Rd  
Irvine, CA 92614  
(o) 949-864-0296  
(c) 949-547-6455  
(f) 949-864-0286  
Email: mdenning@telepacific.com

Orange County Sanitation District (OCSD)  
Rudy Davila  
PO Box 8127  
Fountain Valley, CA 92728  
(o) 714-593-7348  
(c) 714-593-3301 (24-hour)  
(f) 714-962-5018  
Email: RDavila@ocsd.com

Orange County Water District (OCWD)  
Chris Olsen  
PO Box 8300  
Fountain Valley, CA 92728  
(o) 714-378-3200  
(c) 714-378-3240 (24-hour)  
(f) 7814-378-3373  
Email: colsen@ocwd.com

CA Regional Water Quality – Santa Ana Region  
Mark Smythe  
3737 Main St, Ste 500  
Riverside, CA 92501  
(o) 951-782-4130  
(c) 951-543-8523  
(f) 951-781-6288  
Email: [msmythe@waterboards.ca.gov](mailto:msmythe@waterboards.ca.gov)

XO Communications  
Lee Arnold  
1924 Deere Ave, Ste. 110  
Santa Ana, CA 92705  
(o) 949-417-7762  
(c) 800-546-5283 (24-hour)  
(f) 949-417-7730  
Email: lee.arnold@xo.com

SCE (Base Maps)  
Kimberlie Gurule  
1444 E McFadden Ave, Bldg D  
Santa Ana, CA 92705  
(o) 714-796-9932  
(f) 714-973-5735  
Email: [maprequests@sce.com](mailto:maprequests@sce.com)  
\*No pre-construction meeting notices to this address – map requests ONLY.

SCE (Senior Compliance)  
Susan Morgan  
(o) 909-835-7527  
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OCTA – Stops & Zones

So Cal Gas Co.  
Wilson Baldelomar  
PO Box 3334, SC8321  
Anaheim, CA 92803  
(o) 714-634-5091  
(c) 800-603-7060 (24 hour)  
(f) 714-634-3101  
Email: [wbaldelomar@semprautilities.com](mailto:wbaldelomar@semprautilities.com)

So Cal Gas Co  
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Anaheim, CA 92803  
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So Cal Gas (Transmission)  
P. O. Box 2300  
Chatsworth, CA 91313-2300  
(o) 818-701-4546  
(f) 818-701-2549  
Email: [SoCalGasTransmissionUtilityRequest@semprautilities.com](mailto:SoCalGasTransmissionUtilityRequest@semprautilities.com)

Verizon Business  
Investigations  
2400 N Glenville Dr  
Richardson, TX 75082  
(o) 972-729-6322  
(f) 972-729-6240  
Email: [investigations@verizon.com](mailto:investigations@verizon.com)  
\*2nd email: [Bryan.lantz@verison.com](mailto:Bryan.lantz@verison.com)

Metro Water District of So Cal  
Civil Engineering Substructures Section  
Kieran Callanan  
PO Box 54153  
Los Angeles, CA 90054  
(o) 213-217-7474  
(c) 626-844-5610 (24-hour)  
Email: [kcallanan@mwdh2o.com](mailto:kcallanan@mwdh2o.com)

**5-1.26 LINE AND GRADES** -- Unless otherwise provided in the Special Provisions, lines and grades for construction shall be the responsibility of the Contractor, with the following provisions:

All work under this contract shall be built in accordance with the lines and grades shown on the plans. Field survey for establishing the lines and grades and for the control of construction shall be the responsibility of the Contractor. All such surveys, including construction staking, shall be under the supervision of a California-licensed land surveyor or by a California-licensed civil engineer allowed by law. Staking shall be performed on all items ordinarily requiring grade and alignment, at intervals normally accepted by the agencies and the trade involved.

The Contractor shall provide a copy of the office calculations and grade sheets to the Engineer. The Contractor shall be responsible for any error in the finished work and shall notify the ENGINEER within one (1) working day of any discrepancies or design errors discovered during staking.

The following are the minimum survey information that will be required by the City prior to the construction of any curb and/or curb and gutter, aggregate base or asphalt concrete item of work:

1. Line and grade for any section of curb and gutter greater than 50 feet in length.
2. Line and grade for any median island curbing.
3. Centerline and grade for subgrade on any section of the roadway, which is not a localized dig-out.
4. Centerline and grades prior to the placement of a finished surface on any section of the roadway.
5. Intersection grades prior to the placement of a finished surface on any portion of an intersection.

Unless a separate bid item is provided, the payment for surveying, construction staking, professional services, office calculations, furnishing all labor, materials, equipment, tools and incidentals, and for doing all work involved shall be considered as included in the various items of work, and no additional compensation will be allowed.

**5-1.26(B) PERMANENT SURVEY MARKERS** -- Unless otherwise provided in the Special Provisions, the Contractor shall be responsible for protecting all existing horizontal and vertical survey controls, monuments, ties and bench marks located within the limits of the project. If any of the above requires removal, relocating or resetting, the Contractor shall, prior to any construction work and under the supervision of a California-licensed land surveyor or civil engineer, establish sufficient temporary ties and benchmarks to enable the points to be reset after completion of construction.

Any ties, monuments and bench marks disturbed during construction shall be reset per City standards after construction and the tie notes submitted to the City on 8½" x 11" loose leaf paper. The Contractor and his sureties shall be liable, at Contractor's expense, for any resurvey required due to his negligence in protecting existing ties, monuments, benchmarks or any such horizontal and vertical controls.

**5-1.30(A) REMOVAL OF REJECTED AND UNAUTHORIZED WORK.** -- All work, which is defective in its construction or does not meet all of the requirements of the plans and/or specifications, shall be remedied, or removed and replaced by the Contractor in an acceptable manner, and no compensation will be allowed for such correction.

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

Upon failure on the part of the Contractor to comply forthwith with any order of the ENGINEER made under the provisions of this article, the ENGINEER shall have authority to cause defective work to be remedied, or removed and replaced, and unauthorized work to be removed, and to deduct the costs and thereof from any monies due or to come due the Contractor.

Payment will not be made for materials wasted or disposed of in a manner not called for under the contract. This includes rejected material not unloaded from vehicles, material rejected after it has been placed and material placed outside the limits of the project. No compensation will be allowed for disposing of rejected or excess material.

**5-1.48 TEMPORARY LIGHT, POWER AND WATER** -- The Contractor shall provide for his employees an adequate supply of clean, potable drinking water, which shall be dispensed through approved sanitary facilities.

**6-1.02 STATE FURNISHED MATERIALS.** -- There will be no materials furnished by the City for this project. Any reference to State-furnished materials shall be furnished by the Contractor and all costs shall be included within the bid item of work.

**6-1.075 YEAR 2000 COMPLIANCE.** -- This contract is subject to Year 2000 Compliance for automated devices in the State of California. Year 2000 compliance for automated devices in the State of California is achieved when embedded functions have or create no logical or mathematical inconsistencies when dealing with dates prior to and beyond 1999. The year 2000 is recognized and processed as a leap year. The product shall operate accurately in the manner in which the product was intended for date operation without requiring manual intervention. The Contractor shall provide the Engineer a Certificate of Compliance from the manufacturer in conformance with the provisions in Section 6-1.07, "Certificates of Compliance," of the Standard Specifications for all automated devices furnished for the project.

**6-2.05C BUY AMERICA REQUIREMENTS** - Attention is directed to the "Buy America" requirements of the Surface Transportation Assistance Act of 1982 (Section 165) and the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) Sections 1041(a) and 1048(a), and the regulations adopted pursuant thereto. 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; with the exception that pig iron and processed, palletized and reduced iron ore manufactured outside of the United States may be used in the domestic manufacturing process for such steel and iron materials. 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.

A Certificate of Compliance, conforming to the provisions in Section 6-1.07, "Certificates of Compliance," of the Standard Specifications, 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 above exceptions.

The requirements imposed by the 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 contract cost or \$2,500, whichever is greater. The Contractor shall furnish the Engineer acceptable documentation of the quantity and value of the foreign steel and iron prior to incorporating the materials into the work.

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:

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.

**6-3.02 TESTING BY CONTRACTOR** -- All tests of materials furnished by the Contractor shall be made in accordance with commonly recognized standards of national organizations and such special methods and tests as are prescribed in these specifications. No materials shall be used until they have been approved by the ENGINEER.



The Contractor shall at his expense furnish the CITY, in triplicate, certified copies of all required factory and mill test reports. Any materials shipped by the Contractor from a factory or mill prior to having satisfactorily passed such testing and inspection by a representative of the CITY shall not be incorporated in the work, unless the ENGINEER shall have notified the Contractor, in writing, that such testing and inspection will not be required.

At the option of the ENGINEER, the source of supply of each of the materials shall be approved by the ENGINEER before delivery is started and before such material is used in the work.

Unless otherwise provided in the Special Provisions, the CITY will pay for the initial soil and material tests required by the City's Quality Assurance Program. Any subsequent soil and material tests deemed necessary due to the failure of initial tests will be at the Contractor's expense.

**6-3.05B 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.

**7-1.02(2)A LABOR NONDISCRIMINATION** - Attention is directed to the following Notice that is required by Chapter 5 of Division 4 of Title 2, California Code of Regulations.

**NOTICE OF REQUIREMENT FOR NONDISCRIMINATION PROGRAM  
(GOV. CODE, SECTION 12990)**

Your attention is called to the "Nondiscrimination Clause", set forth in Section 7-1.01A(4), "Labor Nondiscrimination," which is applicable to all nonexempt state contracts and subcontracts, and to the "Standard California Nondiscrimination Construction Contract Specifications" set forth therein. The Specifications are applicable to all nonexempt state construction contracts and subcontracts of \$5,000 or more.

**7-1.02K(2)A PREVAILING WAGE** - The general prevailing wage rates determined by the Director of Industrial Relations, for the county or counties in which the work is to be done, are available at the Public Services Department, Construction Management Section, 77 Fair Drive, Costa Mesa, CA 92627. These wage rates are not included in the Proposal and Contract for the project. Changes, if any, to the general prevailing wage rates will be available at the same location.

**7-1.03 TRAFFIC AND ACCESS** -- Prior to restricting normal access from public street to adjacent properties, the Contractor shall notify each property owner or owner's agent, informing them of the nature of the access restriction and the approximate duration of the restriction. The Contractor shall make every effort possible to minimize such restrictions.

Trenches left open overnight shall be bridged in a safe and acceptable manner at all driveways and walkways to provide safe access.

A minimum of one four (4) foot wide pedestrian walkway shall be maintained and safely delineated along each public street at all times during construction.

**7-1.04 PUBLIC SAFETY** -- Material or other obstructions shall not be placed within fifteen feet (15') of fire hydrants. Fire hydrants shall be made readily accessible to the Fire Department at all times.

**7-1.06 INSURANCE** -

**Liability Insurance** -The Contractor shall furnish the Agency a policy or certificate of liability insurance in which the City of Costa Mesa is the named insured or are named as an additional insured with the

Contractor. Notwithstanding any inconsistent statement in the policy or any subsequent endorsement, the Agency shall be the insured or as an additional insured covering the work, whether liability is attributable to the Contractor or the Agency. The policy shall insure the Agency, its officers, employees, and agents, while acting within the scope of their duties on the work, against all claims arising out of or in connection with the work.

**Liability Limits/Additional Insured** - The Contractor may file insurance acceptable to the Agency covering more than one project. The coverage shall provide the following minimum limits:

Bodily Injury	\$1,000,000 each person \$1,000,000 each occurrence \$1,000,000 aggregate products and completed operations
Property Damage	\$1,000,000 each occurrence \$1,000,000 aggregate

A combined single limit policy with aggregate limits in the amount of \$1,000,000 will be considered equivalent to the required minimum limits.

The Contractor shall save, keep, and hold harmless the City of Costa Mesa, and their officers and agents from all damages, costs or expenses in law or equity that may at any time arise or be set up because of damages to property, or of personal injury received by reason of or in the course of performing work, which may be caused by any willful or negligent act or omission by the Contractor, any of the Contractor's employees, or any Subcontractor. The City will not be liable for any accident, loss or damage to the work prior to its completion and acceptance.

All liability insurance policies shall bear an endorsement or shall have attached a rider whereby it is provided that, in the event of expiration or proposed cancellation of such policies for any reason whatsoever, the Agency shall be notified by registered mail, return receipt requested, giving a sufficient time before the date thereof to comply with any applicable law or statute, but in no event less than 30 days before expiration or cancellation is effective.

The cost of this insurance shall be included in the Contractor's bid.

**Worker's Compensation Insurance** -Before execution of the contract by the City Council, the Contractor shall file with the Engineer the following signed certification:

"I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract."

The Contractor shall also comply with Section 3800 of the Labor Code by securing, paying for, and maintaining in full force and effect for the duration of the contract, complete Workers' Compensation Insurance, and shall furnish a Certificate of Insurance to the Engineer before execution of the contract. The Agency, its officers, or employees, will not be responsible for any claims in law or equity occasioned by failure of the Contractor to comply with this paragraph.

All compensation insurance policies shall bear an endorsement or shall have attached a rider whereby it is provided that, in the event of expiration or proposed cancellation of such policies for any reason whatsoever, the Agency shall be notified by registered mail not less than 30 days before expiration or cancellation is effective.

The cost of this insurance shall be included in the Contractor's bid.

**Endorsements** -Below are approved endorsements which satisfy the basic insurance requirements contained in contracts entered into by City of Costa Mesa. These have been approved by the City Attorney's office. The terms of any specific contract with the City are controlling. Prior to the commencement of any work, the City requires that the Engineer receive Certificates of Insurance in DUPLICATE for liability coverage of at least \$1,000,000 combined single limit, per occurrence and in the aggregate.

Each insurance policy required by the City of the Contractor shall contain the following endorsements:

1. Additional Insureds

"The City of Costa Mesa and the State of California – Department of Transportation, and their elected and appointed boards, officers, agents, employees, are additional insureds with respect to the subject project and agreement."

2. Notice

"Said policy shall not terminate, nor shall it be canceled nor the coverage reduced, until thirty (30) days after written notice is given to City."

3. Other Insurance

" Any other insurance maintained by the City of Costa Mesa and the State of California – Department of Transportation shall be excess and not contributing with the insurance provided by this policy."  
If any of such policies provide for a deductible or self-insured retention to provide such coverage, the amount of such deductible or self-insured retention shall be approved in advance by City. No policy of insurance issued as to which the City is an additional insured shall contain a provision which requires that no insured except the named insured can satisfy any such deductible or self-insured retention.

**7-1.08 OCCUPANCY** -- Should it become necessary, due to developed conditions, to occupy any portion of the work before contract is fully completed, such occupancy shall not constitute acceptance by the CITY of work by Contractor

**7-1.11 PRESERVATION OF PROPERTY** – Existing trees, shrubs and other plants, that are not to be removed and are injured or damaged by the Contractor's operations, shall be replaced by the Contractor. All costs shall be borne by the Contractor and replacement shall be in accordance with current City standards. The tree, shrub or other plant to be replaced shall be in kind and the existing shall be removed and disposed outside of the right-of-way in accordance with the contract documents.

All tree, shrub and other plant replacement shall be completed prior to the acceptance of the project. Replacement trees, shrubs and other plants shall have a plant establishment period of 90 days, at not cost to the City.

**7-1.12B(7) LAWS TO BE OBSERVED** -- The Contractor shall protect and indemnify the CITY, the BOARD, the ENGINEER, and all of its or their officers, agents and servants against any claim or liability arising from or based on the violation of any existing or future State, Federal and local laws, ordinances, regulations, orders or decrees, whether by himself or his employees. If any discrepancy or inconsistency is discovered in the plans, drawings, specifications or contract for the work in relation to any such law, ordinance, regulation, order or decree, the Contractor shall forthwith report the same to the ENGINEER in writing.

**7-1.13 DISPOSAL OF MATERIAL OUTSIDE OF THE HIGHWAY RIGHT-OF-WAY.** – The Contractor shall be responsible for the disposal of all materials and shall dispose of the materials outside of the City right-

of-way. Furthermore the Contractor shall accept ownership of all materials required by the contract documents to be disposed or excavated.

The Contractor will be responsible for complying with the City of Costa Mesa Municipal Code Section 8-77 to use a City-permitted hauler for all work performed under this project. Non-compliance with this requirement shall be subject to an administrative penalty of \$1,000 or 3% of the total project cost, whichever is greater. A Construction Project Debris/Solid Waste Hauling Compliance Agreement must be submitted by the contractor to the city on a City-approved form prior to the release of retention monies.

**8-1.10A LIQUIDATED DAMAGES** – reference the Section preceding Section 1 herein.

**8-1.04 PROGRESS SCHEDULE.** -- Prior to the commencement of construction, arrangements will be made for a pre-construction meeting between the Contractor and the ENGINEER. The purpose of this meeting is to organize the activities of the Contractor within the limits of this contract, review scheduling, discuss construction methods and clarify inspection procedures. At this meeting the Contractor will be required to submit, for approval by the ENGINEER, a complete work schedule showing the number of working days required to complete the entire project. Subsequent schedule updates shall be per Section 8-1.04 of the Standard Specifications.

The current monthly progress payment will be withheld if the Contractor fails to submit a satisfactory progress schedule.

**8-1.065 WORK DAYS AND WORKING HOURS** -- The workday shall have a regular starting time of 7:00 a.m. (without lane closure) and shall end at 3:30 p.m. No work shall be allowed prior to the regular starting time or after the 3:30 p.m. time, unless approved by the Engineer. Any work after 3:30 p.m. on a normal workday shall be subject to an overtime inspection charge of \$120/hour.

Lane closures will be allowed within the working hours set forth in the Special Provisions and construction drawings. The contractor shall be required to open all traffic lanes to vehicular traffic at all other times. Limitations to the hours for lane closures may be less than the working hours set forth herein.

Unless a separate bid item is provided, full compensation for conforming to the requirements of this subsection shall be considered as included in the contract bid price paid for various other items of work, and no additional compensation will be allowed.

Working hours within the intersections shall be limited to 8:30 a.m. and 3:30 p.m. Contractor shall maintain travel lanes and turn lanes as shown on the traffic control plans.

#### **9.01A 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.

**9-1.01A PARTIAL PAYMENTS.** -- The City makes partial payments for the following items:

- For the Clearing and Grubbing bid item, Mobilization bid item, and the Traffic Control bid item, payment shall be based on the percentage of work completed to date. This percentage shall be determined by the amount of work to date cost compared to the total project cost.

No partial payments or payments will be made for the following:

- No partial payment will be made for any materials on hand which are furnished but not incorporated in the work.

The Contractor shall record, on the set of contract documents maintained at the job site, deviations which have been made from the Contract Documents or approved shop drawings – including buried or concealed construction and utility features which are revealed during the course of construction. Special attention shall be given to recording the horizontal and vertical location of all buried utilities that differ from the locations indicated, or which were not indicated on the Contract Documents. Said record documents shall be supplemented by detailed sketches as necessary or directed, to indicate fully the work as actually constructed.

Requests for partial payments shall not be approved until the record documents are brought up to date. Also, request for final compensation shall not be approved until all the variations between the work as constructed and as originally shown in the Contract Documents have been properly recorded and delivered to the City, after approved by the Engineer.

**9-1.01B DAILY REPORT SUBMITTAL** -- Contractor shall submit daily reports to the CITY at the end of each working day. All forms shall be provided by the CITY. Any cost for this item shall be included in the various items of work and no other compensation will be allowed.

**9-1.07 PAYMENT ADJUSTMENTS FOR PRICE INDEX FLUXUATIONS** - The provisions for this Section do not apply to this contract.

**9-1.16F RETENTIONS** – The City withholds 5% of the progress payment due to the Contractor for work performed and this amount can not be released until 35 days after project acceptance.

**9-1.22 PROMPT PROGRESS PAYMENT TO SUBCONTRACTORS** - Attention is directed to the provisions in Sections 10262 and 10262.5 of the Public Contract Code and Section 7108.5 of the Business and Professions Code concerning prompt payment to subcontractors.

A prime contractor or subcontractor shall pay any subcontractor not later than 7 days of receipt of each progress payment in accordance with the provision in Section 7108.5 of the California Business and Professions Code concerning prompt payment to subcontractors. The 10 days is applicable unless a longer period is agreed to in writing. 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 Section 7108.5 shall subject the violating contractor or subcontractor to the penalties, sanction and other remedies of that section. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the 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. This provision applies to both DBE and non-DBE subcontractors.

**9-1.23 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. This provision applies to both DBE and non-DBE prime contractors and subcontractors.

**City will be strictly monitoring the Contractor for prompt payment to all subcontractors.**

**9-1.24 PROMPT PAY MONITORING AND ENFORCEMENT OF PROGRESS PAYMENTS** - In addition to the requirements set forth in Federal Regulation 49CFR 26.29 and Section 7108.5 of the California Business and Professions Code, the City of Costa Mesa shall use the following monitoring and enforcement mechanisms to ensure that all subcontractors, including DBE's, are promptly paid.

A. The City will strictly monitor the prime contractor or subcontractor(s) for prompt release of progress payments for all subcontracted work as follows:

1. The effective date of release is the date the City releases the check to the prime contractor by mailing or hand delivery at the City of Costa Mesa (has to be requested in writing ahead of time).
2. Prime contractor or subcontractor(s) to provide verification in writing that the subcontracts have been paid within 7 days or the time period agreed, from the effective date of release.
3. City may contact subcontractor(s) to confirm receipt of progress payment amount and if it was received within 7 days or the time period agreed from the effective date of release.

B. If the prime contractor or subcontractor(s) is found to be in default of Federal or State Codes concerning prompt payment to subcontractors, City will enforce the following besides the disciplinary action, sanctions and penalties imposed per the codes:

1. City will withhold 150% of the monies due to the subcontractor(s) from the prime contractor's next progress payment.
2. City may also elect to make the payment(s) directly to the subcontractor(s) without the prime contractor's approval for the remainder of the contract.

**13-2.01 WATER POLLUTION.** -- In addition to the provisions set forth in herein, the Contractor shall conform to the following, at no cost to the City. The Contractor shall be responsible for any damage to any portion of the work occasioned by failure to provide proper drainage control prior to the completion and acceptance of the work.

Unless otherwise directed in these specifications, the Contractor shall provide and maintain ample means and devices with which to promptly remove and properly dispose of water entering the excavations or other parts of the work at all times during construction. Dewatering shall be accomplished by methods, which will ensure a dry excavation and preservation of the final lines and grades of the bottoms of excavations. The methods may include sump pumps, deep wells, well points, suitable rock or gravel placed below the required bedding for draining and pumping purposes, temporary pipelines, and other means.

The Contractor shall dispose of the water from the work in a suitable manner without damage to adjacent property and in accordance with NPDES regulations.

Conveyance of the water shall be such as to not interfere with traffic flow or treatment facilities operations. No water shall be drained into work built or under construction without prior consent of the ENGINEER.

Water shall be disposed of in such a manner as not to be a menace to the public health and such disposal shall be performed in accordance with Environmental Protection Agency and State Water Quality Control Board standards (NPDES permit). Any testing and reports required under NPDES permit shall be performed by the Contractor and submitted to the appropriate agency for approval at no additional cost to the CITY.

The Contractor is responsible for the preparation and implementation of a storm water pollution prevention plan (SWPPP) as required by the Construction Permit. The Contractor is responsible for completing all parts of the SWPPP including monitoring, sampling, post construction BMPs and other requirements of the SWPPP. The Contractor must prepare the SWPPP using the City template available on the City's website. Project post construction BMPs can be obtained from the resident engineer for use in completing the SWPPP.

If there is no bid item for Water Quality Control, the cost for compliance shall be included in the various items of work.

**14-9.03A DUST CONTROL** -- All surplus materials shall be removed from the site of the work within three (3) days after completion of the work causing the surplus materials.

Unless the construction dictates otherwise, and unless otherwise approved by the ENGINEER, Contractor shall furnish and operate a self-loading motor sweeper with spray nozzles at least once each working day to keep paved areas acceptably clean whenever construction, including restoration, is incomplete.

Failure of the Contractor to comply with the ENGINEER'S dust control orders may result in an order to suspend work until the condition is corrected and, after giving notice to the Contractor, the ENGINEER may order the condition corrected by others. All costs thus incurred shall be deducted from the amount to be paid to Contractor. No additional compensation will be allowed as a result of such suspension.

**14-11.02B - REMOVAL OF ASBESTOS AND HAZARDOUS SUBSTANCES** - When the presence of asbestos or hazardous substances are not shown on the plans or indicated in the specifications and the Contractor encounters materials which the Contractor reasonably believes to be asbestos or a hazardous substance as defined in Section 25914.1 of the Health and Safety Code, and the asbestos or hazardous substance has not been rendered harmless, the Contractor may continue work in unaffected areas reasonably believed to be safe. The Contractor shall immediately cease work in the affected area and report the condition to the Engineer in writing.

In conformance with Section 25914.1 of the Health and Safety Code, removal of asbestos or hazardous substances including exploratory work to identify and determine the extent of the asbestos or hazardous substance will be performed by separate contract.

If delay of work in the area delays the current controlling operation, the delay will be considered a right of way delay and the Contractor will be compensated for the delay in conformance with the provisions in Section 8-1.09, "Right of Way Delays," of the Standard Specifications.



## **Part 2**

### **SPECIAL PROVISIONS**

#### **Additions/Modifications to Standard Specifications**

The following additions are made to the latest edition of the "Standard Specifications for Public Works Construction", and the General Provisions stated within the "Standard Specifications" of this project. Should there be a conflict between any of these provisions; the Special Provisions shall have precedence.

All work shall be performed in conformance with the 2007 Uniform Building Code as adopted by the City of Costa Mesa. The electrical, plumbing, and fire codes, and other regulations as adopted by the City of Costa Mesa Building Official shall apply to this project.

Where referenced in these specifications, the latest edition of the "City of Costa Mesa Standard Drawings" and the "Work Area Traffic Control Handbook (WATCH)" published by building News, Inc., shall also apply.

Payment for compliance with the following provisions shall be included in the various bid items of work unless otherwise modified in the special provisions section. No additional compensation will be allowed.

Payment for the various items listed on the Bid Proposal, as further specified herein, shall constitute full compensation to the Contractor for furnishing all material, tools, equipment, supplies, and manufactured articles, and for all labor, operations, and incidentals appurtenant to the items of work and as specified and as shown on the Drawings and in the contract documents, including all costs for compliance with the regulations of public agencies having jurisdiction, including Safety and Health Requirements of the California Division of Industrial Safety and the Occupational Safety and Health Administration (OSHA) of the U. S. Department of Labor.

No separate payments will be made for any items that are not specifically set forth in the Bid Proposal. Payments for any such items are included in various bid items of work.

Costs arising from violations of regulations will be paid by the offending party to the extent that there will be no additional cost to the City.

#### **Section 2-6 Work to be done**

The Fairview Road Safety Improvements Project will construct safety improvements on Fairview Road between Baker Street and Adams Avenue. The safety improvements include the construction a new raised median at a median break located approximately 500 feet south of Baker Street that currently provides access to commercial centers anchored by Stater Brothers grocery store on the east and a self-storage center on the west side. The new raised median will eliminate the left turn movements out of both existing driveways yet allow left turn

movements into the driveways. The project will include landscaping and irrigation for the new raised median.

The project will also improve a second median break located approximately 500 ft north of Adams Avenue at the Village Way entrance to the Villa Siena apartment complex on the west side of the Fairview Road. At this location the project will reconstruct the drive approach to Village Way and the southbound transition to the right turn lane to Adams Avenue, adjust the median nose at the left turn lane into Village Way, construct a new pedestrian and bicycle crossing with ADA access ramps and install a new traffic signal.

The project will also provide signing and striping improvements at the Fairview Road and Adams Avenue intersection to improve the left turn movements from Adams Avenue onto northbound Fairview Road.

Finally, the project will include modifying existing median curbs, where necessary, to accommodate bike lanes in both direction within project limits and modifying existing curb, gutter and sidewalk to provide ADA -compliant sidewalks within the project limits.

The preceding shall include furnishing all labor, materials, tools, equipment, and incidentals necessary to perform and to complete the work to the satisfaction of the City.

### **Section 3-3.2.2 (a) Labor Surcharge**

The compensation for employer's payments of payroll taxes; workers compensation insurance; liability insurance; health and welfare; pension; vacation; apprenticeship funds; other direct costs resulting from Federal, State, or local laws; and for assessments or benefits required by lawful collective bargaining agreements to be applied to the actual cost for wages shall be 23 percent for regular time and overtime.

### **Section 3-3.2.3 Markup**

- a. **Work by Contractor.** The allowance for overhead and profit to be added to the Subcontractor's costs shall be as follows:

Equipment and Material: 15%

Labor: 20%

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

- b. **Work by subcontractor.** The allowance for overhead and profit to be added to the Subcontractor's costs shall be the same as the ones allowed in 3-2.2.3(a). The allowance for the Contractor's overhead and profit to be added to the sum of the Subcontractor's costs and markup shall be 5%.

No markups will be allowed for second tier or higher subcontractors.

### **Section 5-1 Utility Location**

Attention is directed to the possibility of utility mains or laterals within the project limits. The Contractor shall have the locations of the various utility facilities within reconstruction areas marked on the surface prior to construction and protect them during the removal and reconstruction procedures. The Contractor shall contact the City Transportation Services Department to locate traffic signal conduit within the reconstruction areas.

Prior to commencing any work, the Contractor shall carefully excavate and determine precise locations and depths of all utility service lines, utility mainlines, irrigation systems and electrical systems, within the project site which may affect or be affected by the Contractor's operations. The Contractor shall not be compensated for any delays or extra work brought about by his failure to perform the above-mentioned work. The Contractor shall remove any abandoned underground utility lines encountered during construction. The Contractor shall be responsible for any damage to existing utilities.

### **Section 6-1 Construction Schedule and Commencement of Work**

The Contractor shall prepare and submit to the Engineer a written schedule of his work operations for the proposed project. The schedule shall be submitted for approval at the pre-construction conference. The Contractor's designated project superintendent shall be present at the pre-construction meeting.

### **Section 6-7 - Time of Completion**

The Contractor shall begin work on the project within ten (10) working days after the contract has been awarded by the City Council. Said work shall be diligently prosecuted to completion before the expiration of **Ninety (90) working days** beginning on the 10<sup>th</sup> working day after the award of the contract or the first day of commencement of the work, whichever occurs first.

### **Section 6-9 – Liquidated Damages**

The Contractor shall pay to the City of Costa Mesa the sum of \$250.00 per day, for each and every calendar day delay in finishing the work in excess of the number of calendar days prescribed above.

### **Section 7-8 – Water Pollution Control**

Discharge of storm water from construction sites that disturb land equal to or greater than one (1) acre must be in compliance with the state General Construction Activity Permit (Construction Permit). The latest permit provisions of the Construction Permit shall apply. The Contractor is required to contact the Santa Ana Regional Water Quality Control Board (Regional Board) for all information contained in the Construction Permit. In the event project construction occurs during the transition of revised Construction Permits, the Contractor shall incorporate the necessary

modifications specified by the revised Construction Permit within the time period specified in the new Construction Permit.

Construction activity subject to the Construction Permit includes clearing, grading, disturbance to the ground such as stockpiling, or excavation that results in soil disturbances of at least one acre of total land area. Construction activity that results in soil disturbances of less than one acre is subject to the Construction Permit if the construction activity is a part of a larger common plan of development that encompasses one or more acres of soil disturbance or if it is determined that discharges from the project pose a significant threat to water quality.

The Contractor shall submit the completed NOI to the resident engineer for signature and submittal by the City to the Regional Board. Contractor shall also complete the Notice of Termination (NOT) and submit the completed form to the resident engineer for filing by the City with the Regional Board.

A copy of the latest permit is available at:

[http://www.swrcb.ca.gov/stormwtr/gen\\_const.html#const\\_permit](http://www.swrcb.ca.gov/stormwtr/gen_const.html#const_permit).

The Contractor is hereby directed to read the Construction Permit thoroughly and comply with the requirements as specified therein.

### **Storm Water Prevention Plan (SWPPP)**

The Contractor is responsible for the preparation and implementation of a storm water pollution prevention plan (SWPPP) as required by the Construction Permit. The Contractor is responsible for completing all parts of the SWPPP including monitoring, sampling, post construction BMPs and other requirements of the SWPPP. The Contractor must prepare the SWPPP using the City template available on the City's website. Project post construction BMPs can be obtained from the resident engineer for use in completing the SWPPP.

The completed SWPPP must be signed by a person trained in SWPPP preparation and the training that qualifies them is identified in the SWPPP. The completed SWPPP must be submitted to the resident engineer for City review and approval. The SWPPP must be signed by the City before construction begins. A copy of the SWPPP must be available at the site at all times and must be implemented and revised in accordance with the Construction Permit throughout the duration of the project.

Contractor shall perform site inspections before and after the storm event, and once each 24-hour period during extended storm event, to identify BMP effectiveness and implement repairs or BMP modifications as soon as possible. Sampling of potential pollutant discharges shall be conducted by trained personnel and required laboratory test conducted by laboratory accredited by the California Department of Health Services Environmental Laboratory Accreditation Program.

Contractor shall be responsible for any penalties assessed against the City if the penalty assessed is due to Contractor's violation of the Construction Permit requirement, or Contractor's failure to fully implement and monitor SWPPP as required.

#### Erosion and Sediment Control Plans

Erosion and Sediment Control Plans shall be prepared by the Contractor as part of the SWPPP that identify adequate controls to prevent erosion and discharge of sediment off-site. Payment for the Erosion and Sediment Control Plans shall be included as part of the SWPPP.

#### **Section 7-13 Laws to be observed**

The Contractor shall comply with and meet all applicable SCAQMD, OSHA, NPDES and EPA requirements as specified. The Contractor shall be responsible to obtain those necessary manuals and publications.

#### **Section 9-1.2.1 Weight Ticket Requirements for Payment**

The Contractor shall submit all weight tickets or volumes of all materials used in the construction to the Engineer for checking and verification prior to any payment. Failure to do so will postpone the payment to the Contractor, until the matter is resolved satisfactorily.

The weight or volume from submitted tickets must correspond to the work done in the field; if not, the City shall reject the work without compensation to the Contractor, and/or the Contractor shall be directed to replace that work at no additional costs to the City.

#### **Section 9-3.3 Delivered Materials**

The cost of materials and equipment delivered, but not incorporated in said work, will not be included in the progress payment estimate unless otherwise provided in these specifications. All materials shall be nontoxic and shall not contain asbestos and hazardous substances as established by applicable laws.

#### **Section 9-3-2.1 Record Documents: Requirements for Partial and Final Payment**

The Contractor shall record, on the set of contract documents maintained at the job site, deviations which have been made from the Contract Documents or approved shop drawings – including buried or concealed construction and utility features which are revealed during the course of construction. Special attention shall be given to recording the horizontal and vertical location of all buried utilities that differ from the locations indicated, or which were not indicated on the Contract Documents. Said record documents shall be supplemented by detailed sketches as necessary or directed, to indicate fully the work as actually constructed.

Requests for partial payments shall not be approved until the record documents are brought up to date. Also, request for final compensation shall not be approved until all the variations between the work as constructed and as originally shown in the Contract Documents have been properly recorded and delivered to the City, after approved by the Engineer.

### **Section 9-3.4.1 Hauling Of Materials**

In order to protect the City streets from deterioration due to hauling of materials, the Contractor shall submit (at the pre-construction meeting) for approval, a proposed route for the hauling of materials for disposal. Upon approval, the Contractor shall strictly adhere to that route only, unless written permission from the Engineer is obtained to change the route.

The Contractor shall comply with the solid waste hauling provisions set forth in the City of Costa Mesa Municipal Code Section 8-77. Failure to comply will result in an administrative penalty of \$1,000 or 3% of the total project cost, whichever is greater.

### **Section 9-3.4.2 Water Supply**

If water is needed during construction, Contractor shall contact Mesa Consolidated Water District or the Irvine Ranch Water District to obtain necessary permits, instructions, and meters prior to commencing work. The Contractor is required to make any and all necessary installations and connections. All water shall be metered. The Contractor shall pay for all deposits and fees involved.

### **Section 9-3.4.3 Equipment Requirement**

The Contractor shall only use the proper construction equipment to protect the City streets from breaking up and deterioration. Haul trucks shall be limited to a gross vehicle weight of 10 tons or less.

### **Section 300-1.3 Demolition, Removal and Disposal of Materials**

#### **PART 1 - GENERAL**

##### **1.1 SUMMARY**

###### **A. Section Includes:**

1. Demolition, removal and disposal of on-site open wooden structure at Fire Station No. 4.
2. Demolition, removal and disposal of existing above-ground piping.
3. Demolition, removal and disposal of existing above-ground utility vaults.

##### **1.2 DEFINITIONS**

- ###### **A. Remove and Dispose:** Detach items from existing on-site and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.

- B. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

### 1.3 INFORMATIONAL SUBMITTALS

- A. Pre-demolition Photographs or Video: Submit photographs of existing conditions in .jpg format (no more than 1 Mb each) before Work begins.

### 1.4 CLOSEOUT SUBMITTALS

- A. Landfill Records: If required indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

### 1.5 FIELD CONDITIONS

- A. Owner will occupy portions of structure immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

- 1. Before selective demolition, Owner will remove the following items:

- a. All vehicles and equipment and material within the area of planned construction.

- C. Notify Engineer of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.

- 1. If suspected hazardous materials are encountered, do not disturb; immediately notify Engineer and Owner. Hazardous materials will be removed by Owner under a separate contract.

- E. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

- 1. Maintain fire-protection facilities in service during selective demolition operations.

- F. Protect existing improvements during all phases of construction. Damaged improvements will be repaired or replaced to satisfaction of Owner.

### 1.7 WARRANTY

Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction, including City of Costa Mesa.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped as required before starting selective demolition operations.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Engineer.
- D. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs.

### 3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
  - 1. Facility manager will arrange to shut off indicated services/systems when requested by Contractor. Provide 14 calendar days' notice.
  - 2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.

### 3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.



- C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

### 3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
4. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
5. Dispose of demolished items and materials promptly. Comply with requirements in Section 017419 "Construction Waste Management."

- B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Owner, items may be removed to a suitable, protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.

### 3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
4. Comply with requirements specified in Section 017419 "Construction Waste Management."

- B. Burning: Do not burn demolished materials, burning will not be permitted.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

### 3.6 CLEANING

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

END OF SECTION

## **PART 3**

### **SPECIAL PROVISIONS / BID ITEMS**

#### **BID ITEMS**

The work embraced herein shall be done in accordance with the latest Edition of the Standard Specifications for Public Works Construction (GREENBOOK) and the Standard Plans for Public Works Construction, latest Edition, of the American Public Works Association, and ADA Standards for Accessible Design, insofar as the same may apply, and these special provisions.

The referenced sections of the applicable City of Costa Mesa Standard Details and Specifications shall be considered as a part of these specifications.

Materials testing and compliance requirements shall be in accordance with the provisions set forth in the State of California, Department of Transportation, Standard Specifications, latest Edition, with its supplements and revisions.

In case of conflict between the Standard Specifications and these special provisions, the special provisions shall take precedence over and be used in lieu of the conflicting portions.

Amendments to the Standard Specifications set forth in these special provisions shall be considered as part of the Standard Specifications. In case of conflict between such amendments and the Standard Specifications, the amendments shall take precedence over and be used in lieu of the conflicting portions.

#### **Bid Item No. 1: Mobilization**

Mobilization shall consist of preparatory work and operations. It shall include, but not be limited to, the movement of personnel, equipment, materials and incidentals to the project site necessary for work on the project. The mobilization shall include all other work and operations, which must be performed.

Mobilization shall also include the time, materials, and labor to move the necessary construction equipment to and from the job site and the project administration costs during the entire contract period.

Mobilization shall include all work shown on the plans, which is not compensated in a bid item of work. This work shall include, but not be limited to protect-in-place and/or relocation of the facility to accommodate the construction of an improvement, restoration and adjustment of existing improvements, and establishing the location and depth of city traffic signal conduit, by potholing as necessary, where significant excavation may occur.

Underground facilities on these plans are for reference only. It is the contractor's responsibility to determine the exact location of potentially conflicting conduit.

The Contractor shall obtain bonds, insurance, and financing for entire project prior to beginning work.

The Contractor shall provide supervisory personnel to keep the construction site in a safe condition and all other related work as required at all times. These requirements shall also apply to all non-working days during construction period. The Contractor is responsible for securing an adequate storage site for equipment and materials.

The Contractor shall have on the work site at all times, as his agent, a competent English-speaking superintendent capable of reading and thoroughly understanding the plans, specifications, and other related documents.

**PAYMENT** - Compensation for the preceding shall be per the unit price bid per lump sum. It shall be considered full compensation for obtaining all business licenses and permits, as required for entire project, from all related agencies including but not limited to utility companies, private and public agencies. The compensation shall include the compliance with the requirements specified in those licenses and permits; and incidentals necessary to perform all related items of work. Payment for mobilization shall be based on the completion percentage of the entire project. No additional compensation will be allowed.

**Bid Item No. 2:     Traffic Control**

The contractor shall schedule the work to comply with the lane closure hours allowed herein.

Only one lane shall be closed to traffic in any direction between 8:30 am and 3:30 pm, Monday through Friday. All lanes must be open during peak hours of 6:00 am to 8:30 am and 3:30 pm to 6:00 pm. All lanes must be open during weekends and City observed holidays. Lane closures more than one lane will be allowed between the hours of 6:00 pm and 6:00 am.

No lane closures will be allowed during the annual Orange County Fair annual July event extending from the Thursday before to the Monday after the fair event. No lane closures will be allowed from the Friday before Thanksgiving to the Monday after New Year's Day.

The minimum lane width shall be ten (10) feet. There shall be a minimum of five (5) feet clearance from open excavation and two (2) feet clearance from other obstructions.

## PEDESTRIAN ACCESS

Where construction prohibits pedestrian access, alternate crossing areas shall be established with appropriate signing and other devices as required by the Engineer. Pedestrian access facilities shall be provided through construction area within the right of-way at all times. Pedestrian walkways shall be provided with surfacing as required to maintain safe and accessible pathways. Surface shall be skid resistant and free of irregularities.

The Contractor shall keep the areas adjacent to the project site clear of any objects that may be hazardous to pedestrians and motorists. Provisions to reroute pedestrians, including the disabled, around the work area must be clearly delineated and maintained. If the Contractor's operations require the closure of a walkway, then another walkway shall be provided nearby, off the traveled roadway, along the general path of travel.

## TRAFFIC CONTROL GENERAL

Any location considered not accessible by pedestrians or motorists as determined by the Engineer will be resolved at the direction of the Engineer. The Contractor will not be paid for such corrective action and shall be charged for any costs incurred by the City for corrective action. In addition to the above and in compliance with Section 7-10, the Contractor shall:

- a) Provide a safe and drivable ingress and egress to residents and businesses at all times, and provide safe pedestrian crossing paths at all times.
- b) Provide temporary traffic re-striping at the conclusion of any working day for any centerline, lane line or stop bar which is obliterated by construction.
- c) Be responsible for identifying the location and for the protection of all electrical facilities including signal conduit and interconnect. Where damage is caused by the Contractor's operation, the Contractor shall replace damaged facility at no extra cost to the City of Costa Mesa. Where construction signing conflicts with existing signing, the Contractor shall cover existing signs in a manner approved by the Engineer.
- d) Be responsible for notifying residents and businesses, in writing, seven (7) days in advance of any work that involves limited access. The Contractor shall provide verification to the Engineer that this has been accomplished.
- e) Notify the trash pickup company "Costa Mesa Disposal" of the schedule of work and the limitation of access. Contact City at (714) 754-5307 for Costa Mesa Disposal's address
- f) Furnish, install and maintain in-place "No Parking - Tow Away" signs (even if

streets have posted "No Parking" signs) which shall be posted at least (2) working days prior to commencement of roadwork. On the sign Contractor shall print the hours, day(s) and date of closure in two-inch high letters and numbers. A sample of the completed sign shall be approved by the Engineer prior to posting. For any work to be performed on Monday morning or a morning following a holiday, the Contractor must post "No Parking - Tow Away" signs, with all requirements as specified, at least 48 hours prior to beginning weekend or holiday.

- g) Coordinate with Orange County Transit District (Ph No. (714) 636-7433 x4330) to plan and to accommodate bus routes at least five (5) working days prior to commencement of any work which will involve any of their facilities.
- h) Provide any temporary delineation, as required, in accordance with the CA MUTCD, applicable Caltrans Standard Plans and as directed by the Engineer.
- i) Excavations shall be backfilled and hot mix asphalt concrete or temporary asphalt concrete surface shall be placed to the level of the existing pavement at the end of each work period as necessary to provide the required number of travel lanes and access to intersecting streets.
- j) The contractor shall provide temporary K-rails, visual barriers and temporary crash cushions as necessary to protect traffic from excavation areas.
- k) All pre-existing permanent traffic control signs and devices shall remain in operation unless a substitute operation is arranged for and approved by the Engineer.
- l) The Contractor shall use illuminated or reflective warning construction signs at appropriate locations for the project and/or as directed by the Engineer. The Contractor shall also use flashing arrow boards for each lane closure in addition to other delineation.
- m) C-18 ROAD CONSTRUCTION AHEAD, C-17 with 25 MILE SPEED LIMIT, C-14 END ROAD WORK, and soft barricades shall be used at all approaches as may be suitable. The Contractor shall employ sufficient traffic barriers to prevent traffic from entering the construction areas.
- n) The Contractor shall provide flagmen to direct the traffic where required and as directed by the Engineer.

The Contractor shall maintain a 24-hour emergency service to remove, install, relocate, and maintain warning devices and shall furnish the Engineer with names and telephone numbers of at least three people responsible for emergency service response. In the event these people do not promptly respond when notified, or it becomes necessary to call other forces to accomplish emergency service, the Contractor will be held liable for any costs incurred. A \$400/hour at 4-hour minimum will be charged to the Contractor. Any deviation from these requirements is not permitted. No payment will be made to the Contractor until problems are corrected to the satisfaction of the Engineer.

**PAYMENT** - Payment for the preceding shall be at the lump sum price bid for Traffic Control and shall be considered full compensation for providing all labor, materials, equipment including arrow boards, police services, barricades, safe pedestrian access provisions and related work as required. Additional compensation shall not be allowed.

**Bid Item No. 3, 4, 5, 6, 7, 8, 9, 10, 11, 35, 36, 37, 38:**

**CLEARING AND GRUBBING**

**REMOVE TREE**

**REMOVE PCC CURB**

**REMOVE PCC CURB AND GUTTER**

**REMOVE PCC SIDEWALK**

**REMOVE PCC DRIVEWAY**

**REMOVE MEDIAN HARDSCAPE**

**REMOVE EXISTING PARKWAY DRAIN**

**REMOVE CATCH BASIN AND INTERFERING PORTIONS OF RCP PIPE**

All removals shall conform to Section 300-1, "Clearing and Grubbing" and Section 300-2, "Unclassified Excavation" of the Standard Specifications and these special provisions and consist of removing and disposing legally off site all material, obstructions and improvements per the Plans.

This work generally includes, but is not limited to: removing trees, their root systems and vegetation (removed trees shall be immediately disposed from the job site by the contractor); removing concrete improvement including curbs, gutters, sidewalks, driveways, bus pads, walls, planters, concrete foundations, utility vaults, catch basins, etc. including backfilling and compacting with suitable materials; removing and adjusting curb drains and parkway drains; removing existing drain pipes and filling abandoned pipes with slurry or other approved methods; and associated work.

Removal and disposal of existing asphalt pavement and all other below ground materials (see "Unclassified Excavation" bid item section) required to construct proposed improvements shall be included in the "Unclassified Excavation" bid item.

Clearing and grubbing shall also include removing trees, water meters, sprinkler heads and irrigation lines, valves, back-flow valves, irrigation boxes and covers, electrical boxes and cover, sewer and drainage cleanouts, utility covers, various private, public signs,

mow stripes, rubber edging, and other material encountered during demolition and construction, and properly grading and restoring in-kind the disturbed areas.

Contractor shall completely remove all existing paint markings, gum, oil and other residue on the sidewalks, curb and gutters, ramps and all other locations within the project limits using high power sand blasting equipment, high-pressure water jets, or other method approved by the Engineer, except for areas subject to removal and reconstruction.

Prior to clearing and grubbing, any traffic and/or street signs that may interfere with construction shall be removed and salvaged to the City yard as directed by Engineer.

Existing PCC locations that are to be joined by new construction shall be sawcut in a straight line and sawcut to adjacent score lines per City Standards, or as marked in the field by the Engineer. Removals shall be no closer than 10' from expansion joints on curb and gutter and 5' on sidewalk. If the removal limits fall closer than said limits the removals shall be extended to the nearest expansion joint.

Excavated and removed materials (including PCC, AC, CMB, CTB, slurry backfill, dirt, ivies, plants, trees, roots, stumps, branches, grass, bricks, fences, woods, etc.) shall be removed from the job site the same day as excavated.

Existing pole foundations shall be removed completely. Work under the "Clearing and Grubbing" bid item shall include the complete removal of eight (8) additional buried foundations encountered during construction not specifically identified by the plans or viewable from surface grade.

It is the Contractor's responsibility to verify in the field the items described above before submitting a bid. The Contractor shall exercise due caution when working on this project to avoid any damage to existing improvements not designated for removal. Any damage done by Contractor and/or their equipment shall be repaired or replaced as called out in Section 7-9 of the Standard Specifications at the Contractor's expense. No burning will be permitted.

Contractor shall assume that existing PCC improvements to be removed may contain reinforcing and no additional compensation will be allowed if it does.

Footings and foundation shall be included in the cost of all removals.

Contractor shall obtain authorization from Engineer prior to removal of any tree.

**Bid Item No. 12, 39:        UNCLASSIFIED EXCAVATION**

Unclassified excavation shall conform to all Sections 300-1 "Clearing and Grubbing", 300-2, "Unclassified Excavation" and 300-4 "Unclassified Fill" of the Standard Specifications and shall consist of all unclassified excavation required to construct the new roadway



section, parkway, and offsite improvements in conformance with the line and grades set forth on the plans.

Unclassified excavation shall include removals of the following materials within the project limits to the required subgrade depth: asphalt concrete, aggregate base, native material, cement/lime treated material; slurry backfill; abandoned foundations or utilities, and other materials which may be encountered within the project limits and are not included in a separate bid item, such as the concrete removal items.

Unclassified excavation shall include the regarding of slopes at a maximum 3:1 slope.

Excavated and removed materials (including PCC, AC, CMB, CTB, slurry backfill, dirt, ivies, plants, trees, roots, stumps, branches, grass, bricks, fences, woods, etc.) shall be removed from the job site the same day as excavated.

All existing pavement joining new construction shall be sawcut in a straight line. Contractor shall exercise due caution to avoid any damage to the existing utilities and improvements to be protected in-place. Any damage caused by Contractor and/or his equipment shall be repaired or replaced as called out in Section 7-9, "Protection and Restoration of Existing Improvements" of the Standard Specifications at Contractor's expense.

It is the Contractor's responsibility to cover all subsurface exploration as required and submit a complete bid covering the cost for exploration and removals to the grades required.

The Contractor shall protect and support existing improvements not designated to be removed adjoining and adjacent new improvements including walls, fences, brick work, PCC, drainage pipes, structures and other improvements.

If, in the opinion of the Engineer, the existing materials of areas beneath the regular excavation depth are unsuitable, and/or contaminated, the Contractor may be ordered to over-excavate those areas to a depth to be determined by the Engineer. A combination of stabilization fabric crushed miscellaneous base and/or asphalt concrete shall be used to replace materials over-excavated as directed by the Engineer.

The Contractor shall contact Transportation Services at (714) 754-5184 two (2) days prior to any excavation work that would damage traffic signal loops, for adjustments to the signal timing.

**PAYMENT** - Payment for all the preceding shall be at the unit price bid per cubic yard. The Unclassified Excavation bid items are a Final Pay quantity and no additional compensation will be allowed. Payment for any over-excavation shall be per Section 3-3 "Extra Work" as modified by the General Provisions.

**Bid Item No. 13, 14, 15, 40, 41, 42:**

**COLD MILL EXISTING PAVEMENT 0.20' IN DEPTH**

**CONSTRUCT ASPHALT RUBBER HOT MIX**

## **CONSTRUCT HOT MIX ASPHALT**

### **Asphalt Concrete Pavement (ACP):**

Asphalt concrete pavement materials shall conform to Section 302-5, "Asphalt Concrete and Section 400-4, "Asphalt Concrete" of the Standard Specifications. The contractor shall be responsible for maintaining the location of and access to all waterline gate valves during construction. AC base course shall be Type III-B2-PG 64-10 (3/4" sieve size). AC surface course in offsite pavement areas shall be Type III-C2-PG 64-10 (1/2" sieve size). AC Curb shall be Type D2-PG 70-10.

### **Asphalt Rubber Hot Mix Pavement (ARHM):**

Asphalt Rubber Hot Mix materials shall conform to Section 203-11, "Asphalt Rubber Hot Mix (ARHM) and Section 302-9, "Asphalt Rubber Hot Mix (ARHM)" of the Standard Specifications. The contractor shall be responsible for maintaining the location of and access to all waterline gate valves during construction. ARHM surface course shall be ARHM-GG-C (1/2" sieve size).

### **Surface Preparation:**

Prior to removal or cold milling of pavement, the Contractor shall locate and mark all manholes and valve covers before commencing work. At all locations where, new asphalt concrete pavement is joining or overlaying existing asphalt pavement, the Contractor shall saw-cut existing pavement to provide straight neat lines and transition last twenty (20) feet of new pavement to form a smooth transition with the existing pavement. Adjustment of manholes, valve covers, cleanouts and saw-cutting of asphalt pavement shall be per separate bid items.

### **Subgrade Preparation**

Subgrade shall be scarified, moisture conditioned, and re-compacted per Section 301-1, "Subgrade Preparation" of the Standard Specifications. Relative compaction shall be a minimum of 95% for full depth asphalt and 90% asphalt pavement over base material.

### **Tack Coat**

Tack coat shall be per applied per Section 302-5.4, "Tack Coat" of the Standard Specifications, including the surface of every pavement course.

### **Distribution and Spreading**

Distribution and spreading for ACP shall conform to Section 302-5.5, "Distribution and Spreading" of the Standard Specifications. Distribution and spreading for ARHM shall conform to Section 302-9.3, "Distribution and Spreading" of the Standard Specifications. Contractor shall schedule paving operations to ensure that construction equipment does not drive over new pavement material. At least 24 hours of cure time shall occur between pavement lifts. Pavement shall be placed with a paving machine equipped with a Preco attachment or similar device for use in obtaining constant cross-slope and maximum joint quality.

### Rolling

Rolling for ACP shall conform to Section 302-6, "Rolling" of the Standard Specifications. Rolling for ARHM shall conform to Section 302-9.4, "Rolling" of the Standard Specifications.

Initial or breakdown compaction shall consist of a minimum of three coverages of a layer of pavement. A pass shall be a movement of a roller in both directions over the same path. A coverage shall be as many passes as are necessary to cover the entire width being paved. Overlap between passes during any coverage made to insure compaction without displacement of material, in accordance with good rolling practice, shall be considered a part of the coverage being made and not a part of a subsequent coverage. Each coverage shall be completed before subsequent coverages are started.

Pneumatic rollers shall not be used without prior approval of the Engineer. The top layer of each lane, once commenced, shall be placed without interruption. The Contractor shall roll the newly laid pavement in such a manner that will not create a joint between two passes; joints shall be flush. If such joint exists, the Contractor shall be required to replace or repair that section as directed by the Engineer at no cost to the City. Six (6) inches of newly laid pavement to be joined by an adjacent pass shall not be rolled until adjacent pass has been laid.

Finished surface of the new pavement at the edge of gutter shall be flush with the edge of the gutter and bus pad for all conditions.

Temporary asphalt concrete work for traffic control, maintaining driveway access or other purposes to adequately and safely construct the project and accommodate the adjacent business centers shall be included in the price bid and no additional compensation shall be allowed.

### Cold Mill Asphalt Pavement

Existing asphalt concrete pavement shall be cold milled a minimum of 2 inches and in accordance with section 302-1 of the Standard Specifications.

Unless otherwise directed by the Engineer to haul, spread and compact or haul and stockpile certain quantities of milled material specified in this section, the material planed from the roadway shall be removed and disposed of outside the right-of-way in accordance with the provisions in Section 7-1.13 of the Standard Specifications.

### Other

Traffic signal loops shall be installed & functional two (2) days following final AC work for any intersection approach.

**PAYMENT** - Payment for Construct Hot Mix Asphalt (HMA) and Construct Asphalt Rubber Hot Mix (ARHM) Pavement shall be per the unit price bid per ton and shall include full compensation for furnishing all labor, materials, tools, equipment, hauling, spreading, compacting, grading, and incidentals for completing all work as required. No additional compensation shall be allowed.

Payment for Cold Mill Existing Pavement 0.20' in Depth shall be per the unit price bid per square foot. The quantity to be paid for will be the actual area of surface cold milled, irrespective of number for passes required to obtain the depth shown on the drawing. The square foot compensation shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in cold milling asphalt concrete surfacing, hauling and disposing of the material, including furnishing the asphalt concrete for and constructing, maintaining, removing, and disposing of temporary asphalt concrete tapers, as specified in these special provisions and as directed by the Engineer. No additional compensation shall be allowed.

**Bid Item No. 16, 17, 18, 19, 20, 21, 22, 43, 44:**

**CONSTRUCT 6" PCC CURB OVER 6" CMB**

**CONSTRUCT 8" PCC CURB OVER 6" CMB**

**CONSTRUCT TRANSITION PCC CURB (6-INCH TO EXISTING) OVER 6-INCH CRUSHED MISCELLANEOUS BASE**

**CONSTRUCT 8" PCC CURB AND GUTTER OVER 6" CMB**

**CONSTRUCT TRANSITION PCC CURB AND GUTTER (8-INCH TO EXISTING) OVER 6-INCH CRUSHED MISCELLANEOUS BASE**

**CONSTRUCT SOLID PCC MEDIAN NOSE CURB OVER 6" CMB**

**CONSTRUCT VARIABLE HEIGHT RETAINING PCC CURB (6" – WIDE)**

**CONSTRUCT VARIABLE HEIGHT RETAINING PCC CURB (1'- WIDE)**

Concrete improvements shall be in conformance with City of Costa Mesa Standard Drawings, SPPWC Standard Drawings, details shown on the project plans, and Sections 201, "Concrete, Mortar, and Related Materials", 202-1 "Brick" and 303-5, "Concrete Curbs, Walks, Gutters, Cross Gutters, Alley Intersections, Access Ramps, and Driveways" of the Standard Specifications.

Brick improvements shall be in conformance with Sections 202-1 "Brick" and 303-4, "Masonry Construction" of the Standard Specifications.

Subgrade for concrete improvements shall conform to Section 301-1 "Subgrade Preparation". 6-inches of CMB shall be placed under curbs and curbs & gutter per Subsection 200-2.4 "Crushed Miscellaneous Base" and Section 301-2 "Untreated Base".

Concrete shall be class 560-C-3250. Forms shall be provided for excavating, backfilling and compacting. Forming work shall conform to Section 303-5.2, "Forms" and include any removal, replacement, grading, excavation and saw-cutting necessary for curb and gutter construction.

New brick planter shall match existing brick planter being replaced in materials and workmanship.

For curb constructed adjacent to existing private landscaping improvements Contractor shall regrade to a slope at 3:1 maximum from the back of curb to meet existing adjacent surface grades, regrading beyond the above ratio where necessary. Approximate daylight lines are shown on the plans. Low areas required to meet new or existing grades shall be filled; uncontaminated excavation materials may be used at Engineers approval. Any existing landscaping or irrigation improvements shall be replaced in kind. The grading behind the curb shall be included in the cost of the retaining curb bid item.

**PAYMENT** - Payment for Construct 6" PCC Curb over 6" CMB, Construct 8" PCC Curb over 6" CMB, Construct Transition PCC Curb (6" to Existing) over 6" CMB, Construct 8" PCC Curb and Gutter over 6" CMB, Construct Transition PCC Curb and Gutter (8" to Existing) over 6" CMB, Construct Solid PCC Median Nose, Construct Variable Height Retaining Curb (6" Wide), and Construct Variable Height Retaining Curb (1' Wide) shall be per the unit price bid per lineal foot of curb and shall include sub-grade preparation, CMB, forms, depressed curb for driveway approaches, backfilling behind curbs, grading behind curbs, restoring form areas and all other work as required to complete the work. No other compensation will be allowed. New curb and gutter along bus pads and driveways shall be included in these bid items.

**Bid Item No. 23, 24, 25, 26, 45, 46, 47:**

**CONSTRUCT 4" PCC OVER 4" CMB SIDEWALK**

**CONSTRUCT 4" DECORATIVE CONCRETE MEDIAN PAVEMENT**

**CONSTRUCT 6" PCC OVER 6" CMB COMMERCIAL DRIVEWAY APPROACH**

**CONSTRUCT 4" PCC OVER 4" CMB RAMP AND MEDIAN PASSAGEWAY WITH**

**RETAINING CURBS AND DETECTABLE WARNING SURFACE**

**(CONSTRUCTION NOTES 11 AND 13)**

**CONSTRUCT 6" PCC OVER 6" CMB RESIDENTIAL DRIVEWAY APPROACH**

**INSTALL SURFACE MOUNTED DETECTABLE WARNING SURFACE (ONLY)**

Concrete improvements shall be in conformance with City of Costa Mesa Standard Drawings, SPPWC Standard Drawings, details shown on the project plans, and Sections 201, "Concrete, Mortar, and Related Materials", 302-6 "Portland Cement Concrete Pavement and 303-5, "Concrete Curbs, Walks, Gutters, Cross Gutters, Alley Intersections, Access Ramps, and Driveways" of the Standard Specifications. In addition, stamped and color concrete shall be in conformance with Sections 303-6 "Stamped Concrete" and 303-7 "Colored Concrete" of the Standard Specifications.

Metal hand railings for ramps and staircases shall conform to SPPWC Standard Drawing 606-4, details shown on the project plans and Sections 206-5 "Metal Railings" and 304-2

## "Metal Railings"

Detectable warning devices shall be cast-in-place and installed per manufacturer's recommendations. Color shall be approved by Engineer.

Subgrade for concrete improvements shall conform to Section 301-1 "Subgrade Preparation". 4-inches of CMB shall be placed under sidewalks, ramps, median concrete, and staircases. 6-inches of CMB shall be placed under driveways and offsite concrete pavement. 12-inches of CMB shall be placed under bus turnout. CMB shall be placed per Sections 200-2.4 "Crushed Miscellaneous Base" and 301-2 "Untreated Base".

For the PCC improvements constructed adjacent to existing private landscaping improvements Contractor shall regrade to a slope at 3:1 maximum from the PCC improvement to meet existing adjacent surface grades, regrading beyond the above ratio where necessary. Low areas required to meet new or existing grades shall be filled; uncontaminated excavation materials may be used at Engineers approval. The grading behind the PCC improvements shall be included in the cost of the PCC improvement item.

Concrete shall be class 560-C-3250. Once work is started, the Contractor shall perform and complete work at each location within three (3) working days.

Sidewalk thickness shall be 4" except at driveway approaches where it shall be 6" and shall be medium broom finished.

Contractor shall stage driveway reconstruction work to maintain business access at all times. Driveways shall be reconstructed in two separate staged sections, #4 dowels (2-foot long) at 18 inches O/C shall be installed at cold joints. Access to businesses shall be maintained at all times without exception. Curb and gutter work adjacent to driveway approaches shall be included in the respective Curb/Gutter bid items.

Geometrics of new PCC valley gutter shall match existing valley gutter being replaced. New valley gutter shall be doweled into existing.

The monolithically poured curbs adjacent to the bus turnout shall be included as part of the bus turnout bid item.

The Contractor shall saw-cut and remove existing asphalt concrete or existing concrete sidewalk within construction limits where encountered for constructing new sidewalk and this work shall be included in the separate bid items. The remaining asphalt concrete or PCC pavement adjacent to new sidewalk shall be protected in-place, any damage caused by the Contractor shall be replaced at no cost to the City.

Pull boxes, traffic signal boxes, meter boxes, valve covers, hand holes, conduits and conductors shall be adjusted to finish grade, and approved by the Engineer prior to placement of PCC. Shallow conduit sweeps, and conductors shall be lowered. Broken, cracked, or damaged pull boxes, hand holes and lids shall be replaced prior to placement of sidewalk.

At all times the Contractor shall provide a safe and walkable temporary sidewalk with a minimum width of 48" clearance adjoining excavated areas within parkway limits for wheelchair and pedestrians to travel around construction areas. If such clearance is not possible, barricading, plating, filling, or other measures shall be required.

Weakened plane and expansion joints shall be constructed in PCC improvements in accordance with the plans and specifications, City Standard drawings, and Subsection 303-5.4 "Joints" of Standard Specifications. Crack Control Joints shall be constructed per plans as directed by the Engineer. Saw-cut joints shall be consistent in width and depth, true, straight, continuous, and evenly spaced.

**PAYMENT** - Payment for Construct 4" PCC Over 4" CMB Sidewalk, Construct 4" PCC Over 4" CMB Ramp and Median Passageway with Retaining Curbs and Detectable Warning Surface (Construction Notes 11 and 13), Construct 6" PCC Over 6" CMB Commercial Driveway Approach, Construct 6" PCC Over 6" CMB Residential Driveway Approach, Construct Decorative Median Pavement, and Install Detectable Warning Surface shall be per the unit price bid per square foot of improvement constructed. Unit prices shall include excavation, sub-grade preparation, CMB, forms, metal hand railings restoring form areas, temporary AC pavement, and all other work as required to complete the work.

**Bid Item No. 27, 28:**

**CONSTRUCT PARKWAY DRAIN NO. 1, INLET TYPE I**

**CONSTRUCT PARKWAY DRAIN NO. 2, AND CONNECT TO CATCH BASIN**

The Contractor shall construct the parkway, curb, and private drains in accordance with City of Costa Mesa Standard Drawings, details shown on the project plans, and Sections 201, "Concrete, Mortar, and Related Materials", 207-9 "Iron Pipe and Fittings", and 303-1, "Concrete Structures" of the Standard Specifications.

Subgrade for parkway drain shall conform to Section 301-1 "Subgrade Preparation". 6-inches of CMB shall be placed under valley gutter per Sections 200-2.4 "Crushed Miscellaneous Base" and 301-2 "Untreated Base".

Grate inlet at upstream end of parkway and curb drains shall be relocated in kind if impacted by new improvements. Grate inlet at upstream end of private drain shall be protected in place. This work shall be included in the cost of the drains.

Construction of parkway drain shall include concrete, grate inlet, reinforced steel, galvanized steel angle, sidewalk, curb/gutter work and structural backfill, and protection of utilities. Size of inlet and pipe shall be per plan. Concrete shall be class 560-C-3250. Provide positive flow through pipes for curb drain grades.

Construction of curb drain shall include concrete, grate inlet, cast iron pipe, sidewalk, curb/gutter work and structural backfill, and protection of utilities. Size and number of

pipes shall be per plan. Concrete shall be class 560-C-3250. Provide positive flow through pipes for curb drain grades.

Construction of private drain shall match existing in materials and workmanship. Design of private drain shall be confirmed with Engineer prior to construction.

**PAYMENT** - Payment for Construct Parkway Drain No. 1 and Construct Parkway Drain No. 2 and Connect to Catch Basin shall be at the unit bid price per each drain constructed and include supplying all labor, materials, equipment and incidentals including but not limited to all concrete, grate inlet, cast iron pipe, reinforced steel, CMB, sidewalk, curb/gutter, and structural backfill.

**Bid Item No. 29, 30:**

**CONSTRUCT PCC LOCAL DEPRESSION OVER 6" CMB**

**CONSTRUCT CATCH BASIN WITH TRASH ENCLOSURE PER SPPWC STD. PLAN**

**NO. 300-3 (W=7')**

Concrete Structures shall be constructed in accordance with Section 303-1 of the Standard Specifications for Public Works Construction and these Special Provisions. Concrete shall conform to Section 201 of the Standard Specifications. Class 560-C-3250 concrete shall be used for all structures as specified in Section 201-1 of the Standard Specifications, unless otherwise specified or noted on the plans.

All concrete structures shall be placed on firm and damp subgrade. If, in the opinion of the Engineer, the existing subgrade is wet, contaminated or contains unsuitable material due to no fault of the Contractor, the Contractor shall over excavate to a depth of one foot maximum and place crushed miscellaneous base as directed by the Engineer. Bedding material shall be used to backfill six inches (6") from the bottom and around the concrete structures.

Subgrade for local depressions shall conform to Section 301-1 "Subgrade Preparation". 6-inches of CMB shall be placed under local depression per Sections 200-2.4 "Crushed Miscellaneous Base" and 301-2 "Untreated Base".

If, in the opinion of the Engineer, dewatering of the excavation by use of well points, wells and pumping is necessary, the required work will be paid for as Extra Work per Section 3-3 of the Standard Specifications. No additional compensation for delay shall be allowed.

The Contractor's attention is directed to Section 7-10.4 Safety, of the Standard Specifications.



Testing:

Testing of the concrete shall be done in accordance with Section 201-1.1.4 of the Standard Specifications. Any testing results that do not meet the requirements shall result in the structure being rejected by the City and reconstructed by the Contractor at no cost to the City. No additional compensation shall be allowed.

Reinforcing Steel:

Reinforcing steel for reinforced concrete structures shall be grade 60 Billet-Steel. Cleaning, bending, placing and spacing of reinforcement shall conform to the applicable provisions of Section 52 of the State Standard Specifications and the drawings. The Contractor shall furnish a "Certificate of Compliance" with the specifications of ASTM Designation: A-615, All splices shall conform to the requirements of A.C.I. Manual, Standard 318-89. Splices requested by the Contractor for his convenience shall be subject to approval by the Engineer.

Steel plating shall conform to Section 207-12 of the Standard Specifications. Plate shall be cut to squarely fit on the walls of the existing catch basin structure and sit flush covering the opening in its entirety. Wobbling, shifting or movement of the steel plate is prohibited.

Structure Backfill:

Structural Backfill shall conform to Section 300-4.1 through 300-4.8 of the Standard Specifications.

Manhole and Junction Structures:

Contractor shall install galvanized manhole frame and cover in accordance with Orange County Standard Drawing 312-2-OC. The manhole rings are required and shall conform to ASTM Designation: C-478, and the drawings. The rings shall be laid up, using Type II cement with a 1:2 mix mortar and with ½ inch minimum thickness pointed joints. On completion, vertical wall section shall not be out of plumb by more than ½ inch in 10 feet of vertical height. The manhole rings shall also be accurately aligned. The cast iron manhole frame and cover shall be installed with frame accurately set to finished grade of pavement, in mortar well tamped around the perimeter of frame to ensure full bearing. The

Manhole frames and covers shall conform to ASTM Designation: A-45, Class 30. The castings shall be free from cracks, blowholes, or other imperfections, and shall be straight, true to pattern and have a uniform finish. The castings for manholes in streets shall be thoroughly cleaned and coated with asphalt paint of approved composition, all other castings for frames and covers shall be cleaned and galvanized. The cover shall fit firmly into the frame without rocking, with the frame accurately placed so that cover is flush with finish paving. The manhole cover shall bear the letter "D" per detail shown on the L.A.C.F.C.D. Standard Drawing No. 2-D197. No additional compensation will be allowed.

**PAYMENT** – Payment for Construct PCC Local Depression Over 6" CMB shall be at the unit bid price bid per each and shall include construction of local depression, furnishing and placing CMB below local depression, temporary AC pavement, replacement of any

damaged adjacent driveways, and other work as required to complete the work. No additional compensation shall be allowed.

Payment for Construct Catch Basin (W=7") with Trash Enclosure shall be at the unit bid price per each. Construction of catch basin shall include the complete construction of catch basins and drain inlets, including concrete, grates, reinforcing steel, manhole frames, lid and rings, curb/gutter, local depressions, unclassified excavation, structure backfill, necessary frames, forms and shoring, protection of all utilities, miscellaneous steel, and tools, equipment and incidentals required to complete the structure in conformance with the plans and specifications. No additional compensation will be allowed.

**Bid Item 31, 51: ROOT PRUNE EXISTING TREE AND INSTALL ROOT BARRIER**

Root Pruning

After removal of the damaged sidewalk, driveway, or curb caused by the tree roots, the Contractor shall trim and/or remove those tree roots as necessary to replace the sidewalk, driveway or curb at the proper grade. A root sealer shall also be applied. No trimming of the roots shall be done without approval of the City Arborist or City Designated Representative. This work shall be coordinated with the installation of root barriers.

Root Barrier

This item shall include furnishing and placing root barrier along sides of trees and tree wells designated per the plans. When installing root barriers in tree wells, root barrier shall be installed around the perimeter of tree well. The root barrier shall be #WB36 as manufactured by Deep Root Corporation or approved equal.

Submittal required - Manufacturer's product sales sample of root barrier material, illustrating the specified thickness to be used. Also provide samples of actual stock proposed for use on this project measuring 6 inches square.

**PAYMENT** - Payment for Root Prune Existing Tree and Install Root Barrier shall be at the unit bid price each and include supplying all labor, materials, equipment and incidentals to complete the work per plans and specifications and no additional compensation shall be allowed.

**Bid Item No. 48, 49, 50, 53, 54:**

**ADJUST EXISTING WATER VALVE TO GRADE**

**ADJUST EXISTING WATER METER TO GRADE**

**REMOVE AND SALVAGE EXISTING FIRE HYDRANT, AND INSTALL NEW FIRE HYDRANT**

**ADJUST EXISTING VALVE TO GRADE (PER CITY OF COSTA MESA PLAN SHEETS)**

**ADJUST EXISTING MANHOLE TO GRADE (PER CITY OF COSTA MESA PLAN SHEETS)**

**General**

Adjusting sewer/storm drain manholes and water valves to grade shall conform to Subsections 301-1.6, "Adjustment of Manhole Frame and Cover to Grade" and 302-5.8, "Manhole (and Other Structures" of the Standard Specifications, and these Special Provisions.

Adjustments and relocations of water services, meters, valves, backflow preventers and fire hydrants shall conform to Mesa Water District (MWD) Standard Specifications and Standard Drawings, and these Special Provisions. MWD Standard Specifications and Standard Drawings can be found on their website here:

[http://www.mesawater.org/eng\\_standard\\_specifications.php](http://www.mesawater.org/eng_standard_specifications.php)

The Contractor shall contact this MWD for all other specific requirements and all improvements shall be inspected and approved by MWD. The contractor shall schedule work to not disrupt water service to any business during business hours, without exception. Relocation work shall be coordinated with the Engineer and respective business to assure no impacts occurs. Water service shut down shall be limited to 6 hours during any non-business period.

It shall be the Contractor's responsibility to excavate and locate all utilities and appurtenances, which may affect construction of the utility relocations and adjustments. All exploratory excavations shall occur far enough in advance to permit any necessary relocation or adjustment without delaying the project. All costs incurred by the Contractor in making exploratory excavations shall be considered to be included the Mobilization bid item and in the unit price bid for constructing the individual water improvements.

Portland cement class shall be 560-C-3250

**Fire Hydrants**

New fire hydrants shall be constructed per MWD Standard Drawing 4 and conform to MWD Standard Specifications. Existing fire hydrants being replaced shall be abandoned at the main per MWD Standard Drawing 34, conform to MWD Standard Specifications and shall be a separate bid item from the new fire hydrant construction.

For fire hydrant extensions, Contractor shall remove and salvage the existing fire hydrant and remove and dispose of 90-degree bend. Contractor shall connect new 6" PVC pipe to existing with fitting and construct remaining fire hydrant assembly per MWD Standard Drawing 4 and conform to MWD Standard Specifications. Removal of existing fire hydrants shall be a bid item than the new fire hydrant assembly construction.

**Water Services**

New water services, meters, and meter boxes shall be constructed per MWD Standard Drawings 1 or 2 and conform to MWD Standard Specifications. Existing water services

being replaced shall be abandoned at the main per MWD Standard Drawing 34, conform to MWD Standard Specifications and shall be a separate bid item from the new water service construction. The existing backflow preventer shall then be removed and salvaged and the private water line shall be repaired with the same type of pipe as existing or approved equal. This salvaged backflow preventer shall be relocated adjacent to new water meter box per MWD Standard Drawing 23. Connection from relocated backflow preventer to private water line shall be made with the same type of pipe as the existing private water line or approved equal. Relocation of backflow preventer shall be included as part of the new water service assembly bid item.

For water service extensions, Contractor shall remove existing water meter box, meter, and customer service valve at the 90-degree bend. New water service, meter, box and customer service valve shall be installed per MWD Standard Drawings 1 or 2 by connecting new copper pipe to existing with a solder end joint. Existing backflow preventer shall be removed and salvaged and the private water line shall be repaired with the same type of pipe as existing or approved equal. This salvaged backflow preventer shall be relocated adjacent to new water meter box per MWD Standard Drawing 23. If no existing backflow preventer exists, then a new backflow preventer shall be constructed per MWD Standard Drawing 34. Connection from relocated or new backflow preventer to private water line shall be made with the same type of pipe as the existing private water line or approved equal. All works shall conform to MWD Standard Specifications.

#### 6-Inch Backflow Assembly

The 6-inch backflow assembly and PIV shall be relocated per MWD Standard Drawings 22 and conform to MWD Standard Specifications.

#### Adjust of Manholes and Clean Out Cans and Covers

Adjustment to grade of manholes and cleanouts shall conform to Sections 301-1.6 "Adjustment of Manhole Frame and Cover Sets to Grade" and 302-5.8 "Manholes (and Other Structures) of the Standard Specifications.

#### Adjustment of Water Valve Cans and Covers

Adjusting water valve cans and covers to grade shall conform to the MWD Standard Drawings 14 and 14A and conform to MWD Specifications. The Contractor shall be responsible for maintaining the location and access to all water line gate valves during construction operations. The Contractor may salvage and utilize all existing caps or sleeves but shall be required to furnish all sleeve extensions. Any lost caps or sleeves shall be replaced by the Contractor at no additional contract cost. All existing broken water valve sleeves shall be removed and replaced by the Contractor who shall contact Mesa Consolidated Water District to pick up new sleeves for replacement.

**PAYMENT** - Payment for Relocate Existing Fire Hydrant, Adjust Existing Water Valve to Grade, Adjust Existing Water Meter to Grade, Adjust Existing Valve to Grade (per City of Costa Mesa Plan Sheets), and Adjust Existing Manhole to Grade (per City of Costa Mesa Plan Sheets) shall be at the unit price bid per each item. The contract unit price paid shall include installation of water and other utility appurtenances, aggregate base, Portland

cement concrete, plating of holes during concrete curing periods, and all materials and incidentals to accomplish the work as specified herein. No additional compensation shall be allowed.

**Bid Item 52: CONSTRUCT CLASS A TOPSOIL**

Class A Topsoil construction shall conform to Sections 800 "Landscaping and Irrigation Materials" and 801 "Landscaping and Irrigation Installation" of the Standard Specifications as modified per these specifications. Class A Topsoil shall per the Plans and Special Provisions. Existing materials to be removed shall be covered under a separate bid item.

**PAYMENT** - Payment for Construct Class A Topsoil shall be at the unit bid price cubic yard and include supplying all labor, materials, equipment and incidentals to complete the work per plans and specifications and no additional compensation shall be allowed.

**Bid Item 32: CONSTRUCT LANDSCAPING AND IRRIGATION**

Landscaping and irrigation improvements shall conform to Sections 800 "Landscaping and Irrigation Materials" and 801 "Landscaping and Irrigation Installation" of the Standard Specifications as modified per these specifications. Landscaping and irrigation materials shall per the landscaping and irrigation plans and Special provisions. Existing irrigation materials may be salvaged and reused with approval by Engineer. Damaged irrigation materials shall be replaced.

**PAYMENT** - Payment for Construct Landscaping and Irrigation shall be at the unit bid price lump sum and include supplying all labor, materials, equipment and incidentals to complete the work per plans and specifications and no additional compensation shall be allowed.

**Bid Item 33:**

**TRAFFIC SIGNING, STRIPING, AND PAVEMENT MARKINGS (INC. EXIST. SANDBLASTING, TRAFFIC RATED PULL BOX, AND ADVANCED LOOPS FOR FAIRVIEW ROAD/ADAMS AVENUE AND FAIRVIEW ROAD/BAKER STREET)**

**General:** The striping, markings and signing shall be installed at locations in accordance with these plans, City Standard Plans and as specified by the Engineer. The existing conflicting striping shall be removed by wet sandblast method. The Contractor shall furnish all material, services, labor and equipment necessary for the required pavement preparations, layout and completing the pavement markings.

The installed material shall be plainly visible to the motorists both day and night. Nighttime visibility shall be by a retro-reflector induced by ordinary headlights.

These special provisions set minimum requirements on material characteristics of the pavement marking products. Requirements concerning application and contractor warranties shall be maintained to secure acceptable performances.

The striping and Traffic loop chart required for this project is incorporated within the attachments to the specifications.

Costa Mesa Street Striping Standards

The Contractor shall conform to the following requirements:

1. All traffic lines shall conform to the Caltrans Standard Plans and Standard Specifications, (2010 edition) and any amendments thereto, and these Special Provisions.
2. The following striping details shown in Caltrans Standard Plans A20A-D and A24A-E shall be routinely used for traffic lines.

<u>Line</u>	<u>Detail</u>	<u>Pavement Marker Info</u>
Double Yellow (Residential)	22	Type D
Double Yellow (Median Island)	29	Type D
Two-Way Left-Turn Lane	32	Type D
Channelizing Stripe	38	Type G
Channelizing Stripe	38B	Type G
Bike Lane	39	None
Bike Lane (Intersection Line)	39A	None
Lane Line Extension	40	None

3. All crosswalks, turn arrows, stop and yield bars and messages, and all other pavement legends except "Bike Lane" shall be installed in thermoplastic.
4. Bike lane stripes and messages shall be painted. The stripe may be 6" or 8" wide to match existing.
5. All striping that is to be removed must be removed by the wet sandblasting method with immediate cleanup of residue. No "blacking out" or temporary covering will be allowed.
6. Any painted curb removed or damaged during construction shall be repainted in kind (i.e., red, yellow, green, white).
7. The first three (3) raised pavement markers for any white line at an intersection shall be Type "C" for the opposite direction of travel. See project plans for additional information.

8. Two coats of paint shall be applied. The second coat shall be applied seven (7) days following the first application.

The Contractor shall install traffic striping, markings, arrows and messages pursuant to the "Signing and Striping Plan" included in the project improvement plan set. All work and materials shall conform to the requirements of Caltrans Standard Specifications (2010 edition).

The Contractor shall furnish and install traffic delineation using paint "cat tracking," temporary marking tape, temporary flexible reflective markers, or other approved media immediately as existing stripes are removed, including bicycle lanes, in existing locations or as shown on the project plans.

The Contractor shall "cat track" for striping and markings no later than 24 hours after the application of the asphalt concrete surface course (ACSC).

No painting shall occur until the Engineer has reviewed the cat tracking and approved the striping layout. Changes to the cat tracking shall be performed by the Contractor as directed by the Engineer at no additional cost to the City.

The Contractor shall apply the first application of paint for traffic striping and markings no later than three (3) days following the application of the ACSC.

The Contractor shall apply the thermoplastic no sooner than seven (7) days nor later than twelve (12) days following the application of the ACSC.

### Surface Preparation

In order to ensure maximum possible adhesion, the pavement surface upon which the pavement markings are to be placed shall be properly cleaned from grease, oil, mud, dust, dirt, grass, loose gravel, and other deleterious material prior to the application of the thermoplastic pavement markings, and prime sealer.

### Pre-marking

If the markings are not visible, the Contractor will be required to pre-mark each installation prior to the application of the material. Where no existing markings are in place, the Contractor shall place the new pavement markings where directed by the Engineer.

### Thermoplastic Pavement Marking Material

All stop bars, crosswalk messages, and arrows shall be replaced using thermoplastic, and conform exactly to the City of Costa Mesa stencil types.

Thermoplastic shall be composed of Alkydoid/Maleic Thermoplastic Pavement material that is applied to a road surface in a molten state by extrusion of the designated thickness and width. The stripe shall, upon cooling, be reflectorized and be able to resist deformation by traffic.

On all dry pavement surfaces binder/sealer shall be applied to the area where hot thermoplastic pavement markings are to be placed. The binder/sealer shall be that recommended by the manufacturer of the thermoplastic material. The material shall form a continuous film which shall dry rapidly and adhere to the pavement. The material shall not discolor nor cause any noticeable change in the appearance of the pavement outside of the finished pavement markings. All solvents shall have evaporated from the binder/sealer prior to the application of the molten thermoplastic materials.

#### Raised Pavement Markers (RPM)

The Contractor shall remove and replace all RPM in accordance with these project special provisions.

The Contractor shall furnish and install raised pavement markings no sooner than seven (7) days nor later than fourteen (14) days following the final installation of traffic striping, and located pursuant to the striping plans.

#### Pavement Marking Guarantee

The pavement marking material furnished and installed under this contract shall be guaranteed by the Contractor against failure due to blistering, bleeding, excessive cracking, staining, discoloration, oil content of pavement materials, smearing or spreading under heat, deterioration due to contact to oil or gasoline drippings, chipping, spoiling, poor adhesion resulting from defective materials or methods of application, loss of reflectivity, from traffic and wear.

#### Sign Posts and Signage

The Contractor shall provide 16-gauge aluminum signs of the type, size, shape and pattern shown on the plans, or as designated by the Engineer. Traffic signs shall be in conformance with the **California** Manual of Uniform Traffic Control Devices, latest edition, unless otherwise specified. Sign faces shall be of reflectorized porcelain enamel. Materials and construction methods shall conform to Caltrans Standard Specifications Section 56-2. **Sign posts shall be Telespar "Qwik-Punch," or approved equal, with anchor post and sleeve installed per SDRSD M-45.** Excavation, backfill, and all other incidentals necessary for completed sign installation shall be included in this item, including periodic relocation as may be needed to accommodate construction phasing.

**PAYMENT** - Payment for Traffic Signing, Striping, and Pavement Markings (Inc. Exist. Sandblasting) shall be included in the contract price bid per Lump Sum and shall include full compensation for removal of existing striping, legends, and markings; furnishing all material, services, labor and equipment as necessary to perform all the work involved. No additional compensation will be allowed.



**Bid Item 34:**

**TRAFFIC SIGNAL – FAIRVIEW ROAD AND VILLAGE WAY**

This work shall include furnishing and modifying traffic signals, safety lighting, controllers, foundations, conduit, conductors, loops, re-pulling interconnect cable and all work and materials required to provide operation as identified herein and on the plans. Work, materials and equipment shall conform to the provisions in Section 86, "Signals and Lighting", of the State of California Standard Specifications, and these Special Provisions, latest edition.

**SCHEDULING OF WORK**

The Contractor shall initiate traffic signal equipment acquisition upon execution of the contract by placing orders for all necessary signal hardware, controller, equipment and supplies.

The Contractor shall immediately start construction activity to permit excavations, installation of conduits, pull boxes and foundations in a most expedient manner, and minimize the disruption and inconvenience of an extended construction schedule. Construction, once started, shall be pursued until completion.

The Contractor shall furnish and install temporary wiring, poles, signal heads and appurtenances to maintain the traffic signals operational at all times, at no additional contract expense. Existing traffic signal safety lights/luminaires that are to be removed shall remain in operation until the replacement luminaire is installed and operating. All existing signal indications, pedestrian push buttons, and control equipment shall be maintained in operation, except during shutdown hours as specified. The Contractor shall cover signal heads/ped heads and modify hardware where phase or lane alignment modifications are required. If any component in the traffic control system is displaced, or ceases to operate or function, from any cause, during the progress of the work, the Contractor shall immediately repair the component to its original condition or replace/restore the component to its original location and operational condition. The contractor shall be completely responsible for the ongoing operations and maintenance of the traffic signals throughout the duration of the project to assure adequate operations and public safety.

**EXCAVATING AND BACKFILLING**

All excavated material shall be removed from the site and backfilled with compacted crushed aggregate base material topped with temporary asphalt concrete on the same working day as removed. Temporary alternate to backfilling, with permission of the Engineer, shall be the placement of steel plates with temporary asphalt concrete ramping at edges. Such plating shall not be allowed for more than three (3) working days, after which backfill shall be required.

**STANDARDS, STEEL PEDESTALS AND POSTS**

Contractor shall furnish and install poles, nuts, bolts, washers, cages, and other hardware as required conforming to manufacturer and Caltrans standards, at no additional contract expense. Poles and hardware shall be tested and certified per Caltrans testing procedures. Copies of the inspection request form and certifications given to the Engineer. Sign mounting hardware shall be Detail "U" of the Standard Plans ES-7N. Hybrid signal / CCTV pole shall conform to City of Los Angeles, Standard Drawing No. S-52.1.4B July 2008 edition.

The Contractor shall coordinate the delivery and erection of poles to occur on the same day. No materials or equipment shall be stored at the job site unless authorized by the Engineer. The job site shall always be maintained in a neat and orderly condition and safe pedestrian pathways

provided along all sidewalks, without exception. The installation of signal poles shall meet CAL/OSHA Electrical Safety Order and the Public Utilities Commission General Order No. 95, Rules for Overhead Electric Line Construction.

#### **FOUNDATIONS**

Foundations, signal pole cages, and anchor bolts shall be Contractor furnished and installed conforming to Caltrans standards. The Contractor shall verify the bolt pattern of each pole and receive approval from the Engineer as to the location and orientation of the poles and cabinet prior to foundation installations. Portland Cement Concrete (PCC) shall conform to Section 90-10, Minor concrete of the Standard Specifications and shall contain not less than 564 pounds of cement per cubic yard. Foundation concrete shall be vibrated to eliminate air pockets.

Existing pole and cabinet foundations shall be abandoned or removed completely. All material removed for pole foundations shall become the property of the Contractor and shall be disposed of outside the work site by and at the expense of the Contractor on the same day as removal occurs.

Traffic signal cabinet foundations shall be 18" high and have a 1" screened drain and ground rod, with a smooth faced PCC finish.

Contractor shall define the exact location, height of overhead and depth of underground utilities in the vicinity of the new foundations, by hand digging if necessary. After all utilities are exactly located, the Contractor shall contact the Engineer for approval of specific pole and cabinet foundation location. Costs for establishing the precise location of utilities in proximity to foundations shall be included in respective Traffic Signal Modification lump sum bid items, and no additional compensation shall be allowed.

#### **CONDUIT**

Conduit shall conform to the provisions in Section 86-2.05, "Conduit," of the Caltrans Standard Specifications, unless otherwise approved by the Engineer.

Conduit shall be High Density Polyethylene (gray color) – HDPE, IPS SDR11 GPE, unless otherwise directed by the Engineer. The contractor shall have the proper HDPE spooling equipment to install conduit without crimping or damage. HDPE conduit shall not be spliced. A bonding wire shall be furnished with all HDPE conduit. All conduit sweeps shall meet Caltrans standards for future fiber optic cable installations.

The Contractor shall determine the exact location and depth of all utilities within proximity of new conduit prior to installation by hand digging if necessary. Any utility damaged by the Contractor shall be immediately repaired by the Contractor at no additional compensation.

Existing reused conduit shall be cleaned with a mandrel or cylindrical wire brush and blown out with compressed air. All existing rigid metal conduit to be reused shall be equipped with new elbows and rigid metal fittings manufactured of mild steel. Rigid galvanized steel conduit couplings shall be threaded or compression type. Threadless connections or threaded coupler with two bolts as a clamp shall not be allowed. Rigid metal type shall be manufactured of mild steel and conform to UL Publication UL 6 for Rigid Metallic Conduit. Conduit threads shall be brush painted with either zinc-rich paint or zinc-rich primer, spray-on applications shall not be permitted.

The Contractor shall remove existing abandoned conduit and conductors in roadway widening

areas completely from the job site on the same day of conduit removal. Conduit abandoned under existing street sections shall have conductors removed and disposed of by the Contractor.

Rock wheeling shall not be allowed unless approved by written authorization from the Engineer and necessitated by unusual field/utility conditions. Engineer prior to work shall approve the method of rock wheeling. All conduit installations under pavement, curb and gutter areas shall be by boring methods approved by the Engineer.

Excessive use of water, such that pavement might be undermined, or subgrade softened shall not be permitted. Conduits to be drilled or jacking rod shall be fitted with suitable drill bits for the required hole size. Jacking or boring method must not weaken or damage any embankment, structure or pavement. Any mud from jacking or boring shall be flushed from the conduit and removed from the jacking pit to eliminate inadequate backfilling.

Parkway trenching shall conform to City of Costa Mesa Standard Drawing No. 813, 911, 411 and 412 for sidewalk replacement. All existing plant and irrigation materials including sod, trees and bushes damaged by trenching or boring work shall be replaced in kind, at no additional compensation.

Within pullboxes, conduit shall be placed to meet minimum clearances between the pullbox base, the conduit end and lid of pull box, conforming with Caltrans Standard Plans and Specifications. The contractor shall adjust existing pull boxes where clearance is inadequate to accommodate the proposed and existing conduit. Work shall conform to Caltrans Standard Specifications 86-2.06 and 86-2.07.

Conduit shall be placed in a manner to allow the cable/wire to be pulled in a straight line and clear the side of the pull box by at least 2". Use minimum bending radius as permitted by Appendix H of ICEA S-19/NEMA WC 3 and fiber optic cable standards.

After conductors/cables have been installed, the exposed end of conduits terminating in pull boxes, service equipment enclosure and controller cabinets shall be sealed with an approved type of sealing compound. Conduit for future use in pull boxes shall be threaded and capped, with a pull rope intact between successive pull boxes.

All excavations for the installation of conduits and pull boxes, and removal of old systems, shall be backfilled, compacted and restored to match adjacent areas and excess material shall be immediately removed from the job site. All trenching activity, commenced each day, shall be fully backfilled to the finished surface grade at the end of the day; final resurfacing shall be completed within five (5) working days on all streets and all trenches maintained in safe condition.

Work shall include trenching, jacking and boring, and all associated labor, materials, tools, equipment and incidentals involved in furnishing and installing conduit, complete in place. This shall include installation of conduit under sidewalk, soil and roadway pavement areas, removing surface materials, furnishing fittings, bends, bushings, pull wires/ropes, modification of conduits, replacement and repair in kind of AC, PCC, sod, irrigation within all areas affected by conduit installation, and all associated work, materials and equipment required to provide the intended operation. All jacking pits shall be adequately compacted immediately upon installing fill material and made safe for pedestrian access and inspected by the Engineer prior to concrete or asphalt placement.

All conduit existing within excavation areas affected by the proposed traffic signal, including Edison street lighting, traffic signal and interconnect conduit and other utilities, shall be lowered, modified and/or adjusted as required to accommodate the intended improvements. The Contractor shall determine the exact location of all underground facilities within improvement area, by hand digging if necessary, prior to commencing excavation work to assure avoidance of conflicts. All costs for preliminary exploratory work of existing conditions and subsequent utility modification shall be included in the lump sum bid item and no additional compensation shall be allowed.

The Contractor shall be responsible for identifying the location and for the protection of all electrical facilities including signal conduit and interconnect. Where damage is caused by the Contractor's operation, the Contractor shall replace damaged facility at no extra cost to the City of Costa Mesa.

### **PULL BOXES**

Pull boxes shall conform to the provisions in the State Standard Specifications and these special provisions and comply with UL and NEMA standards. New pull boxes and covers in the sidewalk or behind the curb shall be fiberglass, Christy "Fiberlyte", or Engineer approved equal gray, unless otherwise noted on the plans. Pull boxes shall be placed every 200' maximum within new conduit runs.

All pull boxes shall be factory-made standard size No.5 (or No.6 where noted) with extension unless otherwise noted on the plans or directed by the Engineer. The cover lid shall read "TRAFFIC". Pull boxes shall be provided with locking mechanisms as specified in the State Standard Plans.

All pull boxes shall be located as shown on the plans and as directed by the Engineer. No pull box shall be located within the driveway apron, or within any wheelchair ramp landing. Pull boxes within unimproved areas shall have a Class 1 flexible Post Delineator, per Caltrans Standard Plan A73-C installed adjacent to the pull box.

Within the pull box, the conduit shall be placed in a manner that the lowest portion of the opening shall be a minimum of 2-inches above the bottom of the pull box; the top portion of the opening shall be not less than 8-inches from the top of the pull box. The conduit shall be placed to allow the cable/wire to be pulled in a straight line and clear the side of the pull box by at least 2-inches.

### **INSTALLATION DETAILS OF PULL BOXES**

The bottom of pull boxes installed in the ground or in sidewalk areas shall be bedded in at least 6-inches of crushed rock and shall be grouted prior to the installation of conductors. The grout shall be between 1 and 2-inches in depth and shall be sloped towards the drain hole. A layer of roofing paper or Engineer approved material shall be placed between the grout and the crushed rock sump. A 1-inch drain hole shall be provided in the center of the pull boxes or splice vault through the grout and the roofing paper.

Excavating and backfilling shall be as per section 86.2.01, "Excavating and Backfilling" of the State Standard Specifications except that the backfill material shall not contain rocks graded larger than 1-inch.

Where the sump of an existing pull box is affected by the Contractor's operations, the sump shall be reconstructed and if the sump was grouted, the old grout shall be removed, and new grout placed at the cost of the Contractor and not the City. Any existing improvements damaged by the

Contractor shall be replaced as per section 86-2.03, "Removing and Replacing Improvements" of the State Standard Specifications at the cost of the Contractor and not the City.

#### **PULL BOX ADJUSTMENT**

The contractor shall adjust existing pull boxes where inadequate clearance is provided to accommodate the proposed cable and conductors, or where settling has occurred whereby the pullbox grade is lower than the adjacent surface area grade. Work shall conform to Caltrans Standard Specifications 86-2.06 and 86-2.07. Pull Box adjustment shall include the installation of new bushings, conduit end sealant, crushed rock and grout prior to the installation of conductors, and necessary concrete repair work. Old grout shall be removed, and new grout installed as required. Repair of adjacent PCC sidewalk shall be included, conforming with these specifications.

#### **BONDING AND GROUNDING**

Bonding and grounding of metal conduit shall conform to the provisions in Section 86-2.10 "Bonding and Grounding," of the Caltrans Specifications, and these Special Provisions.

Grounding jumper shall be attached by a 3/16 inch or larger brass bolt in the signal Standard or controller pedestal and shall be run to the conduit, ground rod or bonding wire in adjacent pull box. The grounding jumper shall be visible after the PCC cap has been poured on foundation. A continuous ground wire shall be provided in all HDPE conduit.

#### **SERVICE**

Fairview Road/Village Way – A new Type II service will be installed at this location. It shall be the Contractor's responsibility to verify the service tie-in location and make arrangements for service connections as the first order of work. The Contractor shall pay all electrical service connection fees. Contractor shall contact Nick Mukanos of Edison at (714) 895-0210, cell (714) 943-4491, or [nick.mukanos@sce.com](mailto:nick.mukanos@sce.com) well in advance of need to coordinate this work. New service conductors and breakers shall be furnished to accommodate safety lighting and signal services per below and meet Edison standards.

All work and materials required to provide the intended service shall be furnished and performed, including coordinating with the Edison. The lump sum bid price shall include installation and/or removal of pull boxes/hand holes, service risers, breakers, conduit and conductors, labor, materials, tools and equipment to provide the intended service operation, including all necessary connection fees, and no further compensation shall be allowed.

#### **INTERCONNECT CABLE (SIC)**

Existing signal interconnect cable (12 Pair #19 SIC) in existing 1½-inch conduit along the east side of Fairview Road shall be disconnected at the controller cabinet at Adams Avenue and pulled back to connect in the new controller cabinet at Village way. New traffic signal interconnect cable (12 Pair #19 SIC) shall be installed between controller cabinets at Adams Avenue and Village Way. The existing traffic signal interconnect cable (12 Pair #19 SIC) shall be reused to connect to the Village Way cabinet and shall be protected in-place and reused on Fairview Road between Village Way and Baker Avenue controller cabinet. Any damage to the existing SIC cable to be reused shall be replaced by the contractor at no additional expense. All new and reused SIC shall be continuous: no splicing shall be permitted between cabinets.

The SIC shall remain operational during all peak AM and PM periods daily without exception. The Contractor shall furnish and install temporary cable to maintain SIC communications operational each day and peak period, as required without additional compensation. See above section on "Conduit" and comply with cleaning procedures prior to reuse of existing conduit.

#### **WIRING**

Conductors shall be THW grade minimum unless approved by the Engineer. TW grade shall not be used. Only the splicing of loop detector cable shall be permitted. All other conductors including interconnect cable shall be continuous without splicing between terminal points, without exception. Conductors No. 8 AWG or larger shall be spliced by the use of "C" shaped compression connectors. Splices shall be insulated by "Method B." Conductors shall be neatly laced in service and controller cabinets, and at each pull box. Each conductor shall clearly identify the manufacture's name/trademark, insulation type, conductor size and voltage rating.

#### **CONTROLLER ASSEMBLY**

Cabinet assembly and auxiliary equipment shall conform to the provisions in Section 86-3 "Controller Assemblies", of the Caltrans Specifications and these Special Provisions.

At the Fairview Road/Village Way intersection, the Contractor shall furnish and install a new Econolite Cobalt Controller with conflict monitor, load switches, rack mounted detection, harnesses, relays, and all miscellaneous equipment and perform all connections and work to provide the intended operations shown on the plans.

#### **CONTROLLER CABINET**

At the Fairview Road/Village Way intersection, the Contractor shall furnish and install a new stainless steel Type P Cabinet complete to accommodate the intended signal operation. A final mylar cabinet wiring diagram shall be submitted for the cabinet modification to exactly detail final cabinet conditions.

Work, materials and equipment required to provide the indicated phasing operation at each intersection shall be furnished by the Contractor. Work shall be performed by a qualified traffic signal technician, certified to perform the cabinet hardware installations as required.

#### **SIGNAL FACES AND SIGNAL HEADS**

All traffic signal indications including programmed visibility type and arrow lenses shall be furnished by the Contractor and shall be "LED" type lenses for new, relocated and existing vehicle heads. LED units shall be certified as to meeting Caltrans Testing specifications and shall be approved by the Engineer prior to installation. Where PV heads are required, LED lenses shall be provided. The contractor shall submit a 5-year warrantee for all LED lenses prior to installation.

Vehicle head mountings shall be configured as directed by the Engineer prior to drilling of standards and head installations. Adjustments required to the signal head mounting configuration and placement on standards shall be provided as directed by the Engineer at no additional contract cost. PV heads shall be programmed at the direction of the Engineer.

The first paragraph of Section 86-4.06, Signal Mounting Assemblies," of the Standard Specifications is amended to read:

“Signal mounting assemblies shall consist of Size 41 standard steel pipe or galvanized conduit, necessary fittings, slip-fitters and terminal compartments. Pipe fittings shall be ductile iron, galvanized steel, aluminum alloy Type AC-84B No. 380 or Bronze. Mast arm slop-fitters post top slip-fitters and terminal compartments shall be cast bronze or hot-dip galvanized ductile iron. After installation any exposed threads of galvanized conduit brackets and areas of the brackets damaged by wrench or vise jaws shall be cleaned with a wire brush and painted with 2 applications of approved un-thinned zinc-rich primer (organic vehicle type) conforming to the requirements in Section 91, “Paint”. Aerosol cans shall not be used. Mounting assemblies shall be configured and installed to the optimum orientation as directed by the engineer.”

#### **PEDESTRIAN SIGNALS**

Pedestrian signal heads shall be relocated and installed by the Contractor as defined by the plans and shall be Caltrans laboratory pre-qualified “Hand/Man” LED type head, manufactured by US Traffic, Model Type 9098, or approved equal. New LED ped heads, if required, shall be furnished with a 5-year warrantee from the manufacturer. A copy of the LED purchase order, product specification and warrantee shall be submitted to the Engineer. All existing non-LED pedestrian indications, if any, shall be replaced with LED modules. Modification of mounting hardware shall be provided by the contractor within the bid fee and preformed as directed by the Engineer at no additional cost.

#### **PEDESTRIAN PUSH BUTTONS**

Pedestrian pushbutton assemblies shall be the Polara Bulldog III Series 3.5” stainless steel fully sealed assembly with Led and audible momentary buzzer and black powder coat manufactured by Polara Engineering Inc. (888) 340-4872, or engineer approved equal. The sign shall be attached and securely supported by the framework, and not extend beyond the framework. The display shall be international symbol without wording, 40” high from the pedestrian landing surface. Face-plate screws shall be stainless steel tamper resistant. The contractor shall submit the PPB manufacture’s specifications and warranty to the Engineer.

#### **LUMINAIRES**

New luminaires shall be 250W equivalent light emitting diode (LED) highway lighting luminaires (herein referred to as luminaires) for mast-arm applications. All devices shall meet the general specifications of the Transportation Electrical Equipment Specifications (TEES), Chapter 1--General Specifications, Section 86 of the Standard Specifications as well as the following specification. In case of conflict, this specification shall govern.

Each luminaire shall consist of a single assembly that utilizes LEDs as the light source. In addition, a complete luminaire shall consist of a housing, LED array, and electronic driver (power supply) in a self-contained device requiring no on-site assembly. Luminaire shall be designed to withstand vibration & wind loads of up to one-hundred (100) miles per hour or more (3 second gusts).

Each luminaire shall be rated for a minimum operational life of 63,000 hours or 180 months (15 years). Each luminaire shall be designed to operate at an average nighttime operating temperature of 70°F. The operating temperature range shall be 0°F to 150°F. Each luminaire is expected to operate above 100°F, but not expected to comply with photometric requirements. Each luminaire shall meet all parameter of this specification throughout the minimum operational life when operated at the average nighttime operating temperature. The individual LEDs shall be connected such that a catastrophic loss or the failure of one LED will not result in the loss of the entire luminaire. Each luminaire shall be listed with Underwriters Laboratory, Inc.

under UL 1598 for luminaires in wet locations, or an equivalent standard from a recognized testing laboratory.

#### **TECHNICAL REQUIREMENTS**

Maximum power consumption allowed for the luminaire shall be no greater than 140W to provide the required illumination.

The luminaire shall operate from a 60 HZ  $\pm$ 3 HZ AC power source. The fluctuations of line voltage shall have no visible effect on the luminous output. The operating voltage may range from 95 VAC to 305 VAC. The luminaire may operate over the entire voltage range; the typical operating voltages for this option are 120 VAC. The luminaire shall have a power factor of 0.90 or greater. Total harmonic distortion (current and voltage) induced into an AC power line by a luminaire shall not exceed 20 percent. The luminaire on-board circuitry shall include surge protection devices (SPD) to withstand high repetition noise transients as a result of utility line switching, nearby lightning strikes, and other interference. The SPD shall protect the luminaire from damage and failure for transient voltages and currents as defined in ANSI/IEEE C64.41.2 (Tables 1 and 4) for Location Category C-High. SPD shall conform to UL 1449, or UL 1283, depending of the components used in the design. SPD performance shall be tested per the procedures in ANSI/IEEE C62.45 based on ANSI/IEEE C62.41.2 definitions for standard and optional waveforms for Location Category C-High.

The LED circuitry shall prevent perceptible flicker to the unaided eye over the voltage range specified above.

The luminaire shall be operationally compatible with currently used lighting control systems and photoelectric controls as detail in Standard Specification 86-6.07 (2006 Version). The luminaires and associated on-board circuitry shall meet Class A emission limits referred in Federal Communications Commission (FCC) Title 47, Subpart B, Section 15 regulations concerning the emission of electronic noise.

The minimum maintained illuminance shall be .2 with light pattern figure 2 (isofootcandle curve) and be measured as a point. The L70 of the luminaire shall be at least the minimum number of hours as specified in Section 2.2 or greater. The measurements shall be calibrated to standard photopic calibrations.

The luminaire shall have a correlated color temperature (CCT) range of 3,500K to 6,500K. The color rendition index (CRI) shall be 65 or greater.

The luminaire shall not allow more than 10 percent of the rated lumens to project above 80 degrees from vertical. The luminaire shall not allow more than 2.5 percent of the rated lumens to project above 90 degrees from vertical.

The thermal management (of the heat generated by the LEDs) shall be of sufficient capacity to assure proper operation of the luminaire over the minimum operational life (section 2.2). The LED manufacturer's maximum junction temperature for the minimum operational life (Section 2.2) shall not be exceeded. The designed maximum junction temperature shall not exceed 221°F (105°C). The junction-to-ambient thermal resistance shall be 58°F/Watt or less. Thermal management shall be passive by design. The use of fans or other mechanical devices shall not be allowed. The heat sink material shall be aluminum or other material of equal or lower thermal resistance. The luminaire may contain circuitry that will automatically reduce the power to the



LEDs to a level that will insure that the maximum junction temperature is not exceeded, when the ambient, outside air temperature is 100°F or greater.

The luminaire shall be a single, self-contained device, not requiring on-site assembly for installation. The power supply for the luminaire shall be integral to the unit. The maximum weight of the luminaire shall be 35 lbs. The maximum effective projected area (when viewed from either side or either end) shall be 1.4 sq ft. The housing shall be a light to medium gray color within the Federal Standard 595B ranges of 26250 to 26500 for semi-gloss sheen, or 36250 to 36500 for flat sheen. Each housing shall be provided with a slip-fitter capable of mounting on a 2-inch pipe tenon. This slip-fitter shall fit on mast-arms from 1-5/8 to 2-3/8 in (O.D.) The slip-fitter shall be capable of being adjusted a minimum of  $\pm 5$  degrees from the axis of the tenon in a minimum of five steps (+5, +2.5, 0, -2.5, -5). The clamping brackets of the slip-fitter shall not bottom out on the housing bosses when adjusted within the designed angular range. No part of the slip-fitter mounting brackets on the luminaires shall develop a permanent set in excess of 1/32 in. when the two or four 3/8 in. diameter cap screws used for mounting are tightened to 10 ft-lb. Two sets of cap screws may be supplied to allow for the slip-fitter to be mounted on any pipe tenon in the acceptable range without the cap screws bottoming out in the threaded holes. The cap screws and the clamping bracket(s) shall be made of corrosion resistant materials and be compatible with the luminaire housing and the mast-arm, or treated to prevent galvanic reactions.

The assembly and manufacturing process for the LED luminaire shall be designed to assure all internal components are adequately supported to withstand mechanical shock and vibration from high winds and other sources. Luminaires to be mounted on horizontal mast arms, when tested in conformance with California Test 611, shall be capable of withstanding cyclic loading in a vertical plane at a minimum peak acceleration level of 3.0 G (G = Acceleration of Gravity) peak-to-peak sinusoidal loading (same as 1.5 G peak) with the power supply installed, for a minimum of 2 million cycles without failure of any luminaire parts, and a horizontal plane perpendicular to the direction of the mast arm at a minimum peak acceleration level of 1.5 G peak-to-peak sinusoidal loading (same as 0.75-G peak) with the power supply installed, for a minimum of 2 million cycles without failure of any luminaire parts.

The housing shall be designed to prevent the buildup of water on the top of the housing. Exposed heat sink fins shall be oriented so that water can freely run off the luminaire and carry dust and other accumulated debris away from the unit. The optical assembly of the luminaire shall be protected against dust and moisture intrusion per the requirements of IP-66 (minimum). The electronics/power supply enclosure shall be protected per the requirements of IP-43 (minimum).

Each luminaire shall be furnished with an ANSI C136.10 compliant, locking type, photocontrol receptacle. A rain tight shorting cap must be provided and installed. The receptacle must conform to the requirements of Standard Specification 86-6.07B (1). When available, an ANSI C136.41 compliant, locking type photocontrol receptacle with dimming connections shall be furnished in place of the ANSI C136.10 compliant receptacle. When the components are mounted on a down opening door, the door shall be hinged and secured to the luminaire housing separately from the refractor or lens frame. The door shall be secured to the housing in a manner to prevent its accidental opening. A safety cable shall mechanically connect the door to the housing.

Field wires connected to the luminaire shall terminate on a barrier type terminal block secured to the housing. The terminal screws shall be captive and equipped with wire grips for conductors

up to No. 6. Each terminal position shall be clearly identified. The power supply shall be contained inside the luminaire. The power supply shall be rated for outdoor operation. The power supply must have a minimum IP rating of IP65. The power supply shall be rated for a minimum life expectancy equal to or greater than the minimum operation life (Section 2.2) of the luminaire. The power supply case temperature shall have a self rise of 45° F or less above ambient temperature in free air with no additional heat sinks. The power supply shall have two leads to accept standard 0-10V dimming control (compatible with IEC 60929 Annex E). If the control leads are open or the analog control signal is lost, the driver will default to 100% power.

Housings shall be fabricated from materials that are designed to withstand a 3000-hour salt spray test as specified in ASTM Designation: B117.

Each refractor or lens shall be made from UV inhibited high impact plastic (such as acrylic or polycarbonate) or heat and impact resistant glass, and be resistant to scratching.

All aluminum used in housings and brackets shall be a marine grade alloy with less than 0.2% copper. All exposed aluminum shall be anodized.

Polymeric materials (if used) of enclosures containing either the power supply or electronic components of the luminaire shall be made of UL94VO flame retardant materials. The lens(s) of the luminaire are excluded from this requirement.

Paint or powder coating of the housing shall conform to the requirements of the Caltrans Standard Specifications and the Caltrans Standard Special Provisions.

Each luminaire shall have the manufacturer's name, trademark, model number, serial number, date of manufacture (month-year), and lot number as identification permanently marked inside each unit and the outside of each packaging box. The following operating characteristics shall be permanently marked inside each unit: rated voltage and rated power in Watts and Volt-Ampere.

The luminaires shall be manufactured in accordance with a manufacturer quality assurance (QA) program. The QA program shall include two types of quality assurance: (1) design quality assurance and (2) production quality assurance. The production quality assurance shall include statistically controlled routine tests to ensure minimum performance levels of the modules built to meet this specification, and a documented process of how problems are to be resolved. QA process and test results documentation shall be kept on file for a minimum period of seven years. LED luminaire designs not satisfying design qualification testing and the production quality assurance testing performance requirements described below shall not be labeled, advertised, or sold as conforming to this specification.

Design Qualification Testing shall be performed by the manufacturer or an independent testing lab hired by the manufacturer on new luminaire designs, and when a major design change has been implemented on an existing design. A major design change is defined as a design change (electrical or physical) which changes any of the performance characteristics of the luminaire, results in a different circuit configuration for the power supply, or changes the layout of the individual LED's in the module. LED Luminaires used shall meet Caltrans Design Qualification Testing requirements and procedures. Contractor shall provide evidence to Engineer that the Luminaire model supplied has met Caltrans test requirements.

#### WARRANTY

The manufacturer shall provide a written warranty against loss of performance and defects in materials and workmanship for the luminaires for a period of 5 years after acceptance of the luminaires. Replacement luminaires shall be provided promptly after receipt of luminaires that have failed due to any failure at no cost to the City. Any failure to function as specified shall be considered luminaire failure. All warranty documentation shall be given to the Engineer prior to installation.

#### **INTERNALLY ILLUMINATED STREET NAME SIGNS (ISNS)**

Signs are existing at each project location and shall be relocated where indicated as shown on the plans.

#### **DETECTORS**

All advanced traffic loop detectors shall be circular Type E and have a minimum one (1) inch cover conforming to Caltrans Standard Plan ES-5A and ES-5B. Loop detector lead-in cable shall be Type B. Loop wire shall be Type 1. Loops shall consist of 4 wraps. The Contractor shall install new 2" loop lead-in conduit for each loop group. New detector hand holes shall be installed per the plans conforming to Caltrans plans ES-5D. New loops shall be installed two days following final AC work at any intersection approach. The Engineer shall approve loop locations prior to installation.

In addition to 86-5.01 (5) Installation Details, the following shall be added: With reference to Curb Termination Detail Type A, ES-5E California Standard Plans, the excavation in the pavement adjacent to the curb and gutter section shall be backfilled with a combination of four inches (4") minimum thickness fine hot mix bituminous material with 5.6 percent by dry weight asphalt binder mixed with minimal aggregate over two inches (2") minimum thickness, 96 percent compacted sand tack coated on all contract surfaces. Entering saw-slot shall be deepened to allow both conduit and slack loop leads to be entirely within the compacted sand. Neither asphalt nor epoxy is to be allowed to encase the loop leads.

The Contractor shall test all loops and DLC's from the cabinet wiring panel and detector sensors to assure total continuity. The Contractor shall test the detectors with a motor-driven cycle, as defined in the California Vehicle Code, licensed for street use by the California Department of Motor Vehicles. The unladen weight of the vehicle shall not exceed 220 pounds and the engine displacement shall not exceed 100 cubic centimeters. Special features, components or vehicles designed to activate the detector will not be permitted. The Contractor shall provide an operator who shall drive the motor-driven cycle through the detection area of the detector at not less than 3 miles per hour nor more than 7 miles per hour. The detector shall provide an indication in response to this test.

Loop conductors and epoxy shall be installed on the same day the loop slots are cut. The Contractor shall seal all loop slots with asphalt emulsion sealant or approved equal. Slots in asphalt concrete pavement shall be filled with asphaltic concrete sealant as follows:

Temperature of sealant material during installation shall be above 70° F. Air temperature during installation shall be above 50° F. Sealant placed in the slots shall be compacted by use of an 8-inch diameter by 1/8-inch-thick steel hand roller or other tool approved by the Engineer. Compacted sealant shall be flush with the pavement surface. Minimum conductor coverage shall be one inch. Excess sealant remaining after rolling shall no be reused. On completion of rolling, traffic will be permitted to travel over the sealant.

The Contractor shall contact Traffic Engineering at (714) 754-5184 two (2) working days prior to damaging any loop for marking existing loop lead-in locations and to adjust signal timing. Loop detectors shall be disconnected in adjacent pullbox prior to pavement removal or pavement milling operations.

## **VIDEO DETECTION SYSTEM**

The video detection system shall be comprised of two major hardware components: a video sensor and a communications interface panel. An optional wired input/output card shall be available for certain cabinet types.

### **1. System Hardware**

#### **1.1. Video Sensor**

The video detection system shall include a video sensor that integrates a high-definition (HD) camera with an embedded processor for analyzing the video and performing detection.

##### **1.1.1. Camera and Processor**

- 1.1.1.1. The camera shall be a color CMOS imaging array.
- 1.1.1.2. The camera shall have HD resolution of at least 720p (1280x720 pixels).
- 1.1.1.3. The camera shall include a minimum 10X optical zoom.
  - 1.1.1.3.1. It shall be possible to zoom the lens as required to satisfy across-the-intersection detection objectives, including stop line and advance detection.
  - 1.1.1.3.2. It shall be possible to zoom the lens remotely from the TMC for temporary traffic surveillance operations or to inspect the cleanliness of the faceplate.
- 1.1.1.4. The camera shall have direct, real-time iris and shutter speed control by the integrated processor.
- 1.1.1.5. The processor shall support H.264 video compression for streaming output.

##### **1.1.2. Video Sensor Enclosure Assembly**

- 1.1.2.1. The camera and processor shall be housed in a sealed IP-67 enclosure.
  - 1.1.2.1.1. The faceplate of the enclosure shall be glass and shall have hydrophilic coating on the exterior surface to reduce debris accumulation and maintenance.
  - 1.1.2.1.2. The faceplate shall have a thermostatically-controlled indium tin oxide (ITO) heater applied directly on the interior surface to keep the faceplate clear of condensation, snow, ice and frost.
- 1.1.2.2. An adjustable aluminum visor shall shield the faceplate from the sun and extraneous light sources.
- 1.1.2.3. An integral aiming sight shall assist in aiming the camera for the detection objectives.

- 1.1.2.4. A removable rear cap and cable strain relief shall seal the power connection.
  - 1.1.2.4.1. The rear cap shall be tethered to the enclosure to avoid dropping the cap during installation.
  - 1.1.2.4.2. The rear cap shall be fastened to the body of the video sensor with a single, captive bolt.
- 1.1.2.5. The rear cap and enclosure shall include Gore breathers to equalize internal and external pressure while preventing moisture from entering the camera.
- 1.1.2.6. The sensor shall be self-supporting on manufacturer's mounting brackets for easier fastening during installation.
  - 1.1.2.6.1. It shall be possible to rotate the field-of-view 360° without changing the angle of the visor.

### **1.1.3. Power and Communications**

- 1.1.3.1. Power and communications for the video sensor shall be carried over a single three-conductor cable.
  - 1.1.3.1.1. Termination of the three-conductor cable shall be inside the rear cap of the enclosure on a three-position, removable Phoenix terminal block. Each conductor shall be attached to the Phoenix plug via a screw connection.
- 1.1.3.2. The video sensor shall operate normally over an input voltage range of 89 to 265 VAC at 50 or 60 Hz.
- 1.1.3.3. Power consumption shall be no more than 16 watts typical.
- 1.1.3.4. No supplemental surge suppression shall be required outside the cabinet.
- 1.1.3.5. All communications to the video sensor shall be broadband-over-power via the same three-conductor cable that powers the unit. Coaxial cable shall not be required.

## **1.2. Communications Interface Panel**

The video detection system shall include an interface panel in the traffic cabinet that manages communications between the video sensors, the traffic management center, a maintenance technician, and the traffic cabinet itself.

### **1.2.1. Video Sensor Connection**

- 1.2.1.1. The communications interface panel shall provide connection points for four video sensors.
  - 1.2.1.1.1. Each sensor connection shall be a 3-pole terminal block, which supplies power and broadband-over-power communications to the sensor.
  - 1.2.1.1.2. The broadband-over-power communications shall provide a throughput of 70 to 90 Mbps.
  - 1.2.1.1.3. The broadband-over-power connection shall support at least 1,000 feet of cabling to the video sensor.

- 1.2.1.1.4. Each video sensor connection shall include a power switch.
- 1.2.1.1.5. There shall be an LED for each video sensor to indicate the state of the power to the sensor and an LED for each video sensor to indicate the status of communications.
- 1.2.1.1.6. Each video sensor connection shall contain a resettable fuse.
- 1.2.1.1.7. Each video sensor connection shall provide high-energy transient protection.

## **1.2.2. Local User Communications**

- 1.2.2.1. A wired Ethernet port shall be provided to connect the technician at the cabinet to the video detection system for setup and maintenance purposes.
  - 1.2.2.1.1. The maintenance port shall support 10/100/1000 Mbps Ethernet communication.
  - 1.2.2.1.2. All communications to the video detection system through the maintenance port shall be to a single IP address.
  - 1.2.2.1.3. The maintenance port shall support DHCP to automatically assign an IP address to the user's computer.
- 1.2.2.2. An 802.11g Wi-Fi access point shall allow wireless connection to the video detection system at the cabinet for setup and maintenance purposes.
  - 1.2.2.2.1. All communications to the video detection system through the Wi-Fi access point shall be to a single IP Address.
  - 1.2.2.2.2. The Wi-Fi access point shall support DHCP to automatically assign an IP Address to the user's computer.
  - 1.2.2.2.3. The Wi-Fi access point shall include a dipole, omnidirectional antenna.
  - 1.2.2.2.4. A momentary pushbutton shall allow the user to turn the Wi-Fi access point on or off.
  - 1.2.2.2.5. The Wi-Fi access point shall turn itself off automatically after a period of inactivity from connected devices.
  - 1.2.2.2.6. An LED shall indicate when the Wi-Fi access point is enabled.
  - 1.2.2.2.7. The Wi-Fi access point shall operate simultaneously with the wired maintenance port and with the TMC connection.
  - 1.2.2.2.8. The WiFi access point shall require a password for connection by a user's computer. The default password shall be changeable.

## **1.2.3. Traffic Controller Connection**

The communications interface panel shall provide one connection to communicate to the traffic controller through the cabinet.

- 1.2.3.1. The traffic controller connection shall support a TS2 Type 1 compatible SDLC interface.

- 1.2.3.1.1. The traffic controller connector shall be a 15-pin female metal shell D sub-miniature type connector to support a standard NEMA TS2 or TEES SDLC cable.
- 1.2.3.1.2. The traffic controller connection shall support a protocol interface to SDLC-capable traffic controllers (NEMA or TEES).
- 1.2.3.1.3. The traffic controller connection shall support the NEMA TS2 SDLC protocol to include up to 64 detector outputs and 32 inputs.
- 1.2.3.2. The traffic controller connection shall be able to connect to a wired input/output card, which supports wired I/O in cabinets without a SDLC-capable controller.
  - 1.2.3.2.1. The wired I/O data communications link shall support at least 24 outputs and 16 inputs.
- 1.2.3.3. It shall be possible to connect and use both SDLC communications and communication to the wired input/output card simultaneously.

#### **1.2.4. USB Ports**

- 1.2.4.1. The communications interface panel shall include two USB 2.0 ports.
  - 1.2.4.1.1. If a communications interface panel fails to start and run due to a software or operating system failure, it shall be possible to reinstall all system and application software from a USB memory stick without necessitating removal of the communications interface panel from the cabinet.
  - 1.2.4.1.2. Video recording of up to 2 cameras simultaneously shall commence automatically when an appropriately configured USB memory stick is installed in either USB port.

#### **1.2.5. Power**

- 1.2.5.1. The communications interface panel shall accept input voltage in the range of 89-265 VAC, 50/60 Hz power from the transient-protected side of the cabinet.
- 1.2.5.2. The communications interface panel shall be protected by two slow blow fuses. Spares shall be attached to the panel.

### **1.3. Wired Input/Output Card**

The video detection system shall support an optional wired input/output card that communicates with the communications interface panel for real-time detection states and other I/O to the traffic controller. The card may reside in a standard detector rack or shelf-mount enclosure with power module.

- 1.3.1. The optional wired input/output card shall comply with the form factor and electrical characteristics to plug directly into a NEMA type C or D detector rack or Caltrans TEES Input File.
  - 1.3.1.1. The card shall occupy two slots of the detector rack.
  - 1.3.1.2. The card shall provide four detector outputs on its rear-edge connector.
  - 1.3.1.3. A front connector shall provide communication to the communications interface panel.

- 1.3.1.4. A front connector shall allow 16 inputs and 24 contact-closure detector outputs for wiring into the cabinet.
  - 1.3.1.4.1. A front panel LED for each of the 16 inputs and 24 outputs shall indicate the state of the input or output.
- 1.3.1.5. The wired input/output card shall support optional expansion cards in other slots. Each expansion card shall support 4 outputs to the back edge of the card.
- 1.3.1.6. The wired input/output card shall support optional harnesses for connection to Input Files or C1, C4, C11, and C12 ports to support Type 170 or Type 2070 controllers.

## **2. System Software**

The video detection system shall include management software for configuration, monitoring and data collection purposes.

### **2.1. Management Software**

- 2.1.1. Management software shall be a Windows-based application.
  - 2.1.1.1. The software shall be compatible with Windows 7 and Windows 10 operating systems.
  - 2.1.1.2. The software shall communicate with the video detection system via Ethernet.
- 2.1.2. The management software shall automatically determine all video sensors and communications interface panels available on the local network and populate a list of all devices.
- 2.1.3. The management software shall provide a means to add video sensors and communications interface panels on routed networks by the communications panel's WAN IP address.
- 2.1.4. The management software shall provide the user a means to name individual video sensors and communications interface panels.
- 2.1.5. The management software shall provide a means for the user to zoom the camera optics while viewing a live video stream.
- 2.1.6. The management software shall provide a means for the user to easily calibrate distances in the field of view so as to create a 3-dimensional mapping of the complete field of view.
- 2.1.7. The management software shall provide the user a means to create 4-sided detection zones in the field of view using either a still snapshot or live video.
  - 2.1.7.1. The management software will overlay an outline of each detection zone over the background image.
  - 2.1.7.2. It shall be possible for the user to place detection zones anywhere in the field of view for stop line detection and/or advance detection.
  - 2.1.7.3. It shall be possible for the user to set the desired color of both the on and off states of the overlay for individual detection zones.



- 2.1.7.4. It shall be possible for the user to alter the size and shape of any previously created zone.
  - 2.1.7.4.1. It shall be possible for the user to click and drag any of the 4 sides of a zone and the system will automatically scale the length of the side consistent with the 3-dimensional field of view.
  - 2.1.7.4.2. It shall be possible for the user to move an entire zone without automatic rescaling.
- 2.1.7.5. It shall be possible for the user to create a new zone by selecting an existing zone and duplicating it on either left or right side, or specifying a new zone behind (for advance) with a specific length and distance back from selected zone.
- 2.1.7.6. It shall be possible for the user to easily rotate a zone by selecting any of its four corners and dragging to rotate it.
- 2.1.7.7. It shall be possible to easily flip the zone direction 180 degrees from its current orientation.
- 2.1.7.8. It shall be possible for the user to name each zone uniquely.
- 2.1.7.9. It shall be possible for the user to assign each zone to detect vehicles, to detect bicycles, or to detect both, and to specify different outputs for each type.
- 2.1.7.10. It shall be possible for the user to specify the output of a zone as a presence, pulse, or snappy type output (presence during red and pulse during green signal phase state).
- 2.1.7.11. It shall be possible for a zone to have multiple output types (presence, pulse, snappy) on separate output channels.
- 2.1.7.12. It shall be possible for the user to tie the presence outputs of multiple zones as well as signal phase state together with AND/OR Boolean logic.
- 2.1.7.13. It shall be possible for the user to assign the same output to multiple zones such that the output will be on if any of the zones are detecting a vehicle or bicycle.
- 2.1.7.14. It shall be possible for the user to assign a single zone to more than one output such that if a vehicle or bicycle is detected, all the assigned outputs shall be turned on.
- 2.1.7.15. The management software shall be capable of creating at least 99 detection zones per video sensor.
- 2.1.8. It shall be possible for the management software to retrieve all configuration parameters from video sensors or communications interface panels.
  - 2.1.8.1. It shall be possible for the user to save all the settings for a video sensor or a communications interface panel to a laptop file.
  - 2.1.8.2. The management software shall provide a means to read or import all the settings from a previously saved configuration file for a video sensor or a communications interface panel.

- 2.1.9. The management software shall be able to download a new version of the application software into a communications interface panel and its attached video sensors.
- 2.1.10. The management software shall provide a screen to monitor operation of a video sensor.
  - 2.1.10.1. The monitoring screen shall include a live video stream from the video sensor with at least HD 1280x720 pixel resolution.
  - 2.1.10.2. The monitoring screen shall show indications of detection in real time by changing the color of the detection zone.
  - 2.1.10.3. It shall be possible for the user to configure different indications for vehicle detections vs. bicycle detections when both are configured for the same zone.
  - 2.1.10.4. The monitoring screen shall include the following optional, configurable objects. It shall be possible for the user to size and position them anywhere on the screen and to change the color and size of text.
    - 2.1.10.4.1. An indication of when either a zone or an output is on or off, along with a user-configurable name for that indicator, applicable to any zone or output type.
    - 2.1.10.4.2. The current time in the video sensor.
    - 2.1.10.4.3. A user-configurable title or name.
    - 2.1.10.4.4. The version number of the video sensor software.
    - 2.1.10.4.5. Configurable text as defined by the user.
  - 2.1.10.5. Undo/Redo functions shall be available for operations during detection zone setup and programming.
  - 2.1.10.6. It shall be possible for the user to turn the overlay graphics on or off with a single setting.
- 2.1.11. The management software shall provide a screen to monitor operation of the intersection with a quad-view video stream from the communications interface panel.
  - 2.1.11.1. The quad-view video stream shall have a resolution of at least HD 1280x720 pixels, where each of the sensor videos comprising the quad-view shall be at least 640x360 pixels.
  - 2.1.11.2. It shall be possible for the user to configure the order that the sensor videos appear in the quad-view.
  - 2.1.11.3. The real-time quad-view video stream shall be capable of displaying the overlay graphics for all four sensors simultaneously.
- 2.1.12. While monitoring the video of a single video sensor or of the quad-view, it shall be possible for the user to request a "snapshot" or single-frame image to save to a named file on a laptop.
- 2.1.13. While monitoring the video of a single video sensor or of the quad-view, it shall be possible for the user to record a period of the video to save to a named file on a laptop.

### **3. System Functionality**

The video detection system shall provide the following features and functionality.

#### **3.1. Detection Performance**

3.1.1. The video detection system shall detect the presence of vehicles in defined zones and turn on the assigned output when the vehicle is present in the zone.

##### **3.1.1.1. Stop Line Detection**

3.1.1.1.1. For detection zones placed at the stop line, the probability of not detecting the presence of a vehicle shall be 1% or less when aggregated over a 24-hour period (as stated in 3.1.2) when the video sensor is installed and configured properly.

3.1.1.1.2. For detection zones placed at the stop line, the probability of falsely detecting a vehicle that is not present shall be 3% or less when aggregated over a 24-hour period (as stated in 3.1.2) when the video sensor is installed and configured properly.

3.1.1.1.3.

##### **3.1.1.2. Advance Detection**

3.1.1.2.1. It shall be possible to place advance detector zones such that the farthest point of the zone is up to 600 feet from the video sensor. Advance detector zone placement shall include 2-3 car lengths of field-of-view beyond the farthest point of the zone.

##### **3.1.1.3. Receding Zones**

3.1.1.3.1. The video detection system shall be capable of detecting receding vehicles in day or night conditions when the video sensor is installed and configured properly.

3.1.1.3.2. The Communications Panel

3.1.2. To ensure statistical significance for the above detection performance specifications, the data shall be collected over 24-hour time intervals (so as to avoid a single lighting condition) and will contain a minimum of one hundred (100) vehicles per lane. The calculations of detection performance will not include turning movements where vehicles do not pass through the detectors, vehicle lane-change anomalies, or where they stop short or stop beyond the combined detection zones.

#### **3.2. Failsafe Mode**

3.2.1. The video detection system shall provide three (3) failsafe options during optical contrast loss. The default shall be maximum recall. The end-user may also choose to use minimum recall or fixed recall in which a user-defined number of seconds may be implemented to hold call during green.

3.2.2. The video sensor shall continuously monitor the overall contrast in the video. If the overall contrast falls below a preset level (such as caused by dirty faceplate, severe glare, extreme fog, or temporary ice/snow on the faceplate), the sensor shall enable the chosen failsafe mode. When sufficient contrast is restored in the video, the sensor will exit the failsafe mode.

3.2.3. The communications interface panel shall continuously monitor the connectivity status of the attached video sensors. If any video sensor goes offline due to either electrical failure or internal software failure, the communications interface panel shall enable the failsafe mode for that video sensor. If the video sensor comes back online, failsafe mode shall end.

### 3.3. Data Collection

3.3.1. The video detection system shall automatically collect and store traffic flow data in non-volatile memory for later retrieval and analysis. No additional hardware or software shall be necessary. Data functionality shall include the following:

3.3.1.1. Data shall be collected automatically for all zones created by the user once the learn period is complete and normal detection is active. No further setup shall be required.

3.3.1.2. Vehicle counts per zone

3.3.1.3. Vehicle turning movements independent of zone.

3.3.1.4. Vehicle average speeds.

3.3.1.5. Vehicle lengths

3.3.1.6. Detection statistics with the on/off timestamps when zones were activated.

3.3.1.7. Detection actuation statistics for whether a zone was triggered by a vehicle or a bicycle.

3.3.2. The management software shall be able to retrieve collected data over a specified period of time or for all currently stored data and save into a standard CSV file.

3.3.3. The sensor hardware shall include up to 8GB of memory storage capacity for data collection.

#### 3.3.4. Data Download Types

3.3.4.1. Options shall be provided for downloaded data in the form of a .csv file for Raw data, Binned data, Detections and Zone Status as defined below:

3.3.4.1.1. Raw Data – Includes time stamped Zone statistics for vehicle or bike actuations and average speed as well as time stamped Exiting Vehicle Statistics which include volume, turning movement direction, speed and length for vehicles exiting each zone.

3.3.4.1.2. Binned Data – Pre-binned data with bin time set by the user down to as little as 1-minute. Data shall include volume, occupancy, turning movement counts and speed for vehicles for each zone.

3.3.4.1.3. Detections – Date/time stamped data regarding vehicles exiting zones including type of object (vehicle or bike), speed, length and direction of movement (through, left, right).

3.3.4.1.4. Zone Status – Date/Time stamped indications of whether a vehicle or bicycle actuated a zone and the average speed of all objects in the zone.

#### 3.3.5. Remote Data Interface

3.3.5.1. Data including counts, turning movements, speed and length, as well as zone names, sensor status, and video snapshots shall be available to remote systems via remote communication to the system using an Applications Programming Interface (API). This API shall consist of a set of GET commands embedded in HTTP protocol. The resulting data returned shall be in JSON format.

### 3.4. Operations Log

3.4.1. The communications interface panel and each video sensor shall maintain a time-stamped operations log of routine and special events in non-volatile memory for later retrieval and analysis.

### 3.5. Time Synchronization

3.5.1. The video detection system and management software shall provide three methods to synchronize the time of day clocks in the communication interface panel and the video sensors, as follows:

3.5.1.1. Manual time synchronization operation by the user, which sets the time to the current time on the laptop where the management software is running.

3.5.1.2. A configuration setting to allow the communications interface panel to automatically obtain time from the NEMA TS2 protocol on the SDLC channel and broadcast it to the video sensors.

3.5.1.3. A configuration setting to allow the communications interface panel to automatically obtain time from up to five Network Time Protocol (NTP) sources and broadcast it to the video sensors.

### 3.6. Video Streaming

3.6.1. In addition to the ability to view video streams in the management software, it shall be possible to view video from individual sensors or to view the quad-view from the communications interface panel using a third-party video player application on a tablet, smartphone or laptop computer.

3.6.2. Video bitrate is user-definable between 100 Kbps-5000 Kbps. The default shall be 2048 Kbps. All bitrates shall provide 30 fps.

## 4. Installation and Setup

The video detection system hardware shall be designed for flexible, fast and easy installation and setup.

4.1. It shall be possible to mount the video sensor on an intersection pole, mast arm, or luminaire arm.

4.2. No special tools or extra equipment, other than a laptop for configuration, will be required.

4.3. Once all hardware is installed, connected and functional, it shall be possible to configure the video detection system for a typical 4-approach, 8-phase intersection in 15 minutes or less.

## 5. Warranty, Service and Support

The video detection system shall be provided with the following warranty, service and support options.

## **5.1. Warranty**

5.1.1. The manufacturer shall warrant the video detection system for a minimum of three (3) years. An option for up to six (6) years of warranty shall be available.

## **5.2. Service**

5.2.1. Ongoing software support by the manufacturer will include software updates of the video sensor, communications interface panel, and management software. These updates will be provided free of charge during the warranty period. The manufacturer will maintain a program for technical support and software updates following expiration of the warranty period. This program will be available to the contracting agency in the form of a separate agreement for continuing support.

## **5.3. Support**

5.3.1. A quick-start guide, installation guide, application notes, and other materials shall be available from the manufacturer to assist in product installation and setup for various applications. In addition, training online or in person shall be available.

5.3.2. Training shall be available to personnel of the contracting agency in application design, operation, setup, and maintenance of the video detection system.

5.3.3. Manufacturer shall provide a tech support website and an 800 number for technical support.

## **CLOSED CIRCUIT TELEVISION (CCTV) CAMERA SYSTEM**

The Contractor shall furnish and install a new CCTV camera assembly complete at Fairview Road/Village Way, including the following:

- COHU Helios 3960 HD Camera and mount on new Type 24 signal pole (Pole F) at Fairview Rd & Village Way
- COHU CA252D cabling, conductors and connectors from camera to cabinet.
- Ruggedcom EAD's Model No. RS930L (2 each)

The Contractor shall furnish and install CCTV cable and conductors within existing conduit from the CCTV camera to the signal cabinet, and provide cabling between the camera, video transmitter and data communications. All hardware, materials and equipment shall be Contractor furnished and installed including cables, conductors, mounting hardware, power and surge protector, and connectors. The Contractor shall utilize existing designated SMFO at the signal cabinet and establish CCTV video/control from the TOC to the CCTV.

### **Power and Control Cable Surge Protector**

Each power and control conductor (including return conductors) shall be protected by the appropriate surge protector. All the protective devices shall be housed in each of the traffic signal cabinets.

### **Power Requirements**

The CCTV field equipment shall meet all of its specified requirements when the input power is 115 VAC plus or minus 10%, 60 plus or minus 3 HZ. The maximum power required shall not exceed 100 watts.

The equipment operations shall not be affected by the transient voltage surges and sags normally experienced on commercial power lines. It is the contractor's responsibility to check the local

power service to determine if any special design is needed for the equipment. The extra cost, if required, shall be included in the bid of this item.

#### Primary Input Power Interruption

The CCTV field equipment shall meet all the requirements in section 2.1.4 "power interruption" of the National Electrical Manufacturers Association (NEMA) standard TSI for traffic control system.

#### Wiring & Cables

All wiring shall meet the requirements of the national electric code. All wires shall be cut to proper length before assembly. No wire shall be doubled-back to take up slack. Wires shall be neatly laced into cable with nylon lacing or plastic straps. Cables shall be secured with clamps. Service loops shall be provided at all connections.

Cable between the camera and the traffic signal cabinet interface shall be the COHU CA252D cabling for COHU camera hardware.

#### Transient Suppression

All DC relays, solenoids and holding coils shall have diodes or other protective devices across the coils for transient suppression.

#### Power Service Protection

The equipment shall contain readily accessible, manually re-settable or replaceable circuit protection devices (such as circuit breakers or fuses) for equipment and power source protection.

Circuit breakers or fuses shall be provided and sized such that no wire, component, connector, PC board or assembly shall be subjected to sustained current in excess of their respective design limits upon the failure of any single circuit element or wiring.

#### Fail Safe Provision

The equipment shall be designed such that the failures of the equipment shall not cause the failure of any other unit of equipment.

#### Connectors and Harnesses

All external connections shall be made by means of connectors. The connectors shall be keyed to preclude improper hookups. All wires to and from the connectors shall be color coded and/or appropriately marked. In order to assure compatibility and performance compliance, the cables from the camera and pan/tilt unit shall be assembled by the camera manufacturer.

Connecting harnesses of appropriate length and terminated with matching connectors shall be provided for interconnection with the communications system equipment.

All pins and mating connectors shall be plated to provide good electrical connection and resist corrosion. Connectors utilizing solder type connections shall have each soldered connection covered by a piece of heat shrink tubing securely shrunk to ensure that it protects the connection.

### **TRAFFIC INTERCONNECT NETWORK ELEMENT**

#### System Architecture – Overview

The traffic interconnect network element (network element) is required to operate on all fiber facilities that are part of the traffic interconnect communications network. The network element will support G.SHDSL.bis line encoding and decoding with signal processing capabilities to extend the rate and reach of the transmitted signals in the presence of external interference. Line rates

per pair must be able to operate at a rate of up to 15+ Mb/s symmetrical with the ability to bond multiple pairs for a total bandwidth of 60+ Mb/s. The bonding protocol of the Network element must comply with the EFM/G.bond standards.

The network element will have the capability to bond fiber operating in a north and south direction supporting linear add drop networking. The network element must have the ability to continue operating over the minimum number of required fibers even if all other fibers have been damaged. In addition, the system must be able to return to normal working status and highest available bandwidth once the damaged fibers are restored without intervention from a field technician.

The network element must have the ability to be configured in a point to point, point to multi point, and daisy chain configuration.

An integrated and fully managed multi-port Ethernet switch is required to perform the add drop function. This multi-port Ethernet switch must have the capability of rate shaping and port prioritization. The switch must have the ability to support current and future applications to include simultaneous deployment of traffic controller, Camera(s), WAP, and DMS.

All operating parameters described above must be contained in a one RU high housing and capable of supporting two network elements with all of the functionality included in this document in one Rack unit.

The Network Element must have the capability of being either AC or DC powered for flexibility in installation applications.

#### Enhanced Signal Processing and System Resiliency

Signal processing will include at a minimum coordinated line management to enable maximum rate and reach performance of each fiber working together in a bond fiber configuration. In the event of an individual fiber failure the system will remain in operation with a minimal impact on the existing working pairs.

#### Integrated Ethernet Switching Capabilities

Each network element will include an integrated managed Ethernet switch capable of providing multiple 10/100 ports to communicate with various devices within a traffic controller cabinet and one port for local management. The integrated Ethernet Switch will also offer the following Local Area Network capabilities:

- Dynamic Bridging IEEE 802.1, 8K MAC address
- VLAN Tagging IEEE 802.1Q
- Double Tagging Q-in-Q, VMAN
- MSTP, RSTP, STP IEEE 802.1d
- OAM/CFM IEEE 802.3ah, 802.1ag

#### Quality of Service

- Classes of Service 4
- Scheduler WFQ, SP
- Classification L2 802.1p/Q priorities  
L3 ToS/DiffServ

#### Integrated Optics

Each network element will have the option to support an additional optical interface operating up to a 100/1000 Mb/s line rate. The optical port upgrade option will be available via a SFP optical



plug in module and be capable of working in conjunction with both high speed links (East and West). In addition, should the network be upgraded to fiber backhaul, the system must be able to support the fiber connection while continuing to provide existing Ethernet services over existing hardware, thus allowing for a fiber upgrade without replacing the existing hardware.

#### Network Management

In order to support ease of operation and the lowest possible on-going operating expense the network elements will need to be support by both a craft Graphical user Interface and an Element Management System that can be located at the Traffic Operations center or any other appropriate location.

#### Management Protocols

- SNMP SNMP v1 and v2c
- Command Line Interface TL1
- Remote Access Telnet
- Secure Access (option) SSH v2
- Time Synchronization SNTP v3
- Web Access HTTP
- File transfer FTP, TFTP

#### Front Panel Indicators (LEDs)

- Power
- Status
- Alarm
- MLP per modem/pair
- ACT (Activity)
- LNK (Link) per Ethernet/HSL port

#### Safety

- UL 60950, CSA C22.2 60950
- ETSI EN 60950, IEC 60950

#### EMC

- FCC Part 15 Class B
- ICES-003 Class B
- ETSI EN 300 386 Class B
- ETSI ETS 300 132-2

#### NEBS

- Level III (GR-1089-CORE, GR-63-CORE)

#### NEMA

- Rated -34 to +74 C

#### **BATTERY BACKUP SYSTEM (BBS)**

##### General BBS Requirements

The traffic signal BBS assembly and cabinet to be furnished shall be US Traffic type 2000 ITS BBS, with 79 AMP "MK" batteries meeting the following specifications. Any variation to these special provisions shall be explicitly identified within the bid submittal. The City reserves the right to accept or reject any BBS type in variance to these specifications. The BBS shall be tested in the presence of the Engineer.

1. BBS traffic assembly supplied shall be warranted for a minimum of two (2) years against manufacturing defects. The manufacturer shall refund all costs incurred for any BBS equipment part failures found prior to the warranty period, including labor and installation expenses, or the manufacturer may directly replace the failing unit within 2 weeks of the notice of failure.
2. The manufacturer shall provide a Certificate of Compliance stating conformance with this specification for the proposed BBS assembly provided to the City.
3. The BBS unit shall be identified with a serial number.
4. BBS unit shall be performance warranted to be in compliance with Caltrans minimum standards for BBS traffic signals for a period of two (2) years or more.
5. Batteries shall be warranted for full replacement two (2) years from date of purchase.
6. All warranty related measurements will be made at an applied voltage of 120 volts AC within one minute of signal module turn-on.
7. Failures due to acts of God, abuse and accidents are excluded from warranty coverage.

BBS shall provide the following special characteristics and functionality:

1. Provide a Time/Date stamp long of events, with a capacity of 100 events. The data shall be accessible on the LCD screen by using the touch panel.
2. Provide a user-friendly interactive LCD display to allowing programming and display of critical data, and indicate current battery charge status and conditions, including duration of operation under battery power, and a date and time log of activations. The display shall provide access to all real-time displays, as well as the real time programming values set in the unit, and provide the capability to comprehensively review the event log and capability to adjust any parameters.
3. Provide three (3) sets of fully programmable dry relay contacts to be configured for a given application. The contacts shall be capable to be configured to provide alarms or fault reporting to external devices, and connectivity to the City's traffic signal computer system. The operational parameters of the unit shall be fully programmable from the front panel or via a RS-232 communication port on the unit. Operating voltage thresholds shall be capable for programming by the City. Prom changes shall not be required in order to set the operating thresholds.

## GENERAL

The battery back-up system (BBS) shall include, but not be limited to the following: inverter/charger, power transfer relay, batteries, a separate manually operated non-electronic bypass switch, cabinet and all necessary hardware and interconnect wiring. The BBS shall provide reliable emergency power to a traffic signal in the event of a power failure or interruption.

The BBS shall provide power for a full operational mode for intersections equipped with LED's, in accordance with the Caltrans Transportation Electrical Equipment Specifications.

## 1.0 OPERATION

- 1.1 The BBS shall provide a minimum two (2) hours of full signal operation (minimum 700W/1000VA active output capacity, with 80% minimum inverter efficiency), and run an additional two hours on Red Flash only.
  - 1.1.1 Battery systems will back up an intersection for a minimum of four hours, and then be fully recharged and prepared for another two hours of operation within twenty-four hours, minimum.
  - 1.1.2 The transfer from utility power to battery power will not interfere with normal operations of the traffic controller, conflict monitor or any peripheral devices within the traffic control system.

- 1.2 The maximum transfer time from loss of utility power to switchover to battery backed inverter power shall be 150 milliseconds.
- 1.3 The BBS shall provide the user with 3-sets of normally open (NO) and normally closed (NC) single-pole double-throw (SPDT) relay contact closures, available on a panel-mounted terminal block, rated at a minimum 120V/1A, and labeled so as to identify each contact.
  - 1.3.1 The first set of NO and NC contact closures shall be energized whenever the unit switches to battery power. Contact shall be labeled or marked "On Batt" , and fully programmable via touch pad or RS232 interface.
  - 1.3.2 The second set of NO and NC contact closures shall be energized whenever the battery approaches approximately 40% of remaining useful capacity. Contact shall be labeled or marked "Low Batt", and fully programmable via touch pad or RS232 interface.
  - 1.3.3 The third set of NO and NC contact closures shall be energized two hours after the unit switches to battery power. Contact shall be labeled or marked "Timer" , and fully programmable via touch pad or RS232 interface.
- 1.4 Operating temperature for both the inverter/power transfer relay and manual bypass switch shall be -37C to +74C.
- 1.5 Both the Power Transfer Relay and Manual Bypass Switch shall be rated at 240VAC/30 amps, minimum.
- 1.6 The BBS shall use a temperature-compensated battery charging system. The charging system shall compensate over a range of 2.5 – 4.0 mV/C per cell.
  - 1.6.1 The temperature sensor shall be external to the inverter/charger unit. The temperature sensor shall come with 2 meters (6'6") of wire.
- 1.7 Batteries shall not be recharged when battery temperature exceeds 5 0C +/- 3C.
- 1.8 BBS shall bypass the utility line power whenever the utility line voltage is outside of the following voltage range: 100VAC to 130VAC (+/-2VAC).
- 1.9 When utilizing battery power, the BBS output voltage shall be between 110 VAC and 125 VAC, pure sine wave output, < 3% THD, 60Hz +/-5Hz, at 95-97% efficiency.
- 1.10 BBS shall be compatible with NEMA Type M and P Cabinets, Multisonics 820 System Controllers, Caltrans Model 332 Cabinets, Model 170 Controllers, Model 2070 Controllers and cabinet components for Flashing and full time operation.
- 1.11 When the utility line power has been restored at above 100 VAC +/-2 VAC for more than 30 seconds, the BBS shall dropout of battery backup mode and return to utility line mode, and fully programmable via touch pad or RS232 interface.
- 1.12 When the utility line power has been restored at below 125VAC +/-2 VAC for more than 30 seconds, the BBS shall dropout of battery backup mode and return to utility line mode.
- 1.13 BBS shall be equipped to prevent a malfunction feedback to the cabinet or from feeding back to the utility service.
- 1.14 In the event of inverter/charger failure, battery failure or complete battery discharge, the power transfer relay shall revert to the NC state, where utility power is reconnected to the cabinet.
- 1.15 Recharge time for the battery, from "protective low-cutoff" to 80% or more of full battery charge capacity, shall not exceed twenty (20) hours.
- 1.16 The BBS shall have lightning surge protection compliant with IEEE/ANSI C.62.41.

## 2.0 MOUNTING/ CONFIGURATION

### 2.1 GENERAL

- 2.1.1 Inverter/Charger Unit shall be rack or shelf-mounted.
- 2.1.2 Power Transfer Relay and Manual Bypass Switch shall be mounted in the NEMA M or P Cabinet, or on 332 Cabinet standard Electronic Industries Association (EIA) rail.
- 2.1.3 All interconnect wiring provided between Power Transfer Relay, Bypass Switch and Cabinet Terminal Service Block shall be no less than 2 meters (6'6") of #10 AWG wire.

- 2.1.4 Relay contact wiring provided for each set of NO/NC relay contact closure terminals shall be 2 meters (6'6") of #18 AWG wire.
- 2.1.5 The BBS Power Transfer Relay and Manual Bypass Switch are interconnected in order to ensure interchangeability between all BBS manufacturers, and shall comply with Caltrans standards.
- 2.1.6 All necessary hardware for mounting (shelf angles, rack, etc) shall be included in the bid price of the BBS. A minimum of 8 bolts/fasteners shall be used to secure swing-trays to the cabinet rack. Modifications required to the traffic signal cabinet to accommodate the BBS units shall be included in the additive bid item scope of work. All bolts/fasteners and washers shall meet the following requirements:

Screw type: Pan Head Phillips machine screw.

Size and Thread pitch: 10-32

Material: 18-8 stainless steel (Type 316 stainless steel is acceptable as an alternate)

Washer: Use one flat washer (18-8 stainless steel) under the head of each 10-32 screw (provided that the screws are properly tightened, lock washers are unnecessary.)

Number of screws per swivel bracket, minimum: 6 screws (minimum) per swivel bracket.  
Screws shall be spaced evenly along bracket, with one screw near each end.

## 2.2 EXTERNAL BATTERY CABINET

- 2.2.1 Inverter/Charger, Power Transfer Relay and manually operated Bypass Switch shall fit inside a typical fully equipped NEMA or Caltrans Model 332 Cabinet that includes full controller assembly.
- 2.2.2 Batteries shall be housed in a NEMA 3R rated cabinet mounted to the side of the NEMA M/P or Model 332 Cabinet. This external battery cabinet shall conform to TEES Chapter 7, Section 2-Housings for the construction and finish of the cabinet.
- 2.2.3 Batteries shall be mounted on individual shelves, or where ample space exists.
- 2.2.4 Four shelves shall be provided. There shall be a minimum of 304.8mm (12") clearance between shelves. Each shelf shall be a minimum of 228.6mm (9") X 635.0mm (25"), and capable of supporting a minimum of 57kg (125 lbs.)
- 2.2.5 The external battery cabinet shall be ventilated through the use of louvered vents (2), filters, and one thermostatically controlled fan as per TEES Chapter 7 Section 2-Housings.
- 2.2.6 External battery cabinet fan shall be AC operated from the same line output of the Manual Bypass Switch that supplies power to the NEMA or 332 Cabinet.
- 2.2.7 The external battery cabinet shall have a door opening to the entire cabinet. The door shall be attached to the cabinet through the use of a continuous stainless steel or aluminum piano hinge. The door shall use a padlock clasp in order to lock the door. The enclosure shall be weatherproof.
- 2.2.8 The BBS cabinet shall not extend beyond the framework of the existing traffic signal cabinet. All bolts, conduits and bushings, gaskets, shelves, and hardware needed for mounting shall be furnished and installed.

## 3.0 MAINTENANCE, DISPLAYS, CONTROLS AND DIAGNOSTICS

- 3.1 The BBS shall include display and /or meter indicating current battery charge status and conditions.
- 3.2 The BBS shall have lightning surge protection compliant with IEEE/ANSI C.62.41.
- 3.3 The BBS shall be equipped with an integral system to prevent battery from destructive discharge and overcharge.
- 3.4 The BBS and batteries shall be easily replaced with all needed hardware and shall not require any special tools for installation.

- 3.5 The BBS shall include a re-settable front-panel event counter display to indicate the number of times the BBS was activated and a front-panel hour meter to display the total number of hours the unit has operated on battery power.
- 3.6 Manufacturer shall include two (2) sets of equipment lists, operation and maintenance manuals, and board-level schematic and wiring diagrams of the BBS, and the battery data sheets. Manual shall conform to TEES 1999, Chapter 1, Section 1.2.4.2.

#### 4.0 BATTERY SYSTEM

- 4.1 Individual batteries shall be 12VDC type, 79+ amp-hour minimum "MK", and shall be easily replaced and commercially available off the shelf.
- 4.2 Batteries used for BBS shall consist of 4 batteries with a cumulative minimum rated capacity of 240 amp-hours. Recharge time from protective low cutoff to 80% or more of full battery charge capacity shall not exceed twenty (20) hours.
- 4.3 Batteries shall be deep cycle, sealed prismatic lead-calcium based AGM/VRLA (Absorbed Glass Mat/ Valve Regulated Lead Acid).
- 4.4 Batteries shall be certified by the manufacturer to operate over a temperature range of -25C to +74C, and 20% to 95% humidity.
- 4.5 The batteries shall be provided with appropriate interconnect wiring and corrosion resistant mounting trays and/or brackets appropriate for the cabinet into which they will be installed.
- 4.6 Batteries shall indicate maximum recharge data and recharging cycles.
- 4.7 Battery interconnect wiring shall be via modular harness. Batteries shall be shipped with positive and negative terminals pre-wired with red and black cabling that terminates into a typical power-pole style connector. Harness shall be equipped with mating power-pole style connectors for batteries and a single, insulated plug-in style connection to inverter/charger unit. Harness shall allow batteries to be quickly and easily connected in any order and shall be keyed and wired to ensure proper polarity and circuit configuration. Battery terminals shall be covered and insulated so as to prevent accidental shorting.
- 4.8 Battery terminals shall be covered and insulated so as to prevent accidental shorting.

#### 5.0 BBS WARRANTY

A two (2) year factory-repair warranty for parts and labor on the BBS shall be provided by the contractor and manufacturer from date of acceptance by the City. Batteries shall be warranted for full replacement for two (2) years from date of purchase. The warranty shall be included in the total bid price.

#### FIBER OPTIC CABLE FOR CCTV

Existing 12 SMFO cable currently exists in a 1½-inch conduit along the east side of Fairview Road between signal controller cabinets at Adams Avenue and Baker Street and shall be protect-in-place and reused. The contractor shall furnish and install a Single Mode Fiber Optic (SMFO) strand cable from the new controller cabinet at Village Way to connect to the existing fiber cable along Fairview Rd and establishing full fiber communications to the City's Traffic Operations Center (TOC). Work, materials and equipment shall conform to Caltrans Standards. Contractor furnished and installed materials include but are not limited to the following to meet the requirements of this section.

- Estimated 250 L.F. of 12-Strand SMFO cable:
- One (1) 6 port Fiber Patch Panels:
- One (1) 12 port Fiber Distribution Unit (FDU):

The contractor shall establish SMFO cable continuity from the Fairview/Village Way cabinet to the City Hall Traffic Operations Center (TOC). The Contractor shall test splicing work and provide "quality" SMFO transmission continuity from the intersection to the TOC.

Communications work shall include furnishing and installing fiber patch panels, card chassis, power supplies, connector module housings, couplers, drop cables, and all necessary wiring, cables and connectors. Assemblies shall be plug compatible and interchangeable such that technicians can quickly exchange assemblies in the field. Prototype, rebuilt, or reconditioned equipment are not allowed. It is the Contractors responsibility to have all appropriate equipment and assure full compatibility with the existing field and TOC components. Existing removed communications hardwire shall be delivered to the Engineer.

Fiber optic cable shall be the **Corning Cable System, single-mode Altos type, part number: 024RW4-T4101A20** 24-Strand Single Mode Fiber Optic (SMFO) cable, or Engineer approved equal.

Fiber transmitters/receivers shall be the: **International Fiber Systems (IFS) Inc., Model Type VT/VR1930WDM.**

The bid quantity of cable is approximate, it is the contractor's responsibility to determine the exact cable length required to establish full continuity prior to ordering cable.

Cable shall be continuous with twenty-five (25) feet of coiled cable provided in each signal cabinet extending between Placentia Avenue and Harbor Boulevard. Splicing shall be permitted only at the Harbor Boulevard intersection cabinet. No other splicing or cutting of SMFO cable shall be permitted. New cable shall be continuous and uncut between the Placentia Avenue and Harbor Boulevard intersections. Cable shall loop in existing conduit at each intersection crossing; the cable will overlap entering and exiting each cabinet.

The contractor shall coordinate cable CCTV work to maintain all CCTV cameras in operation throughout the duration of the project. Black-out of any City CCTV camera shall be allowed only during non-peak hour periods when a camera is being transferred from hardwire to fiber cable. During peak hour traffic periods between 7:00 to 9 AM and 3:30 to 6:00 PM, all CCTV cameras shall remain in full operation. Any additional work or cabling required to maintain peak hour operation of all CCTV cameras shall be provided within the contract fee at no additional cost. Caltrans CCTV cameras shall remain in operation daily during all work and non-work periods, unless authorized by the Engineer.

Individual SMFO fibers serving the identified CCTV intersections shall be clearly labeled at each splice location. Permanent ID tags shall be attached identifying the CCTV destination intersection per individual fibers. All unused spliced fibers shall be secured and labeled for future use. Splice trays, connector module housings, couplers, drop cables and associated materials meeting Caltrans standards shall be furnished for each location. All splicing shall occur based on City designated fiber color assignments.

#### Transmitter/Receiver Components

Fiber transmitters/receivers shall be the International Fiber Systems (IFS) Inc., Model Type VT/VR1930WDM, matching existing City hardware. The video and data transmitter and receiver shall support simultaneous broadcast quality transmission of digitally encoded video and bi-

directional data over one single mode optical fiber, compatible with the existing CCTV assembly. In-field electrical or optical adjustments shall not be required for these units.

IFS units provide a comprehensive warranty, which shall be submitted to the engineer prior to installation. It is the Contractors responsibility to determine the appropriate connectors and accessories required to establish compatibility and intended video/data fiber communications between field hardware and the TOC CCTV system.

#### Fiber Distribution Unit (FDU)

The Contractor shall furnish and install a 12-port FDU at the Placentia/Victoria cabinet. The FDU shall be Corning Cable Systems Wall-Mountable Connector Housings Model #WCH-02P or approved equal. The FDU shall contain two housing panels. The Closet Connector Housing Panel shall be Corning Model #CCH-CP12-19T, or approved equal, 6-port panel with (12) ST Compatible, single-mode, ceramic insert, composite housing, and threaded adapters.

The unit shall contain Splice Tray Holder Model #WCH-SPLC-2P, or approved equal, which accommodates two 0.2-in-thick (Type 2R) or one 0.4-in-thick (Type 4R) reduced-length splice trays. The holder shall contain fusion heat shrink splice tray Model #M67-110, 24 fiber capacity and 0.4" tall. All necessary cable clamps, connectors, fan-out kits and accessories shall be furnished and installed meeting Caltrans standards to achieve full fiber connectivity.

#### Fiber Patch Panel and Housing

The Contractor shall furnish and install a Fiber Patch Panel, Corning Single Panel Housing (Model #SPH-01P) or approved equal, in the existing cabinets, wall-mount housing type accommodating one CCH connector panel with a 12-slot, 0.4-in splice holder for splice management.

The Closet Connector Housing Panel shall be Corning Model #CCH-CP06-19T or approved equal, 6-port panel with (12) ST Compatible, single-mode, ceramic insert, composite housing, and threaded adapters.

Loose tube fiber cable shall be spliced in Contractor furnished and installed fiber patch panels in the signal cabinets. The panels shall provide built-in cable storage, management, and splicing/patching accessories, and a labeling system with weather strip gasket for outdoor use. Transmission equipment, labor, materials and integration for each CCTV location shall be included in the bid Item fee.

Optical cables, connectors and associated hardware including fiber splice enclosures, and associated hardware shall be furnished, installed and integrated within the existing TOC CCTV equipment rack complete by the Contractor. Transmitters and receivers shall transmit video (standard NTSC format) and bi-directional camera control signals in full duplex formats over a single fiber. Length of fiber jumpers shall be determined after installation of patch panels and equipment. Jumper cables shall be yellow in color. Fiber jumper optical performance shall meet Caltrans Specifications. All connectors shall have stainless steel housings. Any adjustments to video transmitters, receivers or the general fiber cable system for proper data/video transmission to the TOC are the responsibility of the Contractor.

Corrosion resistance shall be provided. Methods shall include the following:

- Avoidance of contact between stainless steel and carbon steel, between different types of stainless steel (including welding material), and between aluminum and ferrous materials.

- Utilizing continuous welding to eliminate crevices that retain moisture.
- Minimizing welding of stainless steel.
- Use of adequate sections and suitable materials to limit stress related corrosion.

### Fiber Splicing

Field splices shall only occur in identified traffic signal or communications cabinets. All splices shall be in splice trays, housed in splice closures. All splices in cabinets shall be contained in splice trays housed in FDU's or panels furnished and installed by the contractor. Connecting blocks or fiber terminations throughout the entire communications system shall have proper designation / location identification tags.

Fiber splices shall be the fusion type. The mean splice loss shall not exceed 0.07 dB per splice. The mean splice loss shall be obtained by measuring the loss through the splice in both directions and then averaging the resultant values. All fusion splices shall be protected with a metal reinforced thermal shrink sleeve.

The mid-span access method shall be used to access the individual fibers in a cable for splicing to another cable as shown on the drawings. Cable manufacturers recommended procedures and approved tools shall be used when performing a mid-span access. Only the fibers to be spliced may be cut. All measures shall be taken to avoid damaging buffer tubes and individual fibers not being used in the mid-span access.

The individual fibers shall be looped one full turn within the splice tray to avoid micro bending. A 1-3/4" minimum bend radius shall be maintained during installation and after final assembly in the optical fiber splice tray. Each bare fiber shall be individually restrained in a splice tray. The optical fibers in buffer tubes and the placement of the bare optical fibers in the splice tray shall be such that there is no discernable tensile force on the optical fiber.

Any optical fiber cable damaged by the Contractor or cut without Engineer's approval, the complete length of cable shall be replaced at the Contractor's expense, at no additional compensation. Damaged SMFO shall be salvaged and shall not be repaired, reused or spliced.

### Single Mode Fiber Optic Cable (SMFO) Fiber Optic Outside Plant Cable, General

Each fiber optic outside plant cable for this project shall be all dielectric, gel filled or water-blocking material, duct type, with loose buffer tube construction with a maximum outside diameter of 1/2" and shall conform to these special provisions. Cables shall contain single mode (SM) dual-window (1310 nm and 1550 nm) fibers with the numbers described herein.

The optical fibers shall be contained within loose buffer tubes. The loose buffer tubes shall be stranded around an all dielectric central member. Aramid yarn shall be used as a primary strength member, and a polyethylene outside jacket shall provide for overall protection.

All F/O cable of each specific type on this project shall be from the same manufacturer, who is regularly engaged in the production of this material.



The cable shall comply with all the requirements of the United States Department of Agriculture Rural Electrification Administration specifications REA-PE-90. The cable shall be qualified as compliant with RUS Federal Rule 7CFR1755.900.

### Fiber Characteristics

Each optical fiber shall be glass and consist of a doped silica core surrounded by concentric silica cladding. All fibers in the buffer tube shall be usable fibers and shall be sufficiently free of surface imperfections and inclusions to meet the optical, mechanical, and environmental requirements of these specifications. The required fiber grade shall reflect the maximum individual fiber attenuation, to guarantee the required performance of each and every fiber in the cable.

The coating shall be a dual layered, UV cured acrylate. The coating shall be mechanically or chemically strippable without damaging the fiber. The cable shall comply with the optical and mechanical requirements over an operating temperature range of -40°C to +70°C. The cable shall be tested in accordance with EIA-455-3A (FOTP-3), "Procedure to Measure Temperature Cycling Effects on Optical Fiber, Optical Cable, and Other Passive Fiber Optic Components." The change in attenuation at extreme operational temperatures (-40°C to +70°C) for single mode fiber shall not be greater than 0.20 dB/km, with 80 percent of the measured values no greater than 0.10 dB/km. The single mode fiber attenuation shall be measured at 1550 nm.

For all fibers, the attenuation specification shall be a maximum attenuation for each fiber over the entire operating temperature range of the cable, and meet the following:

**Fiber Characteristics Table**

Parameters	Characteristic
Type	Step Index
Core diameter	8.3 μm (nominal)
Cladding diameter	125 μm ±1.0 μm
Core to Cladding Offset	≤0.8 μm
Coating Diameter	250 μm ±15 μm
Cladding Non-circularity defined as: [1-(min. cladding dia ÷ max. cladding dia.)] x100	≤2.0%
Proof/Tensile Test	345 MPa, Min
Attenuation: @1310 nm @1550 nm	≤0.4 dB/km ≤0.3 dB/km
Attenuation at the Water Peak	≤2.1 dB/km @ 1383 ± 3 nm
Chromatic Dispersion: Zero Dispersion Wavelength Zero Dispersion Slope Maximum Dispersion:	1301.5 to 1321.5 nm ≤0.092 ps/(nm <sup>2</sup> *km) ≤3.3 ps/(nm*km) for 1285 to 1330 nm <18 ps/(nm*km) for 1550 nm
Cut-Off Wavelength	<1250 nm
Mode Field Diameter (Petermann II)	9.3 ±0.5 μm at 1310 nm 10.5 ± 1.0 μm at 1550 nm

In buffer tubes containing multiple fibers, each fiber shall be distinguishable from others in the same tube by means of color coding according to the following:

1. Blue (BL)	7. Red (RD)
2. Orange (OR)	8. Black (BK)
3. Green (GR)	9. Yellow (YL)
4. Brown (BR)	10. Violet (VL)
5. Slate (SL)	11. Rose (RS)
6. White (WT)	12. Aqua (AQ)

Buffer tubes containing fibers shall also be color coded with distinct and recognizable colors according to the same table listed above for fibers.

The colors shall be targeted in accordance with the Munsell color shades and shall meet EIA/TIA-598 "Color Coding of Fiber Optic Cables."

The color formulation shall be compatible with the fiber coating and the buffer tube filling compound and be heat stable. It shall not fade or smear or be susceptible to migration and it shall not affect the transmission characteristics of the optical fibers and shall not cause fibers to stick together.

#### FIBER CABLE CONSTRUCTION

General - The fiber optic cable samples (12-foot length) with part numbers shall be submitted to Manager, as well as its original catalogue and documents from manufactures.

The fiber optic cable shall consist of, but not be limited to, the following components:

- A. Buffer tubes
- B. Central member
- C. Filler rods
- D. Stranding
- E. Core and cable flooding
- F. Tensile strength member
- G. Ripcord
- H. Outer jacket

Buffer tubes - Clearance shall be provided in the loose buffer tubes between the fibers and the inside of the tube to allow for expansion without constraining the fiber. The fibers shall be loose or suspended within the tubes. The fibers shall not adhere to the inside of the buffer tube. Each buffer tube shall contain 1, 6 or a maximum of 12 fibers.

The loose buffer tubes shall be extruded from a material having a coefficient of friction sufficiently low to allow free movement of the fibers. The material shall be tough and abrasion resistant to provide mechanical and environmental protection of the fibers yet designed to permit safe intentional "scoring" and breakout, without damaging or degrading the internal fibers.

Buffer tube filling compound shall be a homogeneous hydrocarbon-based gel with anti-oxidant additives and used to prevent water intrusion and migration. The filling compound shall be non-toxic and dermatologically safe to exposed skin. It shall be chemically and mechanically compatible with all cable components, non-nutritive to fungus, non-hygroscopic and electrically

non-conductive. The filling compound shall be free from dirt and foreign matter and shall be readily removable with conventional nontoxic solvents.

Buffer tubes shall be stranded around a central member by a method that will prevent stress on the fibers when the cable jacket is placed under strain, such as the reverse oscillation stranding process.

Each buffer tube shall be distinguishable from other buffer tubes in the cable by means of the color coding as specified above for the fibers.

Central Member - The central member which functions as an anti-buckling element shall be a glass reinforced plastic rod with similar expansion and contraction characteristics as the optical fibers and buffer tubes. A water swellable yarns will be pulled in with the central member. A linear overcoat of Low-Density Polyethylene shall be applied to the central member to achieve the optimum diameter to provide the proper spacing between buffer tubes during stranding.

Filler rods - Fillers may be included in the cable to lend maintain the symmetry to of the cable cross-section where needed. Filler rods shall be solid medium or high-density polyethylene. The diameter of filler rods shall be the same as the outer diameter of the buffer tubes.

Stranding - Completed buffer tubes shall be stranded around the overcoated central member using stranding methods, lay lengths and positioning such that the cable shall meet mechanical, environmental and performance specifications. A polyester binding shall be applied over the stranded buffer tubes to hold them in place. Binders shall be applied with sufficient tension to secure the buffer tubes to the central member without crushing the buffer tubes. The binders shall be non-hygroscopic, non-wicking (or rendered so by the flooding compound), and dielectric with low shrinkage.

Core and Cable Flooding - The cable core shall contain a water-blocking material or the cable core interstices shall be filled with a polyolefin based compound to prevent water ingress and migration. The water-blocking material or the flooding compound shall be homogeneous, non-hygroscopic, electrically non-conductive, and non-nutritive to fungus. The core shall be free from dirt and foreign matter and shall be readily removable with conventional nontoxic solvents. The compound shall also be nontoxic, dermatologically safe and compatible with all other cable components.

Tensile Strength Member - Tensile strength shall be provided by high tensile strength aramid yarns and fiberglass which shall be helically stranded evenly around the cable core and shall not adhere to other cable components.

Ripcord - The cable shall contain at least one ripcord under the jacket for easy sheath removal.

Outer jacket - The jacket shall be free of holes, splits, and blisters and shall be medium or high-density polyethylene (PE), or medium density cross-linked polyethylene with minimum nominal jacket thickness of 1000  $\mu\text{m}$   $40 \pm 76 \mu\text{m}$  3 mils. Jacketing material shall be applied directly over the tensile strength members and flooding compound and shall not adhere to the aramid strength material. The polyethylene shall contain carbon black to provide ultraviolet light protection and shall not promote the growth of fungus.

The jacket or sheath shall be marked with the manufacturer's name, the words "Optical Cable", the number of fibers, "SM", year of manufacture, and sequential measurement markings every

meter. The actual length of the cable shall be within -0/+1 percent of the length marking. The marking shall be in a contrasting color to the cable jacket. The height of the marking shall be approximately 2.5 mm.

#### GENERAL FIBER CABLE PERFORMANCE SPECIFICATIONS

The fiber optic cables shall be fully compatible and interoperable with City of Costa Mesa and Caltrans District 12 existing fiber optic cable systems.

If other fiber optic cables are proposed, they shall be authorized by the Caltrans lab facility and meet these special provisions. The cost of the testing of any proposed optical fiber cable shall be borne by the Contractor.

The Contractor shall submit to Engineer the original documents for fiber optic cable test compliant, the fiber optic manufacture catalogue, and its samples and test results.

The F/O cable shall withstand water penetration when tested with a one meter static head or equivalent continuous pressure applied at one end of a one meter length of filled cable for one hour. No water shall leak through the open cable end. Testing shall be done in accordance with EIA-455-82 (FOTP-82), "Fluid Penetration Test for Fluid-Blocked Fiber Optic Cable."

A representative sample of cable shall be tested in accordance with EIA-455-81A, "Compound Flow (Drip) Test for Filled Fiber Optic Cable". The test sample shall be prepared in accordance with Method A. The cable shall exhibit no flow (drip or leak) at 80°C as defined in the test method.

Crush resistance of the finished F/O cables shall be 220 N/cm applied uniformly over the length of the cable without showing evidence of cracking or splitting when tested in accordance with EIA-455-41 (FOTP-41), "Compressive Loading Resistance of Fiber Optic Cables". The average increase in attenuation for the fibers shall be  $\leq 0.10$  dB at 1550 nm for a cable subjected to this load. The cable shall not exhibit any measurable increase in attenuation after removal of load. Testing shall be in accordance with EIA-455-41 (FOTP-41), except that the load shall be applied at the rate of 3 mm to 20 mm per minute and maintained for 10 minutes.

The cable shall withstand 25 cycles of mechanical flexing at a rate of  $30 \pm 1$  cycles/minute. The average increase in attenuation for the fibers shall be  $\leq 0.20$  dB at 1550 nm at the completion of the test. Outer cable jacket cracking or splitting observed under 10x magnification shall constitute failure. The test shall be conducted in accordance with EIA-455-104 (FOTP-104), "Fiber Optic Cable Cyclic Flexing Test," with the sheave diameter a maximum of 20 times the outside diameter of the cable. The cable shall be tested in accordance with Test Conditions I and II of (FOTP-104).

Impact testing shall be conducted in accordance with EIA-455-25 (FOTP-25) "Impact Testing of Fiber Optic Cables and Cable Assemblies." The cable shall withstand 20 impact cycles. The average increase in attenuation for the fibers shall be  $\leq 0.20$  dB at 1550 nm. The cable jacket shall not exhibit evidence of cracking or splitting.

The finished cable shall withstand a tensile load of 2670 N without exhibiting an average increase in attenuation of greater than 0.20 db. The test shall be conducted in accordance with EIA-455-33 (FOTP-33), "Fiber Optic Cable Tensile Loading and Bending Test." The load shall be applied for one-half hour in Test Condition II of the EIA-455-33 (FOTP-33) procedure.

The 24 SMFO shall be tested end to end via OTDR, Power Meter and Light Source, in accordance with EIA Optical Test Procedure 171, and wavelengths specified for the OTDR tests. The differential in test results shall not exceed 0.5 dB. Should the link loss exceed the calculated link loss, the 24 SMFO shall be removed and replaced only between the two stipulated splice points at contractor's expense. Removal of small sections of cable and or additional splices shall not be permitted.

## **FIBER CABLE INSTALLATION**

Installation procedures shall be in conformance with the procedures specified by the cable manufacturer for the specific cable being installed. The contractor shall submit the manufacturer's recommended procedures for pulling fiber optic cable to the Engineer at least 20 working days prior to installing cable. Mechanical aids may be used provided that a tension measuring device, and a breakaway swivel are placed in tension to the end of the cable. The tension in the cable shall not exceed, 2225 N or the manufacturer's recommended pulling tension, whichever is less.

During cable installation, the bend radius shall be maintained at a minimum of twenty times the outside diameter. The cable grips for installing the fiber optic cable shall have a ball bearing swivel to prevent the cable from twisting during installation. Cable shall not be installed less than the minimum bending radius. At each intermediate pullbox, provide at least two turns of slack of the fiber optic cable neatly coiled and secured. This slack may be used for future emergency cable repairs. At Fairview/Adams, existing signal conductors shall be removed and repulled in conjunction with the installation of new fiber cable.

F/O cable shall be installed using a cable pulling lubricant recommended by the F/O cable and/or the innerduct manufacturer, and a pull tape conforming to the provisions described under "conduit" elsewhere in these special provisions. Contractor's personnel shall be stationed at each splice vault and pullbox through which the cable is to be pulled to lubricate and prevent kinking or other damage.

F/O cable shall be installed without splices except where specifically allowed on the drawings and identified herein. Splices shall be permitted only as authorized in writing by the Engineer. Any mid-span access splice or FDU termination shall involve only those fibers being spliced as shown on the drawings. Cable splices shall be located in splice closures within identified cabinets. A minimum of 20 m of slack shall be provided for each F/O cable at each splice vault. Slack shall be divided equally on each side of the F/O splice closure.

The fiber installation equipment must incorporate a mechanical drive unit or pusher, which feeds cable into the pressurized innerduct to provide a sufficient push force on the cable, which is coupled with the drag force created by the high-speed airflow. The unit must be equipped with controls to regulate the flow rate of compressed air entering the duct and any hydraulic or pneumatic pressure applied to the cable. It must accommodate longitudinally ribbed, or smooth wall ducts from nominal 16 mm to 51 mm inner diameter. Mid assist or cascading of equipment must be for the installation of long cable runs. The equipment must incorporate safety shutoff valves to disable the system in the event of sudden changes in pneumatic or hydraulic pressure.

The use of a piston or any other air capturing device shall not be used to impose a pulling force at the front end of the cable or use of a device that significantly restricts the free flow of air through the inner duct. A counting device shall be used to determine the speed of the cable during installation and the length of the cable installed.

#### Pullbox and Conduit Repair

At the direction of the Engineer, the contractor shall provide labor, equipment, and materials for repair of conduit and pullboxes. This work may include but not limited to repair or installation of new pullboxes and conduit, new bushings, conduit end sealant, crushed rock and grout, repair of AC, PCC, irrigation and landscaping, removal and installation of cables and conductors, and concrete repair. All work shall be exclusively undertaken at the discretion and approval of the Engineer. The contractor shall be paid at Force Account as established by the Green Book.

Pull boxes shall conform to the provisions in the State Standard Specifications, these special provisions and comply with UL and NEMA standards. New pull boxes and covers shall be lightweight fiberglass, **Christy "Fiberlyte"**, or Engineer approved equal.

Within each pullbox, conduit shall be placed to meet minimum clearances between the pullbox base, the conduit end and lid of pull box, conforming to Caltrans Standard Plans and Specifications. The contractor shall adjust existing pull boxes where clearance is inadequate to accommodate the proposed CCTV cable and/or conductors. The ends of conduit termination in pull boxes and controller cabinets shall be sealed with an approved type of sealing compound.

Rigid galvanized steel conduit couplings shall be threaded or compression type. Threadless connections or threaded coupler with two bolts as a clamp will not be allowed. Rigid metal type shall be manufactured of mild steel and conform to UL Publication UL 6 for Rigid Metallic Conduit.

Bonding and grounding of metal conduit shall conform to the provisions in Section 86-2.10 "Bonding and Grounding," of the Caltrans Specifications, and these Special Provisions.

Grounding jumper shall be attached by a 3/16 inch or larger brass bolt in the signal Standard or controller pedestal and shall be run to the conduit, ground rod or bonding wire in adjacent pull box. The grounding jumper shall be visible after the PCC cap has been poured on foundation. Any damage to the City's system resulting from work by the Contractor shall be immediately repaired by the Contractor at no additional contract expense.

#### **SALVAGING AND REINSTALLING OR STOCKPILING ELECTRICAL EQUIPMENT**

Salvaging and reinstalling or stockpiling electrical equipment shall conform to the provisions in Section 86-7, "Salvaging and Reinstalling or Stockpiling Electrical Equipment," of the Standard Specifications and these Special Provisions.

Existing equipment removed and not reused shall be the property of the Contractor and shall be immediately removed from the site the same day by the Contractor. Storage of removed materials on the job site shall not be permitted. The City reserves the option to keep any salvaged material. At the direction of the Engineer, the Contractor shall deliver salvaged materials to 2300 Placentia Avenue. Removing and disposing of salvaged material from the right-of-way shall be included in the respective lump sum price for signal installation/modification.

**PAYMENT-** Payment for the preceding shall be per the respective Traffic Signal Modification lump sum bid items per location and as defined by the plans. The lump sum price bid shall include work as specified in Section 86 of California Standard Specifications including modification of existing conduits, poles, and/or conductors, foundation removals and pot-hole exploration work. All work associated with the respective bid items shall be included in the lump sum price bids and additional compensation shall not be allowed.

The Contractor shall verify all existing facilities and notify the Engineer of any conflicts found during pre-construction inspection prior to commencement of any work. Payment for verification of conditions shall be included in the bid fees. During construction, no additional compensation will be allowed for the correction of the differences between the plans and in the field.

The Contractor shall perform all temporary work such as providing or modifying wires, poles, conduits, pipes and other related work as required to keep the traffic signals operational at all times. Compensation for these requirements shall be included in the lump sum price bids as shown on proposal schedule and no additional compensation will be allowed.

**Bid Item No. 55:    RESET SURVEY MONUMENT**

Replacement of survey monuments shall be executed in accordance with Section 309 (page 456) of the Standard Specifications for Public Works Construction 2018 Edition.

**PAYMENT -** Payment for Reset Survey Monument shall be at the unit bid price per each item and include supplying all labor, materials, equipment and incidentals to complete the work per plans and specifications and no additional compensation shall be allowed.

**PART 3 (CONTINUED)**  
**SPECIAL PROVISIONS / LANDSCAPING & IRRIGATION**  
**(SECTION 800 MATERIALS)**

**REMOVE ALL OF PART 8 AND REPLACE WITH THE FOLLOWING:**

**800-1 - LANDSCAPE MATERIALS**

**800-1.01 SUMMARY**

- A. Section includes landscape planting but not limited to:
1. Fine grading
  2. Soil preparation on grade
  3. Tree, shrub and ground cover planting
  4. Tree staking and guying
  5. Mulching
  6. Clean up

**800-1.02 REQUIREMENTS OF REGULATORY AGENCIES**

- A. All Federal, State, and local laws and regulations governing this work are hereby incorporated into and made part of this Section. When this Section calls for certain materials, workmanship or a level of construction that exceeds the level of Federal, State, or local requirements, the provisions of this Section shall take precedence.

**800-1.03 REFERENCE STANDARDS**

- A. All plant material shall be true to botanical and common name as indicated in "An Annotated Checklist of Woody Ornamental Plants of California, Oregon and Washington", (Number 4091)" published by the University of California School of Agriculture - 1979.
- B. "American Standard for Nursery Stock" edition 1985 by ANSI for plant materials.
- C. "Hortus Third", 1976; Cornell University for plant nomenclature.
- D. All plant material shall conform to the California Department of Food and Agriculture's regulation for nursery inspections, rules and ratings.

**800-1.04 QUALITY CONTROL**



- A. **Manufacturer's Directions** - manufacturer's directions and drawings shall be followed in all cases where the manufacturers of articles used in this Specification furnish directions covering points not shown in the Drawings and Specifications.
- B. **Permits, Fees, Bonds and Inspections** - the Contractor shall pay for any and all permits, fees, bonds and inspections necessary to perform and complete his portion of the Work.
- C. **Plant Source Quality** - submit written documentation to the Resident Engineer within 25 days of Contract award that the plant material listed on the Drawings is available. Any substitutions required due to unavailability must be requested in writing prior to confirmation of ordering.
- D. Upon execution of the order, the Owner and or Resident Engineer has the option of either inspecting the plant material at the source of growth, requesting representative color photos, or inspecting the material as it is being delivered to the site for conformity to the Drawings and Specifications. Such approvals shall not impair the right of additional inspections during further progress of the Work.
- E. Any tagging of plant material by the Owner and or Resident Engineer does not constitute his approval of the plant materials' health and vigor. The health and vigor of the plant material is the sole responsibility of the Contractor.
- F. **Plant Inspection Request.**
  - 1. Submit written request to the Resident Engineer for inspection of the specified plant material, either at the place of growth or by color photographs. Requests for inspection shall state the place of growth and the quantity and variety of plant material.
  - 2. The Resident Engineer reserves the right to refuse inspection if in his judgment a sufficient quantity of plant material at that time is not available for inspection.
- G. **Topsoil Inspection**
  - 1. Within 25 days of contract award, furnish source of topsoil to Resident Engineer for purpose of soil inspection.
- H. **Horticultural Soils Report**
  - 1. Contractor to take one (1) representative soil sample from the site at the end of rough grading. Submit locations for Resident Engineer for approval prior to obtaining.
  - 2. Soil samples shall be tested for pH, alkalinity, total soluble salts, porosity, sodium content and, organic matter. Pre-plant soil preparation amendment recommendations shall be for the plant material specified and shall be provided within the horticultural soils testing laboratory report. Submit final horticultural soils report to Resident Engineer for approval.

**800-1.05 QUALIFICATIONS**

- A. Landscape Contractor shall be licensed by the State of California and have no less than 5 years of experience and shall submit letters of recommendation related to five (5) projects of similar size completed for a public agency within the last five (5) years.

- B. The applicator of all weed control materials shall be licensed by the State of California as a Pest Control Operator and a Pest Control Advisor in addition to any subcontractor licenses that are required.

#### **800-1.06 SUBMITTALS**

- A. Submit in accordance with Section 2-5.3, Submittal Procedures.
- B. The Contractor shall submit no later than 30 days after the award of Contract six (6) bound booklets containing the following landscape information:
  - 1. List of all proposed landscape materials indicated by description, manufacturer and model number. Include catalog cuts of all items.
  - 2. List of all shrubs, vines and ground covers indicated by botanical name, common name, size, nursery and location and specific remarks, i.e. "unable to locate", "photo submitted", etc.
  - 3. Soil amendment receipts containing analytical data and physical samples of all specified amendments.
  - 4. Receipts from the soil supplier of all soil mixes specified in this section.
- C. The Contractor shall submit no later than 30 days after the award of Contract the following physical samples sent to the Resident Engineer in plastic bags:
  - 1. Shredded bark mulch, rock mulch or decomposed granite mulch.
  - 2. Certificates
  - 3. Compliance with State of California and federal quarantine restrictions.
- D. Weed Control
  - 1. Prior to the installation of any weed control materials, the Pest Control Advisor shall submit to the Resident Engineer, a list of the weed control materials and quantities per acre intended for use in controlling the weed types prevalent and expected on the site.
  - 2. The Pest Control Advisor shall furnish data to demonstrate the compatibility of the weed control materials and methods with the intended planting and seed varieties.

#### **800-1.07 SAMPLES, TESTS AND MOCK-UPS**

- A. The Owner and or Resident Engineer reserves the right to take and analyze selected samples of plant material for conformity to this Specification at any time. Rejected plant material shall be removed from the site and be replaced by the Contractor at no cost to the Owner.

#### **800-1.08 PROJECT CONDITIONS**

- A. Perform planting operations only when weather and soil conditions are suitable in accordance with locally accepted practice.

#### **800-1.09 PRODUCT DELIVERY, STORAGE AND HANDLING**

- A. Delivery

1. Deliver all plant material with legible and durable identification labels.
2. Deliver fertilizer to the site in original, unopened containers bearing the manufacturer's name, guaranteed chemical analysis, and its conformance to California State Law.
3. Notify the Resident Engineer within seven (7) days of the delivery of plant material to the site. Indicate the quantity and type of plant material in each delivery.

**B. Storage**

1. Store plant materials in the shade and protect from the weather.
2. Maintain and protect plant material not planted within four (4) hours of delivery.
3. It is the Contractor's responsibility to secure a local staging area for plant material.

**C. Protection**

1. Protect plant material during delivery to the site and after, in order to prevent damage to the root ball or desiccation of leaves.

**D. Handling**

1. Take extreme care in the loading and unloading of plant material. Do not pick up container plants by the stems or trunks.
2. Any plant material that has been damaged shall be removed and replaced with new material.

**800-1.10 REJECTION OF PLANT MATERIAL**

- A. All plant material not conforming to the requirements herein, shall be considered defective. Such plants, whether in place or not, shall be marked as rejected and immediately removed from the site and replaced with new material at the full expense of the Contractor. Replacement plant material shall be of the same size, specie and condition as that indicated on the Drawings.

**800-1.11 PROTECTION OF THE SITE**

- A. Protect previously installed work and materials which may be affected by work of this Section. Provide safeguards and exercise caution against injury or defacement of existing site improvements.
- B. The Contractor shall be responsible for any damage resulting from his landscape planting operations. Repair damage and return the area to the previous condition at no additional cost to the Owner.

**800-1.12 COORDINATION**

- A. The Contractor shall notify the General Contractor and all other trades related to the installation of his work, so as to allow sufficient time for those contractors to perform their portion of the work.
- B. Determine the locations of underground utilities and perform work in a manner which will avoid damage to the utilities.

**800-1.13 WARRANTY**

- A. The manufacturer's warranty shall not relieve the Contractor of his own liability under the warranty.
- B. All plant material installed under this Contract shall be covered under a warranty against poor, inadequate and inferior quality and installation for a period of 1 year from the date of Final Acceptance. Any plant material not meeting the satisfaction of the Owner shall immediately be removed and replaced at no cost to the Owner. Replaced plant material will also be warranty for a period of 1 year (palm trees for 2 years) upon installation.
- C. Replace without cost to the Owner and as soon as weather permits, all dead plants and all plants not found in a vigorous, thriving condition, as determined by the Owner and or Resident Engineer during and at the end of the plant warranty period. Replacement of plants shall closely match adjacent specimens of the same species and shall be subject to all requirements of this section.
- D. Repair damage to adjacent plant material caused by the Contractor's work at no cost to the Owner. All repairs shall be made with materials, varieties, sizes "in kind" with adjacent existing materials.
- E. Guarantee for Planting

- 1. We hereby guarantee that the planting we have furnished and installed is free from defects in materials and workmanship and the work has been completed in accordance with the drawings and specifications, ordinary wear and tear and unusual abuse or neglect excepted. We agree to replace without cost to the Owner and as soon as weather permits, all dead plants and all plants not found in a vigorous, thriving condition, as determined by the Owner and or Resident Engineer during and at the end of the plant warranty period. Replacement of plants shall closely match adjacent specimens of the same species and shall be subject to all requirements of this section. The warranty period is one (1) year after Final Acceptance of the work for plant material and 2-year warranty for palm trees. We agree to make such repairs and replacements within thirty (30) days after receipt of written notice. In the event of our failure to make such repairs and replacements within thirty (30) days of written notice, we authorize the Owner to proceed to have such repairs and replacements made at our expense and will pay all costs and charges upon demand:

Owner: \_\_\_\_\_

Owner's Address: \_\_\_\_\_

Date of Final Acceptance: \_\_\_\_\_

Signed: \_\_\_\_\_

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

**800-2 - LANDSCAPE PRODUCTS**

**800-2.01 PRE-EMERGENT WEED CONTROL**

- A. Pre-emergent weed control to be Ronstar-G, Treflan, Eptam, Vegitex, or approved equal.

**800-2.02 PLANTING SOIL**

A. Reuse of Stockpiled On-Site Soil

- 1. Stockpiled on-site soil may be available from the Resident Engineer's stockpile for use. Soils for planter beds are classified as 1-1/2-inch minus.

B. Soil Characteristics for Stockpiled Native Soil

- 1. Composition for 1-1/2-inch minus topsoil - fertile, friable, well-drained soil of uniform quality, free of materials larger than 3/8 inch in diameter such as sticks, rocks, concrete, oils, chemicals and other deleterious materials.
- 2. Soil Analysis - If soil has not been tested within 30 days of the date of delivery to the project, obtain a horticultural agricultural suitability and chemical analysis of the proposed soil from a company approved by the Resident Engineer. Cost of the testing will be paid for by the Contractor. The soil report is to include the following information:
  - 3. Elemental Analysis: Nitrates, Nitrogen, Phosphorus, Potassium, Calcium, Magnesium, Sulfur, Sodium Zinc, Iron, Copper, Manganese, Boron and free Lime
  - 4. Other: pH factor, % base saturation, electrical conductivity, mechanical analysis, % of organic content, cation exchange capacity (CEC).
  - 5. Recommendations: Type and quantity of additives required to establish satisfactory pH factor and supply of nutrients to bring topsoil to a satisfactory level for planting.
- 6. All stockpiled native soil to be used from 1-1/2-inch minus topsoil is to be amended at the levels listed in this Section as part of the base bid. Additional amendments, if requested by the Owner, are not a part of the base contract and the Contractor will be compensated for this work on a Time and Materials basis. Rates for labor and equipment will be charged according to the Construction Contract.

C. Imported Top Soil

- 1. In order to insure conformance with this Specification, soil samples shall be taken by the Contractor and submitted to a qualified soil testing laboratory for analysis prior to planting i.e., Wallace Laboratories (310) 615-0116.
- 2. Use natural friable soil from the local region, free from lumps, toxic substances sticks, debris, vegetation or stones over 1-inch in diameter.
- 3. Silt plus clay content shall not exceed 20% by weight with a minimum 95% passing the 800-2.0-millimeter sieve.
- 4. Sodium absorption ratio (SAR) shall not exceed 6.
- 5. Electrical conductivity (ECe) of the saturated extract of this soil shall not exceed 801-1.0 millimhos per centimeter at 25 centigrade.

6. Boron content shall not exceed (1) part per billion as measured on the saturation extract.
7. Thoroughly blend the planter mix and amendments through a soil blender before placing the soil.

### **800-2.03 SOIL AMENDMENTS**

- A. Peat Moss - natural product of sphagnum moss, reed, or sedge peat, taken from a fresh water site, free from lumps, woody material, stones and other foreign matter.
- B. Soil Sulfur - agricultural grade sulfur containing a minimum of 99% sulfur (expressed as elemental).
- C. Iron Oxide - 45% iron (expressed as metallic iron), derived from iron oxide with micronutrients.
- D. Calcium Carbonate - 95% lime as derived from oyster shells.
- E. Gypsum - agricultural grade product containing 98% minimum calcium sulfate.
- F. Iron Sulfate - 20% iron (expressed as metallic iron), derived from ferric and ferrous sulfate, 100% sulfur (expressed as elemental).
- G. Ground Limestone - agricultural limestone containing not less than 85% of total carbonates, ground to such fineness that 50% will pass a No. 1000 sieve and 90% will pass a No. 20 sieve.
- H. Dolomite Lime - agricultural grade mineral soil conditioner containing 35% minimum magnesium carbonate and 49% minimum carbonate, 100% passing the No. 65 sieve.
- I. Sulfate of Potash - agricultural grade product containing 50% to 53% of water soluble potash.
- J. Single Superphosphate - commercial grade product containing 20% to 25% available phosphoric acid.
- K. Ammonium Sulfate - commercial grade product containing approximately 21% ammonia.
- L. Ammonium Nitrate - commercial grade product containing approximately 34% ammonia nitrogen.
- M. Urea Formaldehyde - granular commercial product containing 38% nitrogen.
- N. IBDU (Iso Butldiene Diurea) - commercial grade product containing 31% nitrogen.
- O. Iron: Gro-Power Premium Green Iron - 45% Fe, non-staining.

### **800-2.04 FERTILIZERS**

**A. General Purpose Soil Conditioner Fertilizer (5-3-1)**

1. Consisting of the following minimum percentages by weight:
  - 5% Nitrogen
  - 3% Phosphoric Acid
  - 1% Potash
  - 50% Humus
  - 15% Humic Acids
  - 1% Soluble Metallic Iron
2. Soil Conditioner Fertilizer shall be "Gro-Power", as manufactured by Gro-Power (909)393-3744 or Resident Engineer approved equal.

**B. General Purpose Soil Conditioner Fertilizer with Soil Penetrant (5-3-1)**

1. Soil conditioning fertilizer for use in areas of clay, adobe soils or soils high in salt, sodium boron or pH consisting of the following minimum percents by weight:
  - 5% Nitrogen
  - 3% Phosphoric Acid
  - 1% Potash
  - 50% Humus
  - 15% Humic Acids
  - 4% Sulfur
  - 1% Soluble Metallic Iron
2. Soil Conditioner Fertilizer with Soil Penetrant shall be "Gro-Power Plus" as manufactured by Gro-Power (909) 393-3744, or Resident Engineer approved equal.

**C. Pre-Plant Fertilizer (16-20-0)**

1. Ammonium phosphate consisting of the following minimum percentages by weight:
  - 16% Nitrogen
  - 20% Phosphoric Acid
  - 0% Potash
2. Pre-Plant Fertilizer shall be Best "16-20-0", as manufactured by J.R. Simplot Company (800)992-6066, or Resident Engineer approved equal.

**D. General Purpose Planting Fertilizer (12-12-12)**

1. Pelleted or granular form shall consist of the following minimum percents by weight:
  - 12% Nitrogen
  - 12% Phosphoric Acid
  - 12% Potash

2. General Purpose Planting Fertilizer shall be Best "Triple Twelve", as manufactured by J.R. Simplot Company (800)992-6066, or Resident Engineer approved equal.

**E. Controlled Release Fertilizer (12-8-8)**

1. Consisting of the following minimum percents by weight:
 

12%	Nitrogen
8%	Phosphoric Acid
8%	Potash
25%	Humus
5%	Humic Acids
2. Acceptable product - "Gro-Power Controlled Release", as manufactured by Gro-Power (909)393-3744, or Resident Engineer approved equal.

**F. Planting Tablets (20-10-5)**

1. Shall be 7-gram, 24 month release, non-burning tablets containing the following percentages of nutrients by weight:
 

20%	Nitrogen
10%	Phosphoric Acid
5%	Potassium
800-2.5%	Humic acids
2. Acceptable product - "Gro-Power Planting Tablets", as manufactured by Gro-Power (909) 393-3744, or Resident Engineer approved equal.

**800-2.05 PLANT MATERIAL**

**A. General Plant Condition**

1. All plant material delivered to the site shall have a normal habit of growth, well formed and shaped, healthy, vigorous, and free of any insects, diseases, sunscalds, windburn, abrasions of the bark, or other objectionable disfigurements.
2. The size of the plant material shall correspond with that normally expected for species and variety of commercially nursery stock or as specified on the Drawings.
3. Plant material shall be grown under climatic conditions similar to those in the locality of the project unless approved otherwise by the Resident Engineer.
4. The use of plant material larger than that specified on the Drawings may be used, pending approval from the Resident Engineer, however, there will be no change in the Contract amount if larger plant material is approved and installed.

**B. Trees and Shrubs**

1. Tree and shrub trunks shall be sturdy and well hardened with vigorous and fibrous root systems which are not root-bound.
2. In the event of a disagreement as to the condition of the root system, the root conditions of the plants furnished by the Contractor will be determined by the removal of soil around the roots of not less than 10 plants or more than 2% of the total number of plants of each species.



3. When container grown plants are supplied from several sources, the roots of not less than 10 plants of each species from each source will be inspected. In case the plants sampled are found to be defective, the Owner and or Resident Engineer has the right to reject the entire lot represented by the defective sample. Any plant material rendered unsuitable for use because of this inspection will be considered as samples and will be provided at the full expense of the Contractor.

#### C. Nursery Grown and Collected Stock

1. Nursery grown and collected stock shall be grown under climatic conditions similar to that found in the locality of the site.

#### D. Container Grown Stock

1. Container grown stock shall be in a vigorous and healthy condition, not root bound or with the root system hardened off.

#### E. Ground Cover Stock

1. Ground cover stock shall be well established in removable containers or having formed homogenous soil sections.

### **800-2.06 AUXILIARY ACCESSORIES**

#### A. Mulches

1. Shredded Bark Mulch
  - a. Shredded bark mulch shall be Type 1 produced from ground wood products and composted tree trimmings and plant material. It shall be 2-inch minus or Resident Engineer approved equal.
2. Rock
  - a. As produced by Decorative Stone Solutions and as indicated on Contract Drawings. All rock shall be washed twice by contractor and shall be clean prior to installation.
3. Decomposed Granite / Rock Mulch
  - a. Rock mulch shall be free of lumps or balls of clay and shall not contain calcareous coatings, caliche, organic matter or foreign substances. All material shall be from a single production source and shall present a uniform appearance. The requirements shall be as follows:
  - b. Size and Color as specified on the Drawings.
  - c. The surfaces upon which the decomposed granite / rock mulch is to be
  - d. placed shall be graded and compacted to a density of not less than 85 percent of the maximum density in accordance with the requirements of the Materials Testing Methods.
  - e. Only locations shown on the planting plan to receive decomposed granite / rock mulch shall receive decomposed granite / rock mulch, unless otherwise directed by the Resident Engineer. If other areas to receive rock mulch, use this material and methodology.
  - f. The areas to receive decomposed granite / rock mulch shall receive an application of pre-emergent herbicide in the manner recommended by the manufacture. The Contractor shall stake out the area and put an

application of a weed inhibitor prior to placement of the decomposed granite / rock mulch. Contractor shall kill all weeds by manual or chemical control and remove after dead. Any pesticides use must be applied in strict accordance with Owner requirements.

- g. The Contractor shall keep a record of all applications. The Contractor shall record the type of herbicides used, such as pre or post-emergent; the rate and method of applications; and the date and location of such applications. A copy of this report shall be furnished to the resident engineer every month.
- h. The decomposed granite / rock mulch shall be evenly distributed over the designated areas to meet thickness per drawings. The finish grade of the decomposed granite / rock mulch shall at paving areas shall be per the Drawings.
- i. Care shall be taken in the placement of the decomposed granite / rock mulch not to disturb or damage any plant material.
- j. After placing the decomposed granite / rock mulch, the Contractor shall lightly water the decomposed granite / rock mulch to remove fine material from the surface to the extent satisfactory to the Resident Engineer. The Contractor shall again apply the approved pre-emergent weed control agent according to the manufacturer's recommendations. Water in the pre-emergent thoroughly.
- k. All erosion within the decomposed granite / rock mulch areas shall be corrected by the Contractor to maintain the final grade of the decomposed granite / rock mulch as placed under this item. If soil settling occurs through the Warranty period, the contractor shall provide and install additional material at no additional expense to the Owner.
- l. Provide samples for approval to the Resident Engineer prior to purchase.

**800-3 - IRRIGATION SYSTEM MATERIALS – RECYCLED WATER**

**800-3.01 SUMMARY**

A. Section includes landscape irrigation for recycled water system including but not limited to:

- 1. Layout
- 2. Trenching
- 3. Backfilling
- 4. Assemblage
- 5. Wiring
- 6. System Flushing
- 7. Sprinkler Head Installation
- 8. Valve Installation
- 9. System Testing and Adjustment
- 10. Maintenance

**800-3.02 REQUIREMENTS OF REGULATORY AGENCIES**

- A. All local, municipal and state laws, and rules and regulations governing or relating to any portion of this work are hereby incorporated into and made a part of this Specification, and its provisions shall be carried out by the Contractor. Anything contained in this Specification shall not be construed to conflict with any of the above rules and regulations or requirements of the same. However, when the Drawings and Specifications call for or describe materials, workmanship, or construction of a better quality, higher standard, or larger size than is required by the above rules and regulations, the provisions of the Drawings and Specifications shall take precedence.

**800-3.03 QUALITY CONTROL****A. Manufacturer's Directions**

1. The Manufacturer's directions and drawings shall be followed in all cases where the manufacturers of articles used in this Specification, furnish directions covering points not shown in the Contract Drawings and Specifications.

**B. Permits, Fees, Bonds and Inspections**

2. The Contractor shall pay for any and all permits, fees, bonds and inspections necessary to perform and complete his portion of the Work.

**C. Explanation of the Drawings**

1. Due to the scale of the Drawings, it is not possible to indicate all offsets, fittings, sleeves, etc. which may be required. The Contractor shall carefully investigate the structural and finished conditions affecting all of his work and plan his work accordingly, furnishing such fittings, etc. as may be required to meet such conditions. The Drawings are diagrammatic only and are indicative of the work to be installed. The work shall be installed in such a manner as to avoid conflicts between irrigation systems, planting, and architectural features.
2. All work called for on the Drawings by notes or details shall be furnished and installed whether or not specifically mentioned in this Specification.
3. The Contractor shall not willfully install the irrigation system as shown on the Drawings when it is obvious in the field that obstructions, grade differences or discrepancies in area dimensions exist that might not have been considered in engineering. Such obstructions or differences should be brought to the attention of the Resident Engineer. In the event this notification is not performed, the Contractor shall assume full responsibility for any revisions necessary.

**800-3.04 SUBMITTALS****A. Submit in accordance with Section 2-5.3, Submittal Procedures.****B. Materials List**

1. The Contractor shall furnish the articles, equipment, materials, or processes specified by name in the Drawings and Specifications. No substitution will be allowed without prior written approval by the Resident Engineer.
2. Complete materials list shall be submitted prior to performing any work. Materials list shall include the manufacturer, model number and description of all materials and

equipment to be used. Although manufacturer and other information may be different, the following is a guide to proper submittal format:

<u>Item No.</u>	<u>Description</u>	<u>Manufacture</u>	<u>Model No.</u>
1.	Control Valve	Rain Bird	PESB
2.	Gate Valve	Nibco	T-113-K
3.	Etc.	Etc.	Etc.

The irrigation submittal list must be specific and complete. All items must be listed and should include solvent/primer, wire, wire connectors, valve boxes, etc. No copies of manufacturer's literature (catalog cuts) are required as submittal information.

3. Equipment or materials installed or furnished without prior approval of the Resident Engineer may be rejected and the Contractor required to remove such materials from the site at no cost to the Owner.
4. Approval of any item, alternate or substitute indicates only that the product or products apparently meet the requirements of the Drawings and Specifications on the basis of the information or samples submitted.
5. Manufacturer's warranties shall not relieve the Contractor of his liability under the Warranty.

### C. Record Drawings or "As-Built" Drawings

1. The Contractor shall provide and keep up to date at all times, a complete record set "As-Built" drawings of blackline bond prints which shall be corrected daily and show every change from the original Drawings and Specifications and the exact installed locations, sizes, and kinds of equipment. Prints for these purposes may be obtained from the Resident Engineer at the Contractor's cost. "As-Built" drawings shall be kept on the site and shall be used only as a record set.
2. "As-Built" drawings shall also serve as work progress sheets and shall be the basis for measurement and payment for work completed. "As-Built" drawings shall be available at all times for observation and shall be kept in a location easily accessible to the Resident Engineer.
3. The Contractor shall make neat and legible notations on the "As-Built" progress sheets daily as the work proceeds, showing the work as actually installed. For example, should a piece of equipment be installed in a location that does not match the Drawings, the Contractor must indicate that equipment has been relocated in a graphic manner so as to match the original symbols as indicated in the irrigation legend. The relocated equipment and dimensions will then be transferred to the original "As-Built" drawings at the proper time.
4. Before the date of the Final Walkthrough, the Contractor shall transfer all information from the "As-Built" prints to sepia Mylar plans procured from the Resident Engineer at the Contractor's cost. All drafting shall be done with waterproof technical pen ink and applied to the Mylar by technical drafting pens made expressly for use on Mylar surfaces. Dimensions shall be made on the Mylar so as to be easily readable even on the final irrigation controller chart. The original Mylar "As-Built" drawings shall be submitted to the Resident Engineer for approval prior to the making of the irrigation controller charts.
5. The Contractor shall dimension from two (2) permanent points of reference, building corners, sidewalk, or road intersections, etc., the location of the following items:
  - a. Connection to existing water lines.
  - b. Connection to existing electrical power.

- c. Gate and ball valves.
  - d. Routing of sprinkler pressure lines.
  - e. Irrigation control valves and master valves.
  - f. Routing of control wiring and signal cable.
  - g. Quick coupling valves.
  - h. Master Valve, basket strainer and flow sensor.
  - i. Check valves
  - j. Other related equipment.
6. On or before the date of the Final Walkthrough, the Contractor shall deliver the corrected and completed Mylar "As-Built" drawings to the Resident Engineer. Delivery of the "As-Built" drawings will not relieve the Contractor of the responsibility of furnishing required information that may be omitted from the "As-Built" drawings.

#### D. Irrigation Controller Charts

1. "As-Built" drawings shall be approved by the Resident Engineer before irrigation controller charts are prepared.
2. Provide one irrigation controller chart for each irrigation controller supplied.
3. Each irrigation controller chart shall show the area controlled by that irrigation controller and shall be the maximum size of which the irrigation controller door will allow.
4. The irrigation controller chart is to be a reduced drawing of the actual installed irrigation system. In the event that the irrigation controller chart is not legible when the chart is reduced, it may be enlarged to a size that will be readable when reduced.
5. The irrigation controller chart shall be an 11 x 17-inch bond reduction with each valve station represented by a distinct color.
6. When completed, hermetically seal the irrigation controller chart between two pieces of 5 mil plastic with a 1/8-inch edge overlap.
7. Irrigation controller charts shall be completed and approved by the Resident Engineer prior to the Final Walk-through.

#### E. Operation and Maintenance Manuals

1. Prepare and deliver to the Resident Engineer within 10 calendar days prior to completion of irrigation installation, three 3 ring hard cover binders each containing the following information:
  - a. Index sheets stating the Contractor's address and telephone number and a list of equipment with the name and addresses of local manufacturer's representatives.
  - b. Approved Irrigation Submittal List.
  - c. Catalog and part sheets on every material and equipment installed under this Contract.
  - d. Warranty statement.
  - e. Complete operating and maintenance instructions on all major equipment.

#### F. Equipment to be Furnished

1. Supply as a part of this Contract the following tools:
  - a. Two (2) sets of special tools required for removing, disassembling and adjusting each type of sprinkler and valve supplied on the Project.
  - b. One (1) 5-foot valve keys for operation of gate valves.
2. The above-mentioned equipment shall be turned over to the Resident Engineer at the conclusion of the Project.

#### **800-3.05 PRODUCT DELIVERY, STORAGE AND HANDLING**

##### **A. Handling of PVC Pipe and Fittings**

1. The Contractor is cautioned to exercise care in handling, loading, unloading, and storing of PVC pipe and fittings. All PVC pipe shall be transported in a vehicle which allows the length of pipe to lie flat so as not to subject it to undue bending or concentrated external load at any point. Any section of pipe that has been dented or damaged will be discarded and, if installed, shall be replaced with new piping at no cost to the Resident Engineer.

#### **800-3.06 PRIOR TO START OF THE LANDSCAPE MAINTENANCE PERIOD**

- A. The Contractor shall submit proof of warranty to the Resident Engineer prior to the start of the landscape maintenance period. All computerized irrigation control system materials shall have a five-year warranty. It is the Contractor's responsibility to obtain the necessary warranty inspections from the equipment supplier. No installations will be accepted without proof of warranty.

#### **800-3.07 WARRANTY**

- A. The warranty for the irrigation system shall be made in accordance with the attached form.
- B. A copy of the warranty form shall be included in the Operations and Maintenance Manual.
- C. The warranty form shall be re-typed onto the Contractor's letterhead and contain the following information:

#### **800-3.08 WARRANTIES FOR SPRINKLER IRRIGATION SYSTEM**

- A. We hereby warrant that the sprinkler irrigation system we have furnished and installed is free from defects in materials and workmanship, and the work has been completed in accordance with the Drawings and Specifications, ordinary wear and tear and unusual abuse, or neglect the exception. We agree to repair or replace any defects in material or workmanship which may develop during the period of one year from date of final acceptance and also to repair or replace any damage resulting from the repairing or replacing of such defects at no additional cost to the Owner. We shall make such repairs or replacements within a reasonable time, as determined by the Owner and/or Resident Engineer, after receipt of written notice. In the event of our failure to make such repairs or replacements within a reasonable time after receipt of written notice from the Owner and/or Resident Engineer, we authorize the Owner and/or Resident Engineer

to proceed to have said repairs or replacements made at our expense and we will pay the costs and charges therefore upon demand.

PROJECT:

LOCATION:

SIGNED:

ADDRESS:

PHONE:

DATE OF ACCEPTANCE:

**800-3.09 RULES AND REGULATIONS**

- A. Work and materials shall be in accordance with the latest edition of the California Electrical Code and applicable laws and regulations of governing authorities.

**800-3.10 PROTECTION OF WORK AND MATERIALS**

- A. The Contractor shall protect his work and work of others for the duration of the Contract. He shall protect pipes and fittings from direct sunlight and avoid undue bending and any concentrated external loading. Pipe or fittings that have been damaged shall not be used.
- B. The Contractor shall exercise extreme care in excavating and working near existing utilities. Damage to utilities which are caused by contractor's operation shall be the Contractor's responsibility.
- C. The Contractor shall take necessary precautions to protect site conditions and plant material that is to remain. Should damage be incurred, Contractor shall repair damage to its original condition or shall furnish and install equal replacements.
- D. All existing irrigation systems shall be kept in operation at all times. If the existing system is damaged by Contractor, he shall be responsible for immediate repair of such damage. After each repair, all heads of the repaired system shall be removed so that the lines can be cleared of all dirt and foreign matter.

**800-3.11 CORRECTION OF WORK**

- A. Any and all discrepancies of unsatisfactory work shall be corrected by the Contractor at no additional expense to the Owner. The correction of work shall be finished with a reasonable period mutually agreed upon between the Owner and/or Resident Engineer and Contractor.

**800-4 - IRRIGATION PRODUCTS**

**800-4.01 GENERAL**

- A. Use only new materials of brands and types noted on the Drawings or Specifications or an equal approved by Resident Engineer.

**800-4.02 PVC PRESSURE MAIN LINE PIPE AND FITTINGS**

- A. Pressure main line piping for sizes 2.5 inches and larger shall be purple color-coded Class 315 PVC.
- B. Class 315 piping shall be made from an NSF approved Type I, Grade I, PVC resin conforming to ASTM D1784. Piping must meet requirements as set forth in ASTM D2241 (solvent-weld class pipe), with an appropriate standard dimension (SDR).
- C. Pressure main line piping for sizes 2 inches and smaller shall be purple color-coded Schedule 40 PVC with solvent welded joints.
- D. Schedule 40 PVC piping shall be made from NSF approved Type I, Grade I PVC resin conforming to ASTM D1784. Piping must meet requirements as set forth in ASTM D1785 (solvent-weld schedule pipe).
- E. PVC solvent-weld fittings shall be Schedule 40, 1-2, II-I NSF approved conforming to ASTM D2466.
- F. Solvent cement and primer for PVC solvent-weld pipe and fittings shall be of type and installation methods prescribed by the manufacturer.
- G. PVC pipe must bear the following markings:
  - 2. Manufacturer's name.
  - 3. Nominal pipe size.
  - 4. Schedule or class.
  - 5. Pressure rating in PSI.
  - 6. NSF approval.
  - 7. Date of extrusion.
  - 8. Recycled water warning.
- H. PVC fittings shall bear the manufacturer's name or trademark, material designation, size, applicable IPS schedule and NSF seal of approval.

**800-4.03 PVC NON-PRESSURE LATERAL LINE PIPING**

- A. Non-pressure buried lateral line piping shall be purple color coded Schedule 40 PVC with solvent-welded joints.
- B. Non-pressure lateral line piping installed under pavement areas shall be installed in a purple color coded Schedule 40 PVC sleeve.



- C. Pipe shall be made from NSF approved, Type I, Grade II PVC resin conforming to ASTM D1784. Piping must meet requirements set forth in ASTM D2241 (solvent-weld class pipe) with an appropriate standard dimension ratio.
- D. Non-rigid lateral line piping (PVC flexible hose) shall be uniformly black in color, homogeneous throughout, and smooth inside and outside, free from foreign materials, cracks, holes, dents, wrinkles and blisters. The hose shall have the following dimensions.

Size (In.)	Inside Dia. (In.)	Wall Thickness Dia. (In.)	Outside Dia. (In.)
3/8 (IPS)	0.50	0.090	0.680
1/2 (IPS)	0.50	0.140	0.840

- E. Non-rigid lateral line piping shall be solvent-welded to PVC fittings with I.P.S. model #795 (clear) glue or approved equal. Contact I.P.S. at phone number (310) 366-3300.
- F. All requirements for non-pressure lateral line pipe and fittings shall be the same as for solvent-weld pressure main line pipe and fittings as set forth in this Specification.

**800-4.04 BRASS PIPE AND FITTINGS**

- A. Where indicated on the Drawings, use red brass screwed pipe conforming to Federal Specification #WW-P-351.
- B. Fittings shall be red brass conforming to Federal Specification #WW-P-460.

**800-4.05 GALVANIZED PIPE FITTINGS**

- A. Where indicated on the Drawings, use galvanized steel pipe ASA Schedule 40 mild steel screwed pipe.
- B. Fittings shall be medium galvanized screwed beaded malleable iron, or Class 150 flanged steel with Corten bolts where required. Galvanized couplings may be merchant coupling.
- C. Galvanized pipe and fittings installed below grade shall be painted with two (2) coats of Koppers #50 bitumastic. Or cover pipe with 2 layers of plastic, self-adhesive, pipe wrap, 2 mils thick, as manufactured by 3M Company or equal.
- D. Use non-hardening, nontoxic pipe joint sealant formulated for use on water-carrying pipes on all metal threaded connections.

**800-4.06 GATE VALVES AND BALL VALVES**

- A. Gate valves 3 inch and smaller shall be 125 lb. SWP bronze ball gate valve with blow-out proof and full port.

- B. Gate valves 3 inch and smaller shall have threaded ends and shall be equipped with a bronze handle.
- C. Gate valves 3 inch and smaller shall be similar to those manufactured by Hammond or approved equal.
- D. Ball valves 3-inches and smaller shall be Schedule 80 PVC full bore units, and those include Teflon ball seats, Buna-N- O-ring seals, and pressure rated at a minimum of 235 PSI at 73 degrees F.
- E. Ball valves 3-inches and smaller shall be equipped with a Slow-Close full turn stem with gears molded of durable acetyl plastic material and polypropylene handle.
- F. Ball valves 3-inches and smaller shall be as manufactured by Colonial Valve, as distributed by Lasco Fittings or approved Equal.
- G. All gate and ball valves shall be installed per irrigation installation details.

#### **800-4.07 CONTROL WIRE**

- A. Connections between the irrigation controllers and the electric control valves shall be made with Armor clad (aluminum shield coated) direct burial copper wire AWG-U.F. 600 volt. Supplied through John Deere Landscapes, Imperial Irrigation, or equal. Pilot wires shall be a distinct color wire for each irrigation controller. Common wires shall be 12 gauge and the color white with a distinct color stripe for each irrigation controller. Install wires in accordance with valve manufacturer's specifications and wire charts. In no case shall wire size be less than 14-gauge. Wire color shall be continuous over its entire length.
- B. Wiring shall occupy the same trench and shall be installed along the same route as pressure supply or lateral lines wherever possible.
- C. Where more than one (1) wire is placed in a trench, the wiring shall be taped together at intervals of 10 feet.
- D. An expansion curl shall be provided within three (3) feet of each wire connection. Expansion curl shall be of sufficient length at each splice connection at each electric control, so that in case of repair, the valve bonnet may be brought to the surface without disconnecting the control wires. Control wires shall be laid loosely in the trench without stress or stretching of the control wire conductors.
- E. Wire splices shall be made with either Scotch-Lok #3576 Connector Sealing Packs or Rain Bird Snap-Tite wire connector or approved equal. Use one splice per connector sealing pack.
- F. Field wire splices between the irrigation controller and the electrical control valves shall not be allowed without prior approval of the Resident Engineer.
- G. When control wiring is trenched separately from main line trenches a continuous warning tape shall be installed with the wiring. Warning tape: Inert plastic film highly

resistant to alkalis, acids, or other destructive chemical components likely to be encountered in soils. Three inches wide, colored yellow, and imprinted with "CAUTION: BURIED ELECTRIC LINE BELOW."

- H. Provide a 36-inch excess length of wire in an 8-inch diameter loop at each 90 degree change of direction, at both ends of sleeves, and at 100-foot intervals along continuous runs of wiring. Do not tie wiring loop.
- I. Install common ground wire and one control wire for each electric control valve. Multiple valves on a single control wire are not permitted. Install one common wire for each controller. Multiple controllers with one common wire will not be permitted.

#### **800-4.08 SPRINKLER HEADS**

- A. All sprinkler heads shall be of the same size, type, and deliver the same rate of precipitation with the diameter (or radius) of throw, pressure, and discharge as shown on the Drawings and in this Specification.
- B. Spray heads shall have a screw adjustment.
- C. Riser units shall be fabricated in accordance with the Drawings.
- D. Riser nipples for all sprinkler heads shall be the same size as the riser opening in the sprinkler body.
- E. All sprinkler heads of the same type shall be from the same manufacturer.

#### **800-4.09 LANDSCAPE DRIPLINE**

- A. Landscape dripline shall be a continuous self-cleaning, recycled content, pressure compensating dripline with built-in check valve and be Cupron® copper oxide infused for root intrusion deterrent. It shall have a purple stripe identifying it for use with recycled or alternative source water. The low volume dripline shall have integral and evenly spaced pressure compensating check valve emitters welded to the inside of the tubing that contains 20% recycled content. The dripline shall be available with emitters in four discharge rates (0.33, 0.53, 0.77, and 1.16 gallons per hour [GPH]) evenly spaced at 12", 18", or 24" centers.
- B. Each emitter shall have the ability to independently regulate discharge rates, with an inlet pressure range of 21.8 - 58 pounds per square inch (psi), at a constant flow and with a manufacturer's coefficient of variability of 0.03 or less. Recommended operating pressure shall be between 21.8 - 50 psi. The emitter discharge rate shall be 0.33, 0.53, 0.77, or 1.16 gallons per hour (GPH) utilizing a combination of turbulent flow and reduced pressure compensation by molded silicone diaphragm. The emitters shall be capable of continuously cleaning themselves while in operation and have an anti-siphon feature which prevents debris from entering outlet at system shutdown. The dripline shall be available with 12", 18", and 24" spacing between emitters unless otherwise specified.

- C. For subsurface installation, the dripline depth shall be 4" to 6". Maximum system pressure shall be 50 psi for maximum fitting integrity. Filtration shall be 120 mesh or finer. Bending radius shall not be smaller than 7".
- D. For on-surface or under mulch installations, 6" metal wire staples shall be installed 3' on center, and two staples shall be installed over every change-of-direction fitting.
- E. Automatic flush valve units shall be in accordance with the Drawings.
- F. Landscape dripline filter units shall be in accordance with the Drawings.
- G. Pressure regulating inline units shall be in accordance with the Drawings.
- H. Miscellaneous landscape dripline system components, including but not limited to; hold-down stakes, adapter fittings and location markers, shall be in accordance with the drawings.

#### **800-4.10 IDENTIFICATION TAGS**

- A. Identification tags for electrical control valves shall be manufactured from Polyurethane Behr Desopan, or equal. Use Christy's standard tag hot stamped with black letters on yellow background. Tags shall be numbered to match programming shown on the irrigation drawing. Provide one tag of each electric control valve.
  - 1. Tags shall be numbered to match programming shown on the Drawings. Provide one tag for each electric control valve, flow sensor and master valve.
  - 2. Order tags with the controller assignment on the front side of tag and the station sequence indicated on the back side of the tag. The tag is limited to three digits each side.
  - 3. Provide one tag for each electric control valve, master valve and flow sensor. Identification for master valves and flow sensors shall be as indicated on the Drawings.
- B. Special order tags from T. Christy Enterprises, (714) 771-4142 or Resident Engineer approved equal.

#### **800-4.11 SLEEVING**

- A. Install separate sleeve beneath paved areas to route each run of irrigation pipe or wiring bundle.
- B. Sleeving material beneath pedestrian pavements - PVC Schedule 40 pipe with solvent welded joints.
- C. Sleeving beneath streets and drives - PVC Schedule 40 pipe with solvent welded joints.
- D. Sleeving diameter - equal to twice that of the pipe or wiring bundle. Minimum sleeving diameter shall be 2 inches.

- E. Temporarily terminate capped ends of sleeving at locations 2 feet past pavement edges, 4" above finished grade. Paint pipe red.
- F. Chisel 2" letter "I" at face of curb or edge of pavement to mark the location of the sleeve termination point.
- G. At no time shall any irrigation pipe change direction under pavement.

#### **800-4.12 OTHER COMPONENTS**

##### **A. Tools and Spare Parts**

- 1. Provide operating keys, servicing tools, test equipment, other items, and spare parts as indicated in other areas of this Specification.

##### **B. Other Materials**

- 1. Provide other materials or equipment not indicated on the Drawings or referenced in this Specification, as necessary, to complete the installation of the irrigation system.

#### **801-1 - LANDSCAPE INSTALLATION**

##### **801-1.01 RENOVATION AND PREPARATION OF EXISTING SOIL**

- A. Contractor shall submit soil samples to Horticultural/Agricultural Soils Testing Laboratory for horticultural analysis and soil amendment recommendations.
- B. Contractor shall take one (1) representative soil samples from each station.
- C. Contractor to provide a plan indicating (1) soil sample locations and depth sample was taken.
- D. Contractor shall be responsible for paying for horticultural soils testing and report.
- E. Contractor shall perform soil amendment procedures to the soil as required by soils report.

##### **801-1.02 CULTIVATION OF EXISTING SOIL**

- A. In areas where topsoil will not be applied, rip or cultivate the existing soil that will be receiving planting to a depth of at least 9-inches immediately prior to applying soil amendments.
- B. In areas where topsoil will be applied the following procedures are to be followed:
- C. Verify that sub grades for installation of topsoil have been established under rough grading, sub grade depth plus specified depth of topsoil should equal finished grade. Do not spread topsoil prior to the Resident Engineer acceptance of all sub grade work.

- D. Rip or cultivate sub-grade in all planting areas to a minimum depth of 9-inches immediately prior to spreading topsoil.
- E. Remove all rocks, stones, sticks and debris larger than 1-inch in diameter from the surface of the sub-grade prior to applying topsoil.

#### **801-1.03 SOIL SCARIFICATION**

- A. Planting areas which become compacted in excess of 85% relative compaction due to construction activities shall be thoroughly cross-ripped to a minimum depth of 9 inches to alleviate the condition, taking care to avoid existing subsurface utility lines, if present.

#### **801-1.04 VERIFICATION OF EXISTING CONDITIONS**

- A. Prior to the work in this Section, examine previously installed work from other trades and verify that such work is complete and as required, to the point where this installation may commence properly.

#### **801-1.05 ROUGH GRADING CERTIFICATION**

- A. Obtain the Resident Engineer's written certification that indicates that final rough grade has been set by previous contractors to plus or minus 0.10 feet prior to commencing fine grading operations.

#### **801-1.06 FINE GRADING OPERATIONS**

- A. Insure that the top 2-inches of soil is free of stones, roots, stumps, wire, or other deleterious matter 1-inch in diameter and larger. Dispose of debris offsite.
- B. All planting areas to be fine graded to within 2-1/2 inches of paved areas, irrigation valve boxes, concrete mow curbs.
- C. Upon acceptance of rough grade by the Resident Engineer and prior to beginning planting operations, finish grade all planting areas, fill as needed and remove surplus soil and float areas to a smooth, uniform grade to elevations as indicated on the Drawings. Obtain the Resident Engineer approval of the fine grading prior to commencing planting operations.

#### **801-1.07 SURFACE DRAINAGE OF PLANTING AREAS**

- A. The Contractor shall bear final responsibility for properly draining all planting areas. Any discrepancy in the Drawings or Specifications, obstructions on the site, or prior work done by another contractor, which the Contractor feels precludes establishing proper drainage, shall be brought to the immediate attention of the Resident Engineer for correction or relief of said responsibility. The Contractor is to insure proper drainage of all planting areas at a minimum of 2% unless otherwise noted on grading plans.
- B. Contractor shall walk the project with the Owner and or Resident Engineer, and others deemed necessary by the Owner to approve finish grades prior to planting.

**801-1.08 SOIL PREPARATION**

- A. After finish grades for all landscaped areas have been established and approved by the Resident Engineer perform the following operations.
  - 1. Cross-rip all area to a depth of 9 inches.
  - 2. Spread organic amendments uniformly on the surface of the soil and cultivate thoroughly into the top 4-6 inches in a minimum of two directions with a mechanical rototiller.
  - 3. The following soil amendments and fertilizers are to be used for bid purposes only. Specific amendment recommendations will be made after horticultural soil samples are taken and paid for by the Contractor. Application rates per 1,000 square feet shall be as follows:
    - Nitrolized fir bark - 6 cu. yds.
    - Planting fertilizer - 200 lbs. of Gro-Power Plus.
    - Agricultural gypsum - 100 lbs.
    - Soil sulfur - 20 lbs.
  - 4. After applying soil amendments and prior to planting, irrigate with overhead irrigation so that a minimum of 1-3 inches of good quality water passes through the soil profile.

**801-1.09 BACKFILL MIX FOR SHRUBS AND TREES**

- A. The following backfill mix is for bid price basis only. Final backfill recommendations will be made only after rough and fine grading operations are completed and horticultural soil testing has been performed and approved by the Resident Engineer. Adjustments to the backfill amendments may be required based on horticultural soil test results and is assumed covered by the Contractor, outside of extraordinary conditions.
  - 7 parts by volume on-site soil.
  - 3 parts by volume nitrolized organic soil amendment
  - 2 lbs. iron sulfate per cubic yard of mix.
  - 18 lbs. of Gro-Power Plus per cubic yard of mix.
  - Planting tablets - quantity based on size of plant.
- B. Thoroughly blend the backfill mix prior to placement.
- C. Do not apply iron sulfate over paved materials since severe staining is likely to occur.
- D. Substitute plant pits are the responsibility of the Contractor under the Base Bid. Drainage sumps are not part of the Base Bid and compensation will be awarded to the Contractor based on the Construction Agreement.
- E. Submit written results of each plant pit percolation test with locations, date and time of test to the Resident Engineer.

**801-1.10 PLANTING OPERATIONS**

- A. Planting Layout

1. It is the Contractor's responsibility to verify with local governing agencies the location and depth of all underground utilities. If any underground construction or utility lines are encountered in the excavation of planting holes, alternative planting locations may be selected by the Resident Engineer.
2. Locations for all shrubs and trees shall be marked on the ground either by flagged stakes indicating plant type and size or the actual plants themselves for the Resident Engineer's review and approval prior to planting.

#### B. General Planting Guidelines

1. Plant only as many plants that can be planted and watered on that same day in a given planting area.
2. Protect the planting area from excessive vehicle compaction.
3. Face plant material with fullest growth into the prevailing wind and/or the primary direction of view.
4. Center plant material in the planting hole.
5. Set plant material plumb and hold rigidly in place until soil has been tamped firmly around the rootball.
6. Planting pits shall have vertical sides and roughened surfaces. The size of the plant pit shall be per planting detail on drawings.

#### C. Container Removal

1. Plant containers shall be opened and removed in such a manner that the soil surrounding the rootball shall not be broken.
2. Do not injure the root ball while removing the container. After removing plant, superficially cut edge roots with a knife on three (3) sides.

#### D. Shrub and Tree Installation

1. Apply backfill mix to the plant pit up to 1/2 the height of the rootball. Add water to the top of the remaining plant pit and let soak in before completing the remainder of backfilling.

#### E. Placement of Plant Tablets

1. Prior to planting, place the required amount of planting tablets per plant size on top of each root ball while the plants are still in their containers so that the Resident Engineer can easily verify their existence and quantity.
2. After obtaining approval by the Resident Engineer on plant tablet quantity and after water has completely drained from the plant pit, add plant tablets to the planting pits in the following quantities:
 

1 gallon -	3	tablets
5 gallon -	8	tablets
15 gallon -	14	tablets
24-inch box -	15	tablets
36-inch box -	19	tablets
48-inch box -	24	tablets
60-inch box -	35	tablets
3. Dig planting pit to the recommended depth.
4. Backfill the plant pit to attain the proper level for the plant.



5. Place the specified amount of plant tablets between the bottom of the rootball but not higher than 1/3 of the way up the rootball. Space the plant tablets equally around the perimeter of the rootball approximately 2 inches from the rootball.
6. Finish backfilling of the planting pit by tamping the soil firmly around the rootball and watering thoroughly.

#### F. Final Backfilling

1. Once the water has soaked in thoroughly, place the remaining backfill and tamp firmly.
2. After final backfilling, construct an earthen basin around the base of each plant with backfill mix sufficient to hold water for the following plant sizes:
  - Shrubs and vines - 2-inches of water.
  - Trees - 4-inches of water.
3. Remove basins in all turf areas but not before the irrigation system is operational.

#### G. Plant Settling

1. Any plant material that has settled deeper than the surrounding grade shall be raised to the correct level.

#### H. Ground Cover Planting

1. Ground cover flats shall contain sufficient moisture to reduce soil separation when lifting out the plants.
2. Plant ground covers in straight rows, evenly, triangular spaced, and at an on-center spacing as indicated on the Drawings.
3. Each rooted ground cover plant shall be planted with its proportional amount of soil.
4. Apply a 3-inch layer of wood mulch at the completion of planting.

#### I. Container Pot Planting

1. Refer to the Drawings for specific container pot planting layout, waterproofing and sump/drainage details.

### **801-1.11 WATERING**

- A. All planting shall be watered immediately after planting. After the first watering, water shall be applied to all plants as conditions may require keeping the plants in a healthy and vigorous growing condition until the completion of the Contract.

### **801-1.12 WOOD MULCH INSTALLATION**

- A. Spread a 3-inch-deep layer of shredded bark mulch in all landscaped areas other than in turf and or hydroseed areas.

### **801-1.13 CLEAN UP**

- B. Contractor shall remove all trash caused from his Work on a weekly basis throughout the duration of the Project.

- C. Upon completion of his Work under this Section, the Contractor shall remove all rubbish, waste and debris resulting from his operations offsite or as directed by the Owner and or Resident Engineer.
- D. All scars, ruts or other marks in the ground caused by the Contractors work shall be repaired.
- E. Remove all equipment and implements of service, and leave the entire work area in a neat, clean, and Resident Engineer accepted condition. All sidewalks and other paving areas shall receive a broom-clean treatment.

#### **801-1.14 SITE VISIT SCHEDULE**

- A. The Contractor shall be responsible for notifying the Owner and or Resident Engineer in advance to schedule the following site visits:
  - 1. Pre-construction "Kick-Off" meeting - 7 days.
  - 2. At completion of fine grading - 2 days.
  - 3. At completion of soil preparation - 2 days.
  - 4. At start of tree planting, plant layout prior to plant pit excavation - 2 days.
  - 5. After layout of shrubs and prior to pit excavation – 2 days.
  - 6. Final walkthrough prior to going on contracted maintenance period - 7 days.
  - 7. Final walkthrough for project acceptance - 7 days.
- B. When site visits are made by other than the Owner and or Resident Engineer, the Contractor shall show evidence in writing of when and by whom the site visit was made.
- C. No site visit will commence without all previous punch list items being completed, unless compliance has been waived by the Owner and or Resident Engineer. Failure to accomplish the timely execution of previous field report punch list items and not preparing adequately for the next site visit shall make the Contractor potentially liable for reimbursing the Resident Engineer for his labor and reimbursable expenses.

### **801-2 - LANDSCAPING MEASUREMENT AND PAYMENT**

#### **801-2.01 MEASUREMENT**

- A. Work of this section completed in accordance with the Contract Documents will be measured by the contract unit or fraction thereof listed in the Schedule of Quantities and Prices. The quantities contained on the Schedule of Quantities and Prices as derived from the drawings and measured by the Resident Engineer will be used as the basis for this measurement. For Lump Sum, measurement of partial payment will be in accordance to the Schedule of Values addendum submitted by the Contractor.

#### **801-2.02 PAYMENT**

- A. Work of this section completed in accordance with the Contract Documents will be paid for at the applicable unit price as listed in the Schedule of Quantities and Prices. This price shall be full compensation for furnishing all labor, materials, tools, equipment, supplies, supervision and incidentals necessary to complete the work of this section as described by the Contract Documents. For Lump Sum, partial payment will be in accordance to the Schedule of Values submitted by the Contractor.

### **801-3 - IRRIGATION INSTALLATION**

#### **801-3.01 GENERAL**

- A. All scaled dimensions are approximate. The Contractor shall check and verify all size dimensions and receive the Resident Engineer's approval prior to proceeding with any work under this Specification. Contractor shall locate with 2 x 2-inch wood stakes with identifying markings for all proposed locations of electrical control valve boxes, gate valve boxes and quick coupler boxes for approval by the Resident Engineer. After locating all these items contact the Resident Engineer for review and approval. Minor adjustments to the stake locations may be requested of the Contractor by the Resident Engineer.
- B. Exercise extreme care in excavating and working near existing utilities. The Contractor shall be responsible for damages to these utilities which are caused by his operations. Check existing utility drawings for existing utility locations.
- C. Coordinate installation of sprinkler irrigation materials including pipe, so that there shall be no interference with utilities, construction elements, or the planting of trees, shrubs, and ground covers.
- D. The Contractor shall carefully check all finish grades to his satisfaction in order to safely proceed before starting work on the irrigation system.
- E. Report irregularities to the Resident Engineer prior to beginning work. Beginning of work implies acceptance of existing conditions.

#### **801-3.02 SITE PREPARATION**

##### **A. Physical Layout**

1. Prior to installation, the Contractor shall stake out all pressure and non-pressure supply lines and the location of all sprinkler heads.
2. Sprinkler, equipment and piping layout shall be approved by the Resident Engineer prior to installation.

##### **B. Water Supply Point-of-Connections**

1. Water supply Points-of-Connection are as indicated on the Drawings. The Contractor shall be responsible for minor changes caused by actual site conditions.

2. The sprinkler irrigation system shall be connected to water supply Points-of-Connection as indicated on the Drawings.

#### C. Electrical Supply Point-of-Connections

1. Electrical supply Points-of-Connection for the irrigation controllers are as indicated on the Drawings. The Contractor shall be responsible for minor changes caused by actual site conditions.
2. Connections shall be made at approximate locations as indicated on the Drawings. The Contractor shall be responsible for minor changes caused by actual site conditions.

### **801-3.03      **INSTALLATION****

#### A. Trenching

1. Dig trenches straight and support pipe continuously on bottom of trench. Lay pipe to an even grade. Trenching excavation shall follow the layout as indicated on the Drawings.
2. Provide a minimum soil cover of 24 inches for all recycled water pressure supply lines.
3. Provide a minimum soil cover of 12 inches for all non- pressure lines.
4. Provide a minimum soil cover of 24 inches for all control wire.
5. Provide a minimum soil cover of 2 inches and a maximum of 3 inches for dripline tubing.
6. Where piping is indicated under paved areas, but running parallel and adjacent to planting areas, install the piping in the planted areas. Irrigation head spacing as indicated on the Drawings shall not be exceeded.

#### B. Backfilling

1. The trenches shall not be backfilled until all required tests are performed. Trenches shall be carefully backfilled with the excavated materials approved for backfilling, consisting of earth, loam, sandy clay, sand, or other approved materials, free from large clods of earth or stones. Backfill shall be mechanically compacted landscaped areas to a dry density equal to adjacent undisturbed soil in planting areas. Backfill shall conform to adjacent grades without dips, sunken areas, humps or other surface irregularities.
2. A fine granular material backfill shall be initially placed over all lines. No foreign matter larger than 1/2 inch in size will be permitted in the initial backfill.
3. The flooding of trenches will be permitted only with the approval of the Resident Engineer.
4. If settlement occurs and subsequent adjustments in pipe, valves, sprinkler heads, planting, or other construction elements are necessary, the Contractor shall make all required adjustments without cost to the Owner.

#### C. Trenching and Backfilling Under Pavement

1. Trenches located under areas where asphalt concrete or concrete pavement occurs, shall be backfilled with sand (a layer six (6) inches below the pipe and three (3) inches above the pipe) and compacted in layers to 95% compaction, using manual or mechanical tamping devices. Trenches for piping shall be compacted to equal the

compaction of the existing adjacent undisturbed soil and shall be left in a firm unyielding condition. All trenches shall be left flush with adjoining finish grade. The Contractor shall set piping in place, cap, and pressure test all piping under paving prior to the paving work.

2. Generally piping under existing pavement is done by jacking, boring or hydraulic driving, but where any cutting or breaking of concrete pavement is necessary, it shall be done and replaced by the Contractor at no cost to the Resident Engineer. Permission to cut or break concrete pavement shall be obtained from the Resident Engineer. No hydraulic driving will be permitted under concrete pavement.
3. Provide a minimum soil cover of 24 inches between the top of the pipe and the bottom of the aggregate base for all pressure and non-pressure piping installed under asphaltic concrete pavement.

#### D. Assemblies

1. The routing of irrigation lines as indicated on the Drawings is diagrammatic only. Install lines and various assemblies in such a manner as to conform with the Drawings.
2. Install no multiple assemblies in plastic lines. Provide each assembly with its own outlet.
3. Install all assemblies specified herein in accordance with their respective details. In absence of Drawings or Specifications pertaining to specific items required to complete this work, perform such work in accordance with best standard practice with prior approval of the Resident Engineer.
4. PVC pipe and fittings shall be thoroughly cleaned of dirt, dust and moisture before installation. Installation and solvent welding methods shall be as recommended by the pipe and fitting manufacturer.
5. On PVC to metal connections work the metal connections first. Teflon tape or approved equal, shall be used on all threaded PVC to PVC and threaded PVC to metal joints. Apply a light wrench pressure only. Where threaded PVC connections are required, use threaded PVC adapters into which the pipe may be solvent welded.

#### E. Assembling Pipe and Fittings:

1. Inspect all pipe and fittings before installation.
2. Keep pipe free from dirt and pipe scale. Cut pipe ends square and debur. Clean pipe ends of loose pipe shavings.
3. Keep ends of assembled pipe capped. Remove caps only when necessary to continue assembly.
4. Install pipe with all markings up for visual inspection and verification.
5. All lines shall have a minimum clearance of six (6) inches from each other and from lines of other trades. Parallel lines shall not be installed directly over one another.
6. Maintain 10-foot minimum horizontal separation from all potable water piping. Where reclaimed and potable water pressure main line piping cross, the reclaimed water piping shall be installed below the potable water piping on a PVC Class 200 pipe sleeve which extends a minimum of five (5) feet on either side of the potable water piping. Provide a minimum vertical clearance of six (6) inches.
7. Use only strap-type friction wrenches for threaded plastic pipe.
8. Snake pipe from side to side within the trench.

#### F. Line Clearance

1. All lines shall have a minimum clearance of six (6) inches from each other and from lines of other trades. Parallel lines shall not be installed directly over one another.

#### G. Electric Control Valve Installation

1. Install electric control valves as indicated on the Drawings. When grouped together, allow at least twelve inches between electric control valves. Install each electric control valve in a separate valve box. Each electric control valve number shall be heat-branded on valve box top with 2-inch-tall letters.
2. The Resident Engineer shall approve electric control valve and quick coupling valve box locations prior to final installation.

#### H. Valve Box Installation

1. Install valve boxes as indicated on the Drawings. When grouped together, allow at least twelve inches between valve boxes.
2. Heat brand valve box identification as indicated on Drawings.

#### I. System Flushing

1. After pipe lines and risers are in place and connected and all necessary diversion work has been completed, and prior to installation of sprinkler heads, the control valves shall be opened, and a full head of water used to flush out the system. Sprinkler heads shall be installed only after flushing of the system has been performed.

#### J. Sprinkler Head Installation

1. Install the sprinkler heads as indicated on the Drawings.
2. Spacing of sprinkler heads shall not exceed the maximum spacing as indicated on the Drawings. In no case shall the spacing exceed the maximum recommended by the manufacturer.
3. Install check valves on sprinkler heads that drain water after the control valve is turned off. "Low head" drainage will not be allowed on sprinkler heads.

#### K. Landscape Drip Installation

1. Install the dripline and drip emitter components as indicated on the Drawings.
2. Spacing of dripline shall not exceed the maximum spacing as indicated on the Drawings.

#### L. Sleeving

1. Extend sleeve ends a minimum of 24 inches beyond the edge of the paved surface. Cover pipe ends and mark with stakes. Route wire through and tie at each end to stakes.

### **801-3.04 TEMPORARY REPAIRS**

- A. The Owner and/or Resident Engineer reserves the right to make temporary repairs as necessary to keep the irrigation system in operating condition.

**801-3.05 INSTALLATION OF OTHER COMPONENTS****A. Tools and Spare Parts**

1. Prior to the Pre-Maintenance Walkthrough, supply the Resident Engineer operating keys, servicing tools, test equipment, and any other items as indicated on the Drawings.

**B. Other Materials**

1. Install other materials or equipment to be part of the irrigation system, as indicated on the Drawings, even though such items may not have been referenced in this Specification.

**801-3.06 FIELD QUALITY CONTROL****A. Adjustment of the Irrigation System**

1. Flush and adjust all sprinkler heads and drip systems for optimum performance and to reduce overspray onto walks, roadways, and buildings as much as possible.
2. If it is determined that adjustments to the sprinkler heads will provide proper and more adequate coverage, the Contractor shall make such adjustments prior to any planting. Adjustments may also include changes in nozzle sizes and degrees of arc as required.
3. Lowering raised sprinkler heads by the Contractor shall be accomplished within 10 days after notification by the Resident Engineer.
4. All sprinkler heads shall be set perpendicular to finish grades unless otherwise indicated on the Drawings.

**B. Irrigation System Testing**

1. The Contractor shall request the presence of the Resident Engineer at least 48 hours in advance of irrigation system testing.
2. Testing of pressure mainline shall occur prior to installation of any electric control valves.
3. The Contractor shall test all pressure lines under hydrostatic pressure of 150 PSI for a period of one (1) hour. Leaks that develop in the tested portion of the system shall be located and repaired after each test period when a drop of more than 5 pounds per square inch (35 kPa) is indicated by the pressure gauge.
4. After the leaks have been repaired, the one (1) hour pressure test shall be repeated and additional repairs made until the drop-in pressure is less than five pounds per square inch or less. All piping (pressure and non-pressure) under pavement shall be pressure tested under a hydrostatic pressure of 150 PSI for a period of two (2) hours.
5. If during the pressure test, a pressure drop occurs - indicating a leak, replace the faulty joints and repeat the pressure test until the entire system is proven watertight.
6. All hydrostatic tests shall be made only in the presence of the Resident Engineer. No pipe shall be backfilled until it has been observed, tested and approved in writing.
7. The Contractor is to furnish the necessary force pump and all other test equipment for the hydrostatic pressure test.

8. When the irrigation system hydrostatic pressure test and is completed, perform a sprinkler coverage test in the presence of the Resident Engineer. Determine if the water coverage is complete and adequate. Furnish all materials and perform all work necessary to correct any inadequacies of water coverage due to deviations from the Drawing.
9. Upon completion of each phase of work, the entire system shall be coverage tested and adjusted to meet specific site requirements.

#### **801-3.07 IRRIGATION SYSTEM MAINTENANCE**

- A. The entire irrigation system shall be under full, automatic operation for a period of seven (7) days prior to beginning any planting. The Resident Engineer reserves the right to waive or shorten this operation period.

#### **801-3.08 CLEAN UP**

- A. Clean up shall be made by Contractor as each portion of work progresses. Refuse and excess dirt shall be removed from the site, all walks and paving shall be broom swept or washed down, and any damage sustained to the work of other contractors shall be repaired to original conditions at no cost to the Owner.
- B. Upon completion of the Work, the Contractor shall smooth all ground surfaces. Remove excess materials such as rubbish, debris and sweep adjacent streets, curbs, gutters, walkways and trails. Remove construction equipment from the premises.

#### **801-3.09 FINAL WALKTHROUGH PRIOR TO ACCEPTANCE**

- A. The Contractor shall operate the irrigation system in its entirety for the Resident Engineer at time of the Final Walkthrough. Any items deemed not acceptable by the Resident Engineer shall be reworked until accepted.
- B. The Contractor shall show evidence to the Owner that the Resident Engineer has received all accessories, charts, "As-built drawings", and equipment as required before the Final Walk through will be performed.

#### **801-3.10 SITE VISIT OBSERVATION SCHEDULE**

- A. The Contractor shall be responsible for notifying the Resident Engineer in advance of the following site visits:
  1. Pre-Job or "Kick-Off" meeting - 7 days.
  2. Pressure supply line installation and testing - 2 days.
  3. Irrigation controller installation - 2 days.
  4. Control wire installation - 2 days.
  5. Lateral line, sprinkler head and dripline installation - 2 days.
  6. System coverage test - 2 days.
  7. Final Walkthrough - 7 days.



The owner may request the attendance of the Landscape Architect at these meetings or any other time as deemed necessary.

**801-4 - IRRIGATION MEASUREMENT AND PAYMENT**

**801-4.01 MEASUREMENT**

- A. Work of this section completed in accordance with the Contract Documents will be measured by the contract unit or fraction thereof listed in the Schedule of Quantities and Prices. The quantities contained on the Schedule of Quantities and Prices as derived from the drawings and measured by the Resident Engineer will be used as the basis for this measurement. For Lump Sum, measurement of partial payment will be in accordance to the Schedule of Values addendum submitted by the Contractor.

**801-4.02 PAYMENT**

- A. Work of this section completed in accordance with the Contract Documents will be paid for at the applicable unit price as listed in the Schedule of Quantities and Prices. This price shall be full compensation for furnishing all labor, materials, tools, equipment, supplies, supervision and incidentals necessary to complete the work of this section as described by the Contract Documents. For Lump Sum, partial payment will be in accordance to the Schedule of Values submitted by the Contractor.

**802-1 - LANDSCAPE MAINTENANCE**

**802-1.01 - CONDITIONS**

- A. The general provisions of the Contract, including General and Supplementary Conditions and General Requirements apply to the Work specified in this Section.

**802-1.02 - SCOPE OF WORK**

- A. Furnish all labor, material, equipment, transportation and services required to maintain landscape in a healthy growing condition and in a neat and attractive appearance throughout the Maintenance Period, as shown on the Drawings and specified herein.
- B. Scope of work: The general extent of landscape maintenance may include, but is not limited to the following:
  - 1. Tree, shrub, ground cover and turf areas.
  - 2. Irrigation systems.
  - 3. General site clean-up.

**802-1.03 - REFERENCES AND REGULATORY REQUIREMENTS**

- A. State of California Department of Transportation Standard Specifications, latest edition.

**802-1.04 - QUALITY ASSURANCE**

- A. Control of work: Comply with Section 5 of the CalTrans Standard Specifications, latest edition.
- B. Control of materials: Comply with Section 6 of the CalTrans Standard Specifications, latest edition.
- C. The Contractor shall be experienced in horticulture and landscape maintenance, practices and techniques, and shall provide sufficient number of workers with adequate equipment to perform the work during the Maintenance Period.

#### **802-1.05 - MAINTENANCE PERIOD**

- A. Maintenance Period shall be ninety (90) Calendar days.
- B. Maintain the entire project area during progress of work and during the specified Maintenance Period or until final acceptance of the project. Maintenance shall continue beyond the Maintenance Period, as required, until final acceptance is given by the Owner.
- C. Maintenance Period shall not start until all elements of construction, planting and irrigation for the entire project are in accordance with Contract Documents. A main requirement is that all lawn and landscape areas be planted and that all lawn areas show an even, healthy stand of "sod-like" turf which shall have been mown twice. If such criteria are met to the satisfaction of the Owner's Representative, written notification shall be issued to establish the effective beginning date of Maintenance Period.
- D. All elements listed on the Pre-maintenance Punch-list must be completed to the satisfaction of the Owner's Representative. The Maintenance Period shall, per the discretion of the Owner's Representative, be allowed to start and finish at different times in different areas as applicable, if authorization of the Owner is obtained.
- E. Any day of improper maintenance, as determined by the Owner's Representative, shall not be credited as an acceptable Maintenance Period day. The Maintenance Period shall be extended on a daily basis if the work is not in accordance to the Plans and Specifications until proper maintenance, as determined by the Owner's Representative, is being performed.
- F. Contractor shall provide protection to the project site against trespass, vandalism or theft during the Maintenance Period. Any damage caused by the lack of adequate site protection shall be repaired or replaced at no additional cost to the Owner.

#### **802-1.06 - GUARANTEE AND REPLACEMENT**

- A. All work executed under the Contract shall be guaranteed for the duration of the Maintenance Period and for a period of one (1) year after Final Acceptance of project against any and all poor, inadequate or inferior materials and/or workmanship, acts of God, animal or insect damage or improper maintenance, as determined by the Owner. Material shall be replaced by the Contractor at Contractor's expense.

- B. Any materials found to be dead, missing, or not in a satisfactory or healthy condition during the Maintenance Period shall be replaced immediately. The Owner's Representative shall be the sole judge as to the condition of material. Material to be replaced within the Guarantee Period shall be replaced by the Contractor within five (5) days of written notification by the Owner. All replacement materials and installations shall comply with the Plans and Specifications.

**802-1.07 - OBSERVATION SCHEDULE**

- A. Observations shall be requested by the Contractor from the Owner's Representative as per observations listed in specifications Sections 801-1.14 and 801-3.10.

**802-1.08 - FINAL ACCEPTANCE OF THE PROJECT**

- B. Upon completion of all project work, including Maintenance Period, the Owner's Representative will, upon written request from Contractor, make an observation to determine final project acceptability. The Contractor shall notify the Owner's Representative a minimum of two (2) working days in advance of anticipated completion.
- C. Where observed work does not comply with the Contract Documents, replace rejected work and continue specified Maintenance Period until re-inspection by the Owner's Representative and project has been determined to be acceptable. The Contractor shall repair, replace or otherwise correct all non-compliant work, continue Landscape Maintenance Period, and make another written request to the Owner's Representative to verify punch-list completion. All replacement materials and installations shall be in accordance with the Plans and Specifications. Remove rejected work and materials immediately from project. Prior to date of final observation, Contractor shall provide the Owner's Representative with all Record Drawings, turnover items and written Guarantee Statement in accordance with the Contract Documents.

**802-1.09 - MATERIALS**

- A. All materials used shall conform to Specifications or shall otherwise be acceptable to the Owner. The Owner shall be given a monthly record of all herbicides, insecticides and disease control chemicals used.

- B. General fertility maintenance fertilizer: shall consist of the following percents by weight:

5%	nitrogen
3%	phosphoric acid
1%	potash

- C. Slow release fertilizer: shall consist of the following percents by weight:

12%	nitrogen
8%	phosphoric acid
8%	potash

**802-2 - EXECUTION****802-2.01 - GENERAL**

- A. Proper maintenance, including watering, weeding, mowing, edging, fertilization, repairing and protection shall be required until entire project is finally accepted, but in any event for a period of not less than the specified Maintenance Period.
- B. Maintenance shall be according to the following standards. All areas shall be weeded and cultivated at intervals of not more than ten (10) days. Watering, trash and debris removal, mowing, rolling, edging, trimming, fertilization, spraying and pest control, as required, shall be included in the Maintenance Period. Street gutters and sidewalks shall be included. The Contractor shall be responsible for maintaining adequate protection of the area. Damaged areas shall be repaired at the Contractor's expense. Between the 15th day and the 20th day of the Maintenance Period, the Contractor shall reseed or resod all spots or areas within the turf where normal turf growth is not evident. Replenish mulch to originally specified depth on a monthly basis, or more frequently as required.

**802-2.02 - TREE AND SHRUB AND GROUNDCOVER CARE****A. Watering**

- 1. Water appropriately (based on plant type) to insure vigorous and healthy growth until work is accepted. Maintain the water basins around trees and shrubs so that water can be applied to establish moisture through the major root zone. Water enough that moisture penetrates throughout root zone and only as frequently as necessary to maintain healthy growth. Refer to irrigation schedule as noted on Plans. When hand watering use a water wand to break the water force.

**B. Weed Control**

- 1. Entire project site shall be kept free of weeds at all times. Control new weed growth with recommended, legally approved pre-emergent herbicides. If weeds develop, use recommended, legally approved herbicides.
- 2. Keep basins and areas between plants free of weeds. Avoid frequent soil cultivation that destroys shallow roots. Use mulches to help prevent weed germination.
- 3. No herbicide shall be used without the Owner's Representative's prior consent. Use only herbicides in accordance with manufacturer's recommendations. If selective herbicides are used, extreme caution shall be observed so as not to damage any other plants. Spraying shall be done only under windless conditions.

**C. Insect and Disease Control**

- 1. Maintain a reasonable control with approved materials.
- 2. Disease and insect damage shall be controlled by the use of fungicides and insecticides, subject to the prior consent of the Owner's Representative. Rodent mitigation shall be accomplished using legal means other than poison baits.

**D. Fertilization**

- 1. Fertilize all planting areas with the following:

- a. Commencement of Maintenance Period - 5 lbs. per 1,000 square feet with general fertility maintenance fertilizer.
  - b. At the end of the first 30-day Maintenance Period - 5 lbs. per 1,000 square feet with general fertility maintenance fertilizer.
  - c. At the end of the Maintenance Period and at 30-day intervals should Maintenance Period be extended - 10 lbs. per 1,000 square feet with slow release fertilizer.
2. Avoid applying fertilizer to the root ball and base of main stem; rather, spread evenly under plant to drip line. Rates will vary from about a cup of nitrate fertilizer (depending on nitrogen percentage) around a newly installed small plant to about one-half (1/2) lb. of actual nitrogen per inch of trunk diameter measured four feet from the ground for mature trees.

#### E. Protection

1. The Contractor shall maintain protection of the planted areas. Damaged areas shall be repaired or replaced at the Contractor's expense. Install a temporary maintenance fence for the entire length of Maintenance Period around all turf areas, unless otherwise specified by the Owner.

#### F. Replacement of Plants

1. Replace dead, dying and missing plants with plants of a size, condition and variety to match plants acceptable to Owner at Contractor's expense under the conditions stated in the Guarantee and Replacement section of these specifications.

### **802-2.03 - IRRIGATION SYSTEM**

#### A. System Observation

1. The Contractor shall check all systems for proper operation on a weekly basis and make all necessary repairs. Lateral lines shall be flushed out by removing the last sprinkler head at each end of the lateral. All equipment shall be adjusted as necessary for proper coverage and function. All heads are to be adjusted as necessary.

#### B. Repairs

1. Repair all damages to irrigation system at the Contractor's expense. Repairs shall be made within twenty-four (24) hours.

### **802-2.04 - TRASH**

- A. Remove trash and debris weekly. Dispose in a legal manner.
- B. Remove trash in all project areas including adjacent pedestrian walkways and parking areas.

### **802-2.05 - FIELD QUALITY CONTROL**

- A. Final Review: At, or near the end of specified Maintenance Period, the Contractor shall make written request for a final review and the work shall be reviewed for conformance with the Construction Documents. If work is not accepted at time of review, a punch-list of items requiring attention will be issued to the Contractor for correction. The

Maintenance Period shall be extended at Contractor's sole cost as necessary. Upon completion of the punch-list the Contractor shall again make written request for review. If, upon re-visiting the site, it is found that the punch-list has not been completed, the review shall end and the Contractor shall be back-charged for all additional visits.

- B. All re-inspections required due to Contractor not being prepared or non-conformance with the Construction Documents shall be back charged to the Contractor.
- C. Final Acceptance: When work is found to be in conformance with the Contract Documents, subject to the discretion of the Owner's Representative, a statement of Final Acceptance shall be issued to the Contractor.

### **802-3 – MAINTENANCE MEASUREMENT AND PAYMENT**

#### **802-3.01 MEASUREMENT**

- A. Work of this section completed in accordance with the Contract Documents will be measured by the contract unit or fraction thereof listed in the Schedule of Quantities and Prices. The quantities contained on the Schedule of Quantities and Prices as derived from the drawings and measured by the Resident Engineer will be used as the basis for this measurement. For Lump Sum, measurement of partial payment will be in accordance to the Schedule of Values addendum submitted by the Contractor.

#### **802-3.02 PAYMENT**

- A. Work of this section completed in accordance with the Contract Documents will be paid for at the applicable unit price as listed in the Schedule of Quantities and Prices. This price shall be full compensation for furnishing all labor, materials, tools, equipment, supplies, supervision and incidentals necessary to complete the work of this section as described by the Contract Documents. For Lump Sum, partial payment will be in accordance to the Schedule of Values submitted by the Contractor.

**END OF SECTION**

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**MISCELLANEOUS  
CONTRACT  
DOCUMENTS  
(SAMPLE)**



**NOTE: FHWA-1273 WILL BE INCLUDED/INCORPORATED INTO THE FINAL AGREEMENT.**

Project and Specifications  
Federal Project No. HSIPL-5312(102)  
City Project No. 19-10

**CITY OF COSTA MESA  
PUBLIC WORKS AGREEMENT FOR  
CITY PROJECT NO. \_\_\_\_\_**

THIS PUBLIC WORKS AGREEMENT ("Agreement"), dated \_\_\_\_\_ ("Effective Date"), is made by the CITY OF COSTA MESA, a political subdivision of the State of California ("CITY"), and \_\_\_\_\_, a [state] [type of organization] ("CONTRACTOR").

CITY desires to construct the public work and improvements described below under Scope of Work, Paragraph 1 ("Work").

ACCORDINGLY, the parties hereto agree as follows:

1. SCOPE OF WORK.

The Work consists of \_\_\_\_\_.

The Work is further described in the "Contract Documents" referred to below.

The Project is known as \_\_\_\_\_, City Project No. \_\_\_\_ ("Project").

2. CONTRACT DOCUMENTS.

The complete Agreement consists of the following documents relating to the Project:

- a. This Agreement;
- b. CONTRACTOR's bid;
- c. Notice inviting bids;
- d. Complete plans, profiles, detailed drawings and specifications, including general provisions and special provisions;
- e. Certificates of Insurance;
- f. Faithful Performance Bond and Labor and Material Bond, including agent's

Power of Attorney for each bond;

- g. Supplements, attachments, and exhibits attached to the above items;
- h. Provisions of the most current edition of The Greenbook: Standard Specifications for Public Works Construction (“The Greenbook”); and
- i. All addenda setting forth any modifications or interpretations of the above documents.

The documents attached hereto are incorporated herein by this reference. The Greenbook is incorporated by reference as if fully set forth herein. The documents comprising the complete Agreement will be referred to as the “Contract Documents.”

All of the Contract Documents are intended to complement one another, so that any Work called for in one and not mentioned in another is to be performed as if mentioned in all documents.

In the event of an inconsistency in the Contract Documents, the terms of this Agreement shall prevail over all other Contract Documents. The order of precedence between the remaining Contract Documents shall be as set forth in The Greenbook.

The Contract Documents constitute the entire agreement between the parties and supersede any and all other writings and oral negotiations.

3. CITY’S REPRESENTATIVE.

The CITY’s Representative is \_\_\_\_\_, referred to herein as the Project Manager (“Project Manager”).

4. CONTRACTOR’S PROJECT MANAGER; PERSONNEL.

(a) Project Manager. CONTRACTOR’s Project Manager must be approved by City. Such approval shall be at CITY’s sole discretion.

(b) Personnel. CITY has the right to review and approve any personnel

who are assigned to perform work under this Agreement. CONTRACTOR shall remove personnel from performing work under this Agreement if requested to do so by CITY.

This Paragraph 4 is a material provision of the Agreement.

5. SCHEDULE.

All Work shall be performed in accordance with the schedule approved on behalf of CITY by the Project Manager, and in accordance with the time of performance set forth in Paragraph 8 (Time of Performance).

6. EQUIPMENT - PERFORMANCE OF WORK.

CONTRACTOR shall furnish all tools, equipment, apparatus, facilities, labor and materials necessary to perform and complete the Work of construction in a good and workmanlike manner in strict conformity with the Contract Documents.

The equipment, apparatus, facilities, labor and material shall be furnished and such Work performed and completed as required in the plans and specifications to the satisfaction of the Project Manager or his or her designee, and subject to his or her approval.

7. CONTRACT PRICE.

\_\_\_\_\_ (\$\_\_\_\_\_.00).

8. TIME OF PERFORMANCE.

CONTRACTOR shall commence Work by the date specified in CITY's Notice to Proceed, unless a later date is agreed upon in writing by the parties. The Work shall be completed within \_\_\_\_\_ [working/calendar] days from the first day of commencement of the Work.

9. TERMINATION.

(a) Termination for Convenience.

CITY may terminate this Agreement at any time, with or without cause, by providing thirty (30) days' written notice to CONTRACTOR.

(b) Termination for Breach of Contract.

(i) If CONTRACTOR refuses or fails to prosecute the Work or any severable part of it with such diligence as will ensure its timely completion, or if CONTRACTOR fails to complete the Work on time, or if CONTRACTOR, or any subcontractor, violates any of the provisions of the Contract Documents, the Project Manager may give written notice to CONTRACTOR and CONTRACTOR's sureties of the CITY's intention to terminate this Agreement; and, unless within five (5) days after the serving of that notice, such conduct shall cease and arrangements for the correction thereof be made to the satisfaction of the CITY, this Agreement may be terminated at the option of CITY effective upon CONTRACTOR's receipt of a second notice sent by the CITY indicating that the CITY has exercised its option to terminate.

(ii) If CONTRACTOR is adjudged bankrupt or files for any relief under the Federal Bankruptcy Code or State insolvency laws, this Agreement shall automatically terminate without any further action or notice by CITY.

(iii) If CONTRACTOR is in breach of any material provision of this Agreement, CITY may immediately terminate this Agreement by providing written notice to CONTRACTOR of same.

10. LIQUIDATED DAMAGES.

In the event the Work is not completed, for any reason, within the time required including any approved extensions of time, and to the satisfaction of the Project Manager,

CITY may, in addition to any other remedies, equitable and legal, including remedies authorized by Paragraph 9 (Termination) of this Agreement, charge to CONTRACTOR or its sureties, or deduct from payments or credits due CONTRACTOR, a sum equal to \_\_\_\_\_ as liquidated damages for each day beyond the date provided for the completion of such Work.

The parties hereto agree that the amount set forth above, as liquidated damages constitutes a fair and reasonable estimate of the costs the CITY would suffer for each day that the CONTRACTOR fails to meet the performance schedule. The parties hereby agree and acknowledge that the delays in the performance schedule will cause CITY to incur costs and expenses not contemplated by this Agreement.

11. PERFORMANCE BY SURETIES.

In the event CONTRACTOR fails or refuses to perform the Work, CITY may provide CONTRACTOR with a notice of intent to terminate as provided in Paragraph 9 (Termination), of this Agreement. The CITY shall immediately give written notice of such intent to terminate to CONTRACTOR and CONTRACTOR's surety or sureties, and the sureties shall have the right to take over and perform this Agreement; provided, however, that the sureties must, within five (5) days after CITY's giving notice of termination, (a) give the CITY written notice of their intention to take over the performance of this Agreement; (b) provide adequate assurances, to the satisfaction of the CITY that the Work shall be performed diligently and in a timely manner; and (c) must commence performance thereof within five (5) days after providing notice to the CITY of their intention to take over the Work. Upon the failure of the sureties to comply with the provisions set forth above, CITY may take over the Work and complete it, at the expense of CONTRACTOR, and the CONTRACTOR and the sureties shall be liable to CITY for any

excess costs or damages including those referred to in Paragraph 10 (Liquidated Damages), incurred by CITY. In such event, CITY may, without liability for so doing, take possession of such materials, equipment, tools, appliances, Contract Documents and other property belonging to CONTRACTOR as may be on the site of the Work and reasonably necessary therefor and may use them to complete the Work.

12. DISPUTES PERTAINING TO PAYMENT FOR WORK.

Should any dispute arise respecting whether any delay is excusable, or its duration, or the value of the Work done, or of any Work omitted, or of any extra Work which CONTRACTOR may be required to do, or respecting any payment to CONTRACTOR during the performance of this Agreement, such dispute shall be decided by the Project Manager, and his or her decisions shall be final and binding upon CONTRACTOR and its sureties.

13. SUPERINTENDENCE BY CONTRACTOR.

At all times during performance of the Work, CONTRACTOR shall give personal superintendence or have a competent foreman or superintendent on the worksite, with authority to act for CONTRACTOR.

14. INSPECTION BY CITY.

CONTRACTOR shall at all times maintain proper facilities and provide safe access for inspection by CITY to all parts of the Work and to all shops on or off-site where the Work or portions of the Work, are in preparation. CITY shall have the right of access to the premises for inspection at all times. However, CITY shall, at all times, comply with CONTRACTOR's safety requirements on the job site.

15. CARE OF THE WORK AND OFF-SITE AUTHORIZATION.

CONTRACTOR warrants that it has examined the site of the Work and is familiar with its topography and condition, location of property lines, easements, building lines and other physical factors and limitations affecting the performance of this Agreement. CONTRACTOR, at CONTRACTOR's sole cost and expense, shall obtain any permission, and all approvals, licenses, or easements necessary for any operations conducted off the premises owned or controlled by CITY. CONTRACTOR shall be responsible for the proper care and protection of all materials delivered to the site or stored off-site and for the Work performed until completion and final inspection and acceptance by CITY. The risk, damage or destruction of materials delivered to the site or to Work performed shall be borne by CONTRACTOR.

16. PAYMENTS TO CONTRACTOR.

On or before the last Monday of each and every month during the performance of the Work, CONTRACTOR shall meet with the Project Manager or his or her designee to determine the quantity of pay items incorporated into the improvement during that month. A "Progress Payment Order" will then be jointly prepared, approved, and signed by the Project Manager and the CONTRACTOR setting forth the amount to be paid and providing for a five percent (5%) retention. Upon approval of the progress payment order by the Project Manager, or his or her designee, it shall be submitted to CITY's Finance Department and processed for payment by obtaining approval from the City Council to issue a warrant.

Within three (3) days following City Council's approval to issue a warrant, CITY shall mail to CONTRACTOR a warrant for the amount specified in the progress payment order as the amount to be paid. The retained five percent (5%) shall be paid to

CONTRACTOR thirty-five (35) days after the recording of the Notice of Completion of the Work by the COUNTY and after CONTRACTOR shall have furnished releases of all claims against CITY by persons who furnished labor or materials for the Work, if required by CITY.

Upon the request of CONTRACTOR and at its expense, securities equivalent to the amount withheld pursuant to the foregoing provisions may be presented to CITY for substitution for the retained funds. If CITY approves the form and amount of the offered securities it will release the retained funds and will hold the securities in lieu thereof. CONTRACTOR shall be entitled to any interest earned on the securities.

In the event that claims for property damage or bodily injury are presented to CITY arising out of CONTRACTOR's or any subcontractor's Work under this Agreement; CITY shall give notice thereof to CONTRACTOR, and CONTRACTOR shall have thirty-five (35) days from the mailing of any such notice to evaluate the claim and to settle it by whole or partial payment, or to reject it, and to give notice of settlement or rejection to CITY. If CITY does not receive notice within the above-mentioned 35-day period that the claim has been settled, and if the Project Manager, after consultation with the City Attorney, determines that the claim is meritorious, CITY may pay the claim or a portion of it in exchange for an appropriate release from the claimant, and may deduct the amount of the payment from the retained funds that would otherwise be paid to CONTRACTOR upon completion of the Work; provided, however, that the maximum amount paid for any one claim pursuant to this provision shall be One Thousand Dollars (\$1,000.00), and the maximum amount for all such claims in the aggregate paid pursuant to this provision shall be Five Thousand Dollars (\$5,000.00).



17. PROMPT PAYMENT OF SUBCONTRACTORS.

The CONTRACTOR agrees to pay each subcontractor under this Agreement for satisfactory performance of its contract no later than seven (7) days from the receipt of each payment the CONTRACTOR receives from CITY.

The CONTRACTOR agrees further to release retainage payments to each subcontractor within thirty (30) days after the subcontractor's work is satisfactorily completed.

Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the CITY.

18. CONTRACT SECURITY AND GUARANTEE.

Unless previously provided by CONTRACTOR to CITY, CONTRACTOR shall furnish, concurrently with the execution of this Agreement, the following: (1) a surety bond in an amount equal to one hundred percent (100%) of the contract price as security for the faithful performance of this Agreement, and (2) a separate surety bond in an amount equal to at least one hundred percent (100%) of the contract price as security for the payment of all persons furnishing labor or materials in connection with the Work under this Agreement. Sureties for each of the bonds and the forms thereof shall be satisfactory to CITY. In addition, such sureties must be authorized to issue bonds in California; sureties must be listed on the latest revision to the U.S. Department of the Treasury Circular 570; and must be shown to have sufficient bonding capacity to provide the bonds required by the Contract Documents.

CONTRACTOR shall provide a certified copy of the certificate of authority of the surety issued by the Insurance Commissioner; a certificate from the clerk of the county in which the court or officer is located that the certificate of authority of the surety has not

been surrendered, revoked, canceled, annulled, or suspended or, in the event that it has, that renewed authority has been granted; and copies of the surety's most recent annual statement and quarterly statement filed with the Department of Insurance pursuant to Article 10 (commencing with Section 900) of Chapter 1 of Part 2 of Division 1 of the Insurance Code.

CONTRACTOR guarantees that all materials used in the Work and all labor performed shall be in conformity with the Contract Documents including, but not limited to, the standards and specifications set forth in the most current edition of The Greenbook. CONTRACTOR shall, at its own expense, make any and all repairs and replacements that shall become necessary as the result of any failure of the Work to conform to the aforementioned Contract Documents, and standard specifications; provided, however, that CONTRACTOR shall be obligated under this provision only to the extent of those failures or defects of which he is given notice within a period of twelve (12) months from the date that the Notice of Completion is recorded.

The rights and remedies available to CITY pursuant to this provision shall be cumulative with all rights and remedies available to CITY pursuant to statutory and common law, which rights and remedies are hereby expressly reserved, and neither the foregoing guarantee by CONTRACTOR nor its furnishing of the Bonds, nor acceptance thereof by CITY, shall constitute a waiver of any rights or remedies available to CITY against CONTRACTOR.

19. INDEMNIFICATION.

CONTRACTOR agrees to protect, defend, indemnify and hold harmless CITY and its elected and appointed boards, officers, agents, and employees from any and all claims, liabilities, expenses, or damages of any nature, including attorney fees, for injury

to or death of any person, and for injury or damage to any property, including consequential damages of any nature resulting therefrom, arising out of or in any way connected with the performance of this Agreement. The defense obligation provided for hereunder shall apply without any advance showing of negligence or wrongdoing by the CONTRACTOR, its employees, and/or authorized subcontractors, but shall be required whenever any claim, action, complaint, or suit asserts as its basis the negligence, errors, omissions or misconduct of the CONTRACTOR, its employees, and/or authorized subcontractors, and/or whenever any claim, action, complaint or suit asserts liability against the CITY, its elected officials, officers, agents and employees based upon the work performed by the CONTRACTOR, its employees, and/or authorized subcontractors under this Agreement, whether or not the CONTRACTOR, its employees, and/or authorized subcontractors are specifically named or otherwise asserted to be liable. Notwithstanding the foregoing, the CONTRACTOR shall not be liable for the defense or indemnification of the CITY for claims, actions, complaints or suits arising out of the sole active negligence or willful misconduct of the CITY. This provision shall supersede and replace all other indemnity provisions contained either in the CITY's specifications or CONTRACTOR's proposal, which shall be of no force and effect.

CONTRACTOR shall comply with all of the provisions of the Workers' Compensation insurance laws and Safety in Employment laws of the State of California, including the applicable provisions of Divisions 4 and 5 of the California Labor Code and all amendments thereto and regulations promulgated pursuant thereto, and all similar State, Federal or local laws applicable; and CONTRACTOR shall indemnify and hold harmless CITY from and against all claims, liabilities, expenses, damages, suits, actions, proceedings and judgments, of every nature and description, including attorney fees, that

may be presented, brought or recovered against CITY for or on account of any liability under or failure to comply with any of said laws which may be incurred by reason of any Work performed under this Agreement by CONTRACTOR or any subcontractor or others performing on behalf of CONTRACTOR.

CITY does not, and shall not, waive any rights against CONTRACTOR which it may have by reason of the above hold harmless agreements, because of the acceptance by CITY or the deposit with CITY by CONTRACTOR of any or all of the insurance policies described in Paragraph 20 (Insurance) of this Agreement.

The hold harmless agreements by CONTRACTOR shall apply to all liabilities, expenses, claims, and damages of every kind (including but not limited to attorney fees) incurred or alleged to have been incurred, by reason of the operations of CONTRACTOR or any subcontractor or others performing on behalf of CONTRACTOR, whether or not such insurance policies are applicable. CONTRACTOR shall require any and all tiers of subcontractors to afford the same degree of indemnification to the CITY OF COSTA MESA and its elected and appointed boards, officers, agents, and employees that is required of CONTRACTOR and shall incorporate identical indemnity provisions in all contracts between CONTRACTOR and all tiers of its subcontractors.

In the event that CONTRACTOR and CITY are sued by a third party for damages caused or allegedly caused by negligent or other wrongful conduct of CONTRACTOR, or by a dangerous condition of CITY's property created by CONTRACTOR or existing while the property was under the control of CONTRACTOR, CONTRACTOR shall not be relieved of its indemnity obligation to CITY by any settlement with any such third party unless that settlement includes a full release and dismissal of all claims by the third party against the CITY.

20. INSURANCE.

CONTRACTOR shall not commence Work under this Agreement until it has obtained all insurance required under this section and CITY has approved the insurance as to form, amount, and carrier, nor shall CONTRACTOR allow any subcontractor to commence any Work until all similar insurance required of the subcontractor has been obtained and approved.

Neither the failure of CONTRACTOR to supply specified insurance policies and coverage, nor the failure of CITY to approve same shall alter or invalidate the provisions of Paragraph 19 (Indemnification) of this Agreement.

(a) Workers' Compensation Insurance.

CONTRACTOR shall obtain and maintain during the life of this Agreement workers' compensation insurance and, if any Work is sublet, CONTRACTOR shall require all tiers of subcontractors to obtain workers' compensation insurance.

All workers' compensation insurance policies shall provide that the insurance may not be canceled without thirty (30) days' advance written notice of such cancellation to CITY.

CONTRACTOR agrees to waive, and obtain endorsements from its workers' compensation insurer waiving, subrogation rights under its workers' compensation insurance policy against the CITY and to require each of its subcontractors, if any, to do likewise under their workers' compensation insurance policies.

(b) Liability Insurance Coverage.

CONTRACTOR shall obtain and maintain during the life of this Agreement the following insurance coverage:

- (i) Commercial General Liability, including coverage for

premises-operations, products/completed operations hazard, blanket contractual, broad form property damage, and independent contractors. In addition, CONTRACTOR shall obtain and maintain during the life of this Agreement each of the following insurance coverage which are not stricken out and initialed by the Project Manager: Explosion and collapse hazard, underground hazard, personal injury, and automobile liability, including owned, hired, and non-owned vehicles. All insurance coverage shall have limits of not less than \$1,000,000.00 combined single limits, per occurrence and aggregate.

(ii) Below are approved endorsements which satisfy the basic insurance requirements contained in contracts entered into by City of Costa Mesa. These have been approved by the City Attorney's Office. The terms of any specific contract with the City are controlling. Prior to the commencement of any work, the City requires that the Engineer receive Certificates of Insurance in DUPLICATE for liability coverage of at least \$1,000,000.00 combined single limits, per occurrence and in the aggregate. Endorsements to the policies providing the above insurance shall be obtained by CONTRACTOR, adding the following three provisions:

(1) Additional Insured:

"The City of Costa Mesa and its elected and appointed boards, officers, agents, and employees are additional insureds with respect to the subject project and agreement."

(2) Notice:

"Said policy shall not terminate, nor shall it be canceled nor the coverage reduced, until thirty (30) days after written notice is given to CITY."

(3) Other Insurance:

“Any other insurance maintained by the City of Costa Mesa shall be excess and not contributing with the insurance provided by this policy.”

If any of such policies provide for a deductible or self-insured retention to provide such coverage, the amount of such deductible or self-insured retention shall be approved in advance by CITY. No policy of insurance issued as to which the CITY is an additional insured shall contain a provision which requires that no insured except the named insured can satisfy any such deductible or self-insured retention.

21. PROOF OF INSURANCE.

Prior to commencement of the Work, CONTRACTOR shall furnish CITY, through the Project Manager, proof of compliance with the above insurance requirements in a form satisfactory to the Risk Management.

22. LEGAL WORK DAY - PENALTIES FOR VIOLATION.

Eight (8) hours of labor shall constitute a legal day's work during any one (1) calendar day. CONTRACTOR shall forfeit to CITY the sum of Twenty-Five Dollars (\$25.00) for each workman employed in the execution of this Agreement by CONTRACTOR or by any subcontractor for each calendar day during which such workman is required or permitted to work more than eight (8) hours in any one calendar day and 40 hours in any one calendar week in violation of California Labor Code Sections 1810 through 1815, inclusive.

23. PREVAILING WAGE SCALE.

CONTRACTOR shall comply in all respects with the Davis-Bacon Act (40 U.S.C. section 276a) and with California Labor Code sections 1770 et seq., including the keeping of all records required by the provisions of Labor Code section 1776.

CONTRACTOR shall furnish each week to CITY's Project Administration Division a statement with respect to the wages of each of its employees during the preceding weekly payroll period.

24. COMPLIANCE WITH ALL LAWS.

CONTRACTOR shall, at its own cost and expense, comply with all applicable local, state, and federal laws, regulations, and requirements in the performance of this Agreement, including but not limited to laws regarding health and safety, labor and employment, and wage and hours.

25. DRUG-FREE WORKPLACE POLICY.

CONTRACTOR, upon notification of the award of this Agreement, shall establish a Drug-Free Awareness Program to inform employees of the dangers of drug abuse in the workplace, the penalties that may be imposed upon employees for drug abuse violations occurring in the workplace, and the employee assistance programs available to employees. Each employee engaged in the performance of a CITY contract must be notified of this Drug-Free Awareness Program, and must abide by its terms. CONTRACTOR shall conform to all the requirements of CITY's Policy No. 100-5, attached hereto as Attachment 1. Failure to establish a program, notify employees, or inform the CITY of a drug-related workplace conviction will constitute a material breach of contract and cause for immediate termination of the contract by the CITY.

26. NON-DISCRIMINATION.

In performing this Agreement, CONTRACTOR will not engage in, nor permit its agents to engage in, discrimination in employment of persons because of their race, religion, color, national origin, ancestry, physical handicap, medical condition, marital status or sex, or sexual orientation, except as permitted pursuant to Section 12940 of the



Government Code. Violation of this provision may result in the imposition of penalties referred to in Section 1735 of the California Labor Code.

27. CONTRACT ASSURANCE.

The CONTRACTOR or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Agreement. 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 Agreement, which may result in the termination of this Agreement or such other remedy as recipient deems appropriate.

The CONTRACTOR will require that the above provision is included in all subcontracts.

28. PROVISIONS CUMULATIVE.

The provisions of this Agreement are cumulative and in addition to, and not in limitation of, any other rights or remedies available to CITY.

29. NOTICES.

It shall be the duty and responsibility of CONTRACTOR to notify all tiers of subcontractors and material men of the following special notice provision; namely, all preliminary 20-day notices or stop notices shall be directed only to the City Clerk and to no other department, and shall be either personally delivered or sent by certified mail, postage prepaid.

All other notices shall be in writing and delivered in person or sent by certified mail, postage prepaid. Notices required to be given to CITY pursuant to this Agreement shall be addressed as follows:

City of Costa Mesa  
77 Fair Drive  
Costa Mesa, CA 92626  
Attn: \_\_\_\_\_

Notices required to be given to CONTRACTOR shall be addressed as follows:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Attn: \_\_\_\_\_

Notices required to be given to CONTRACTOR's sureties shall be addressed as follows:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Attn: \_\_\_\_\_

30. INDEPENDENT CONTRACTOR.

The parties hereto acknowledge and agree that the relationship between CITY and CONTRACTOR is one of principal and independent contractor and no other. All personnel to be utilized by CONTRACTOR in the performance of this Agreement shall be employees of CONTRACTOR and not employees of the CITY. CONTRACTOR shall pay all salaries and wages, employer's social security taxes, unemployment insurance and similar taxes relating to employees and shall be responsible for all applicable withholding taxes. Nothing contained in this Agreement shall create or be construed as creating a partnership, joint venture, employment relations, or any other relationship except as set forth between the parties. The parties specifically acknowledge and agree that CONTRACTOR is not a partner with CITY, whether general or limited, and no activities of CITY or CONTRACTOR or statements made by CITY or CONTRACTOR shall be interpreted by any of the parties hereto as establishing any type of business relationship other than an independent contractor relationship.

31. PERS ELIGIBILITY INDEMNIFICATION.

In the event that CONTRACTOR or any employee, agent, or subcontractor of CONTRACTOR providing services under this Agreement claims or is determined by a court of competent jurisdiction or the California Public Employees' Retirement System (PERS) to be eligible for enrollment in PERS as an employee of the CITY, CONTRACTOR shall indemnify, defend, and hold harmless CITY for the payment of any employee and/or employer contributions for PERS benefits on behalf of CONTRACTOR or its employees, agents, or subcontractors, as well as for the payment of any penalties and interest on such contributions, which would otherwise be the responsibility of CITY.

Notwithstanding any other agency, state or federal policy, rule, regulation, law or ordinance to the contrary, CONTRACTOR and any of its employees, agents, and subcontractors providing service under this Agreement shall not qualify for or become entitled to, and hereby agree to waive any claims to, any compensation, benefit, or any incident of employment by CITY, including but not limited to eligibility to enroll in PERS as an employee of CITY and entitlement to any contribution to be paid by CITY for employer contribution and/or employee contributions for PERS benefits.

32. VALIDITY.

The invalidity in whole or in part of any provision of this Agreement shall not void or affect the validity of any of the other provisions of this Agreement.

33. GOVERNING LAW.

This Agreement shall be governed by and construed in accordance with the laws of the State of California. Any legal action relating to or arising out of this Agreement shall be subject to the jurisdiction of the County of Orange, California.

34. NO THIRD PARTY BENEFICIARY RIGHTS.

This Agreement is entered into for the sole benefit of the CITY and CONTRACTOR and no other parties are intended to be direct or incidental beneficiaries of this Agreement and no third party shall have any right in, under or to this Agreement.

35. ASSIGNABILITY.

This Agreement may not be sold, transferred or assigned by either party, or by operation of law, to any other person or persons or business entity, without the other party's written permission. Any such sale, transfer or assignment, or attempted sale, transfer or assignment without written permission, may be deemed by the other party to constitute a voluntary termination of this Agreement and this Agreement shall thereafter be deemed terminated and void.

36. WAIVER.

No waiver of any provision of this Agreement shall be effective unless in writing and signed by a duly authorized representative of the party against whom enforcement of a waiver is sought referring expressly to this Paragraph. The waiver of any right or remedy in respect to any occurrence or event shall not be deemed a waiver of any right or remedy in respect to any other occurrence or event, nor shall any waiver constitute a continuing waiver.

37. HEADINGS.

Section and subsection headings are not to be considered part of this Agreement, are included solely for convenience, and are not intended to modify or explain or to be a full or accurate description of the content thereof.

38. COUNTERPARTS.

This Agreement may be executed in one or more counterparts by the parties hereto. All counterparts shall be construed together and shall constitute one Agreement.

39. CORPORATE AUTHORITY.

The persons executing this Agreement on behalf of the Parties hereto warrant that they are duly authorized to execute this Agreement on behalf of said Parties and that by doing so, the Parties hereto are formally bound to the provisions of this Agreement.

40. ADDITIONAL SERVICES.

CONTRACTOR shall not receive compensation for any services provided outside the scope of the Contract Documents unless such additional services, including change orders, are approved in writing by CITY prior to CONTRACTOR performing the additional services.

It is specifically understood that oral requests or approvals of such additional services, change orders or additional compensation and any approvals from CITY shall be barred and are unenforceable.

[Signatures appear on following page.]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by and through their respective authorized officers, as of the date first above written.

CITY OF COSTA MESA,  
A municipal corporation

\_\_\_\_\_  
Lori Ann Farrell Harrison  
City Manager

Date: \_\_\_\_\_

CONTRACTOR

\_\_\_\_\_  
Signature

Date: \_\_\_\_\_

\_\_\_\_\_  
Name and Title

\_\_\_\_\_  
Signature

Date: \_\_\_\_\_

\_\_\_\_\_  
Name and Title

\_\_\_\_\_  
Social Security or Taxpayer ID Number

ATTEST:

\_\_\_\_\_  
Brenda Green  
City Clerk

Date: \_\_\_\_\_

APPROVED AS TO FORM:

\_\_\_\_\_  
Kimberly Hall Barlow  
City Attorney

Date: \_\_\_\_\_

APPROVED AS TO INSURANCE:

\_\_\_\_\_  
Ruth Wang  
Risk Management

Date: \_\_\_\_\_

APPROVED AS TO PURCHASING:

\_\_\_\_\_  
Carol Molina  
Acting Finance Director

Date: \_\_\_\_\_

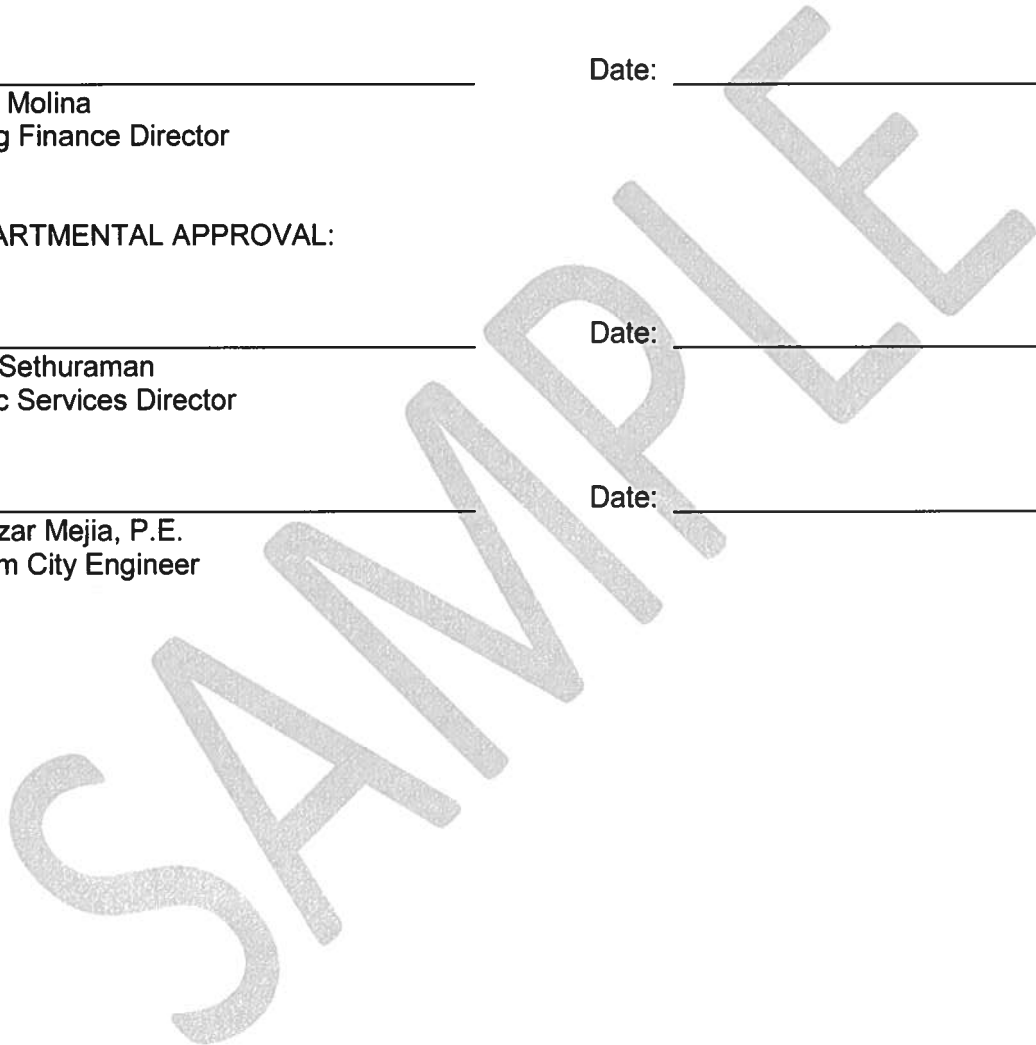
DEPARTMENTAL APPROVAL:

\_\_\_\_\_  
Raja Sethuraman  
Public Services Director

Date: \_\_\_\_\_

\_\_\_\_\_  
Baltazar Mejia, P.E.  
Interim City Engineer

Date: \_\_\_\_\_



- 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."



**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.

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**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.

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**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.

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**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.

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**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.

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**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.



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**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.

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**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.

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**XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 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-L.L.L., "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	19.6
	CA Santa Clara, CA	14.9
	7485 Santa Cruz, CA	
	CA Santa Cruz	9.1
	7500 Santa Rosa	
	CA Sonoma	17.1
8720 Vallejo-Fairfield-Napa, CA		
CA Napa; CA Solano	23.2	
Non-SMSA Counties: CA Lake; CA Mendocino; CA San Benito		
177	Sacramento, CA: SMSA Counties: 6920 Sacramento, CA	16.1
	CA Placer; CA Sacramento; CA Yolo Non-SMSA Counties	14.3
	CA Butte; CA Colusa; CA El Dorado; CA Glenn; CA Nevada; CA Sierra; CA Sutter; CA Yuba	
178	Stockton-Modesto, CA: SMSA Counties: 5170 Modesto, CA	12.3
	CA Stanislaus	24.3
	8120 Stockton, CA	
	CA San Joaquin	19.8
	Non-SMSA Counties CA Alpine; CA Amador; CA Calaveras; CA Mariposa; CA Merced; CA Tuolumne	
179	Fresno-Bakersfield, CA SMSA Counties: 0680 Bakersfield, CA	19.1
	CA Kern	26.1
	2840 Fresno, CA	

	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	
	CA Los Angeles	21.5
	6000 Oxnard-Simi Valley-Ventura, CA	
	CA Ventura	19.0
	6780 Riverside-San Bernardino-Ontario, CA	
	CA Riverside; CA San Bernardino	19.7
181	7480 Santa Barbara-Santa Maria-Lompoc, CA	
	CA Santa Barbara	24.6
	Non-SMSA Counties	
	CA Inyo; CA Mono; CA San Luis Obispo	
	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 carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.
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.

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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

## FEDERAL FUNDING SUPPLEMENT

### DAVIS-BACON ACT PROVISIONS (29 CFR SECTION 5:5)

#### (a) (1) MINIMUM WAGES

(i) All mechanics and laborers employed or working upon the site of the work or under the United States Housing Act of 1937 or under the Housing Act of 1949, in the construction or development of the project, 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 amounts due at time of payment computed at wage rates not less than those contained in the wage determination decision 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; and the wage determination decision shall be posted by CONTRACTOR at the site of the work in a prominent place where it can be easily seen by the workers. For the purpose of this clause, contributions made or costs reasonably anticipated under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1) (iv). Also for the purpose of this clause, regular contributions made or costs incurred for more than a weekly period under plans, funds, or programs, but covering the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

(ii) CITY'S Project Manager shall require that any class of laborers or mechanics, including apprentices and trainees, which is not listed in the wage determination and which is to be employed under the contract, shall be classified or reclassified conformably to the wage determination and a report of the action taken shall be sent by CITY'S Project Manager to the Secretary of Labor. In the event the interested parties cannot agree on the proper classification or reclassification of a particular class of laborers and mechanics, including apprentices and trainees, to be used, the question accompanied by the recommendation of CITY'S Project Manager shall be referred to the Secretary for final determination.

(iii) CITY'S Project Manager shall require, 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 wage rate and CONTRACTOR is obligated to pay a cash equivalent of such a fringe benefit, an hourly cash equivalent thereof to be established. In the event the interested parties cannot agree upon a cash equivalent of the fringe benefit, the question, accompanied by the recommendation of CITY'S Project Manager shall be referred to the Secretary of Labor for determinations.

(iv) If CONTRACTOR does not make payments to a trustee or other third person, he may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing benefits under a plan or program of a type expressly listed in the wage determination decision of the Secretary of Labor which is a part of this contract: Provided, however, the Secretary of Labor has found, upon the written request of CONTRACTOR, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require CONTRACTOR to set aside in a separate account assets for the meeting of obligations under the plan or program.

#### (2) WITHHOLDING

CITY'S Finance Director may withhold or cause to be withheld from CONTRACTOR so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices and trainees, employed by CONTRACTOR or any subcontractor on the work the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentices or trainees, employed or working on the site of the work, or under the United States Housing Act of 1937 or under the Housing Act of 1949, in the construction or development of the project, all or part of the wages required by the contract, CITY'S Finance Director may, after written notice to CONTRACTOR, or subcontractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee or funds until such violations have ceased.



### **(3) PAYROLLS AND BASIC RECORDS**

(i) Payrolls and basic records relating thereto will be maintained 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, or in the construction or development of same. Such records will contain the name and address of each such employee, his correct classification, rates of pay [including rates of contributions or costs anticipated of the types described in Section 1(b)(2) 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, 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.

(ii) CONTRACTOR will submit weekly a copy of all payrolls to CITY'S Finance Director reflecting wages paid to each of its employees during the preceding weekly payroll period. The copy shall be accompanied by a statement signed by CONTRACTOR or his agent indicating that the payrolls are correct and complete, that the wage rates contained therein are not less than those determined by the Secretary of Labor and that the classifications set forth for each laborer or mechanic conform with the work he performed. A submission of a "Weekly Statement of Compliance" which is required under this contract and the Copeland Regulations of the Secretary of Labor (29 CFR, Part 3) and the filing with the initial payroll or any subsequent payroll of a copy of any findings by the Secretary of Labor under 29 CFR 5.5(a)(1)(iv) shall satisfy this requirement. CONTRACTOR shall be responsible for the submission of copies of payrolls of all subcontractors. CONTRACTOR will make the records required under the labor standards clauses of the contract available for inspection by authorized representatives of the CITY'S Finance Department and the Department of Labor, and will permit such representatives to interview employees during working hours on the job. CONTRACTOR employing apprentices or trainees under approved programs shall include a notation on the first weekly certified payrolls submitted to the contracting agencies that their employment is pursuant to an approved program and shall identify the program.

### **(4) APPRENTICES AND TRAINEES**

#### **(i) APPRENTICES:**

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his 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 Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen in any craft classification shall not be greater than the ratio permitted to CONTRACTOR as to his entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not a trainee as defined in subdivision (ii) of this subparagraph or is not registered or otherwise employed as stated above, shall be paid the wage rate determined by the Secretary of Labor for the classification of work he actually performed. CONTRACTOR and all subcontractors will be required to furnish to CITY'S Project Manager written evidence of the registration of his program and apprentices as well as of the appropriate ratios and wage rates (expressed in percentages of the journeyman hourly rates), for the area of construction prior to using any apprentices on the contract work. The wage rate paid apprentices shall be not less than the appropriate percentage of the journeyman's rate contained in the applicable wage determination.

#### **(ii) TRAINEES:**

Except as provided in 29 CFR 5.15, 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, Bureau of Apprenticeship and Training. The ratio of trainees to journeymen shall not be greater than permitted under the plan approved by the

Bureau of Apprenticeship and Training. Every trainee must be paid at not less than the rate specified in the approved program for his level of progress. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Bureau of Apprenticeship and Training shall be paid not less than the wage rate determined by the Secretary of Labor for the classification of work he actually performed. CONTRACTOR and all subcontractors will be required to furnish CITY'S Project Manager written evidence of the certification of his program, the registration of the trainees, and the ratios and wage rates prescribed in that program. In the event the Bureau of Apprenticeship and Training withdraws approval of a training program, CONTRACTOR will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) **EQUAL EMPLOYMENT OPPORTUNITY:**

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

**(5) COMPLIANCE WITH COPELAND REGULATIONS (29 CFR, PART 3)**

CONTRACTOR shall comply with the Copeland Regulations (29 CFR, Part 3) of the Secretary of Labor which are herein incorporated by reference.

**(6) SUBCONTRACTS**

CONTRACTOR will insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (5) and (7) and such other clauses as the CITY'S Project Manager may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts which they may enter into, together with a clause requiring this insertion in any further subcontracts that may in turn be made.

**(7) CONTRACT DETERMINATION; DEBARMENT**

A breach of clauses (1) through (6) may be grounds for termination of the contract, and for debarment as provided in 29 CFR 5.6.

**(b) (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 laborer or mechanic in any workweek in which he is employed on such work to work in excess of eight hours in any calendar day or in excess of forty hours in such workweek unless laborer or mechanic receives compensation at a rate of not less than one and one-half times his basic rate of pay for all hours worked in excess of eight hours in any calendar day or in excess of forty hours in such workweek, as the case may be.

**(2) VIOLATION; LIABILITY FOR UNPAID WAGES; LIQUIDATED DAMAGES**

In the event of any violation of the clause set forth in subparagraph (1), CONTRACTOR and any subcontractor responsible therefor shall be liable to any affected employee for his unpaid wages. In addition, such CONTRACTOR and subcontractor shall be liable to CITY for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic employed in violation of the clause set forth in subparagraph (1), in the sum of \$10 for each calendar day on which such employee was required or permitted to work in excess of eight hours or in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in subparagraph (1).

**(3) WITHHOLDING FOR UNPAID WAGES & LIQUIDATED DAMAGES**

CITY may withhold or cause to be withheld, from any moneys payable on account of work performed by the CONTRACTOR or subcontractor, such sums as may administratively 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).

#### **(4) SUBCONTRACTS**

CONTRACTOR shall insert in any subcontracts the clauses set forth in subparagraphs (1), (2), and (3) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts which they may enter into, together with a clause requiring this insertion in any further subcontracts that may in turn be made.

#### **EQUAL OPPORTUNITY CLAUSE [41 CFR SECTION 60-1.4(B)]**

During the performance of this contract, CONTRACTOR agrees as follows:

(1) CONTRACTOR will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. CONTRACTOR will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. 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 agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) CONTRACTOR will, in all solicitations or advertisements for employees placed by or on behalf of CONTRACTOR, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(3) CONTRACTOR will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the CONTRACTOR'S commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) CONTRACTOR will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(5) CONTRACTOR will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by CITY and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

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

(7) CONTRACTOR will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. CONTRACTOR will take such action with respect to any subcontract or purchase order as CITY 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 subcontractor or vendor as a result of such direction by CITY, CONTRACTOR may request the United States to enter into such litigation to protect the interests of the United States.

**COUNCIL POLICY – DRUG FREE WORKPLACE**

CITY OF COSTA MESA, CALIFORNIA

COUNCIL POLICY

<b>SUBJECT</b>	<b>POLICY NUMBER</b>	<b>EFFECTIVE DATE</b>	<b>PAGE</b>
DRUG-FREE WORKPLACE	100-5	8/08/89	1 OF 3

**BACKGROUND**

Under the Federal Drug-Free Workplace Act of 1988, passed as part of omnibus drug legislation enacted November 18, 1988, contractors and grantees of Federal funds must certify that they will provide drug-free workplaces. At the present time, the City of Costa Mesa, as a subgrantee of Federal funds under a variety of programs, is required to abide by this Act. The City Council has expressed its support of the national effort to eradicate drug abuse through the creation of a Substance Abuse Committee, institution of a City-wide D.A.R.E. program in all local schools and other activities in support of a drug-free community. This Policy is intended to extend that effort to contractors and grantees of the City of Costa Mesa in the elimination of dangerous drugs in the workplace.

**PURPOSE**

It is the purpose of this Policy to:

1. Clearly state the City of Costa Mesa's commitment to a drug-free society.
2. Set forth guidelines to ensure that public, private, and nonprofit organizations receiving funds from the City of Costa Mesa share the commitment to a drug-free workplace.

**POLICY**

The City Manager, under direction by the City Council, shall take the necessary steps to see that the following provisions are included in all contracts and agreements entered into by the City of Costa Mesa involving the disbursement of funds.

1. Contractor or subgrantee hereby certifies that it will provide a drug-free workplace by:
  - A. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possessing, or use of a controlled substance is prohibited in Contractor's and/or subgrantee's workplace, specifically the job site or location included in this contract, and specifying the actions that will be taken against the employees for violation of such prohibition;
  - B. Establishing a Drug-Free Awareness Program to inform employees about:
    1. The dangers of drug abuse in the workplace;

CITY OF COSTA MESA, CALIFORNIA

COUNCIL POLICY

<b>SUBJECT</b>	<b>POLICY NUMBER</b>	<b>EFFECTIVE DATE</b>	<b>PAGE</b>
DRUG-FREE WORKPLACE	100-5	8/08/89	2 OF 3

2. Contractor's and/or subgrantee's policy of maintaining a drug-free workplace;
  3. Any available drug counseling, rehabilitation and employee assistance programs; and
  4. The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace.
- C. Making it a requirement that each employee to be engaged in the performance of the contract be given a copy of the statement required by Subparagraph A.
- D. Notifying the employee in the statement required by Subparagraph 1.A that, as a condition of employment under the contract, the employee will:
1. Abide by the terms of the statement; and
  2. Notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after such violation.
- E. Notifying the City of Costa Mesa within ten (10) days after receiving notice under Subparagraph 1.D.2 from an employee or otherwise receiving the actual notice of such conviction.
- F. Taking one of the following actions within thirty (30) days of receiving notice under Subparagraph 1.D.2 with respect to an employee who is so convicted:
1. Taking appropriate personnel action against such an employee, up to and including termination; or
  2. Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health agency, law enforcement, or other appropriate agency.
- G. Making a good faith effort to maintain a drug-free workplace through implementation of Subparagraph 1.A through 1.F, inclusive.
2. Contractor and/or subgrantee shall be deemed to be in violation of this Policy if the City of Costa Mesa determines that:
- A. Contractor and/or subgrantee has made a false certification under Paragraph 1 above.

CITY OF COSTA MESA, CALIFORNIA

COUNCIL POLICY

<b>SUBJECT</b>	<b>POLICY NUMBER</b>	<b>EFFECTIVE DATE</b>	<b>PAGE</b>
DRUG-FREE WORKPLACE	100-5	8/08/89	3 OF 3

B. Contractor and/or subgrantee has violated the certification by failing to carry out the requirements of Subparagraphs 1.A through 1.G above.

C. Such number of employees of Contractor and/or subgrantee have been convicted of violations of criminal drug statutes for violations occurring in the workplace as to indicate that the Contractor and/or subgrantee has failed to make a good faith effort to provide a drug-free workplace.

3. Should any Contractor and/or subgrantee be deemed to be in violation of this Policy pursuant to the provisions of 2.A, B and C, a suspension, termination or debarment proceeding subject to applicable Federal, State, or local laws shall be conducted. Upon issuance of any final decision under this section requiring debarment of a Contractor and/or subgrantee, the Contractor and/or subgrantee shall be ineligible for award of any contract, agreement or grant from the City of Costa Mesa for a period specified in the decision, not to exceed five (5) years. Upon Issuance of any final decision recommending against debarment of the Contractor and/or subgrantee, the Contractor and/or subgrantee shall be eligible for compensation as provided by law.

**CERTIFICATE OF INSURANCE**

<b>CERTIFICATE HOLDER</b> City of Costa Mesa 77 Fair Drive P. O. Box 1200 Costa Mesa, CA 92628-1200	<b>INSURANCE COMPANIES AFFORDING COVERAGES</b> Company Letter <b>A</b>
<b>NAME AND ADDRESS OF INSURED</b>	E

This is to certify that policies of insurance listed below have been issued to the insured named above and are in force at this time, including attached endorsement(s).

COMPANY LETTER	TYPE OF INSURANCE	POLICY NO.	POLICY EXP. DATE	LIMITS OF LIABILITY IN THOUSANDS (000)		
				Each Occurrence	Aggregate	
	<b>GENERAL LIABILITY</b>					
	Comprehensive Form			Bodily Injury	\$	\$
	Premises—Operations			Property Damage	\$	\$
	Explosion & Collapse Hazard					
	Underground Hazard					
	Products/Completed—Operations Hazard			Bodily Injury and Property Damage Combined	\$	\$
	Contractual Insurance					
	Broad Form Property Damage					
	Independent Contractors					
	Personal Injury					
	Marine			Personal Injury		\$
	Aviation					
	<b>AUTOMOBILE LIABILITY</b>					
	Comprehensive Form			Bodily Injury (Each Person)	\$	
	Owned			Bodily Injury (Each Occurrence)	\$	
	Hired			Property Damage	\$	
	Non-owned			Bodily Injury and Property Damage Combined	\$	
	<b>EXCESS LIABILITY</b>					
	Umbrella Form			Bodily Injury and Property Damage Combined	\$	\$
	Other than Umbrella Form					
	<b>WORKERS' COMPENSATION AND EMPLOYER'S LIABILITY</b>			Statutory		(Each Accident)

**NOTE:** The Comprehensive General Liability policy and/or Automotive Liability policy is/are endorsed with the City of Costa Mesa Endorsement(s) shown on the reverse side.

**CANCELLATION:** Said policy shall not terminate, nor shall it be cancelled, nor the coverage reduced, until thirty (30) days after written notice is given to City.

By: \_\_\_\_\_ Agency: \_\_\_\_\_ Date Issued \_\_\_\_\_  
Authorized Representative

Description of operations/locations/vehicles: All operations performed for the City of Costa Mesa by or on behalf of the named insured in connection with the following designated contract:

\_\_\_\_\_  
(Project title and contract number)

**NOTICE:** This certificate or verification of insurance is not an insurance policy and does not amend, extend or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate or verification of insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies, including attached endorsements.

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

## ADDITIONAL INSURED – STATE OR POLITICAL SUBDIVISIONS - PERMIT

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART.

### SCHEDULE

**State Or Political Subdivision:**

The City of Costa Mesa and its elected and appointed boards, officers, agents, and employees are additional insureds.

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

**Section II – Who Is An Insured** is amended to include as an insured any state or political subdivision shown in the Schedule, subject to the following provisions:

1. This insurance applies only with respect to operations performed by you or on your behalf for which the state or political subdivision has issued a permit.
2. This insurance does not apply to:
  - a. "Bodily injury," "property damage" or "personal and advertising injury" arising out of operations performed for the state or municipality; or
  - b. "Bodily injury" or "property damage" included within the "products-completed operations hazard".

Any other insurance maintained by the City of Costa Mesa shall be excess and not contributing with the insurance provided by this policy.

CG 20 12 07 98

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Bond Number \_\_\_\_\_

**FAITHFUL PERFORMANCE BOND**  
**PUBLIC WORK**

(The premium charge on this bond is \$ \_\_\_\_\_, being at  
the rate of \$ \_\_\_\_\_ per thousand of the contract price)

**KNOW ALL MEN BY THESE PRESENTS:**

THAT, WHEREAS the CITY OF COSTA MESA, 77 Fair Drive, Costa Mesa, California 92626, has entered into a contract dated \_\_\_\_\_, 20\_\_\_\_, which is hereby incorporated by reference herein, with \_\_\_\_\_ hereinafter designated as the "Principal," for the work described as follows:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ ; and

WHEREAS, said Principal is required by the terms of said contract to furnish a bond for the faithful performance of said contract.

NOW, THEREFORE, We the Principal, and \_\_\_\_\_ a corporation organized and existing under the laws of the State of \_\_\_\_\_ and duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto the CITY OF COSTA MESA in the penal sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

The Condition Of This Obligation Is Such, That, if the above bounden Principal, his or 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 said contract and any alteration thereof made as therein provided, or 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 true intent and meaning, and shall indemnify and save harmless the CITY OF COSTA MESA, its officers and agents, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and virtue.

And the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any wise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or the work or to the specifications.

IN WITNESS WHEREOF, We have hereunto set our hands and seals this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**LABOR AND MATERIAL BOND TO ACCOMPANY CONTRACT  
PUBLIC WORK**

KNOW ALL MEN BY THESE PRESENTS:

THAT, WHEREAS the CITY OF COSTA MESA, 77 Fair Drive, Costa Mesa, California 92626, has awarded to \_\_\_\_\_ hereinafter designated as the "Contractor," a contract which is hereby incorporated by reference herein, for the work described as follows: \_\_\_\_\_

\_\_\_\_\_ ; and  
WHEREAS, said Contractor is required by the provisions of Chapter 7, Division 3, Title 15, Sections 3247-3248, Civil Code to furnish a bond in connection with said contract, as hereinafter set forth.

NOW, THEREFORE, We \_\_\_\_\_  
the undersigned Contractor, as Principal, and \_\_\_\_\_, a corporation organized and existing under the laws of the State of \_\_\_\_\_ and duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto the CITY OF COSTA MESA in the penal sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), said sum being not less than one-half of the estimated amount payable by the said CITY OF COSTA MESA under the terms of the contract, for which payment well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

The Condition Of This Obligation Is Such, That, if said Contractor, his or its heirs, executors, administrators, successors or assigns, or sub-contractors, shall fail to pay for any materials, provisions, provender or other supplies or teams, implements or machinery 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 for amounts due under the Unemployment Insurance Code with respect to such work or labor performed under the above contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Contractor and sub-contractors pursuant to Section 13020 of the Unemployment Insurance Code with respect to such work and labor, the surety or sureties 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 said Surety will pay a reasonable attorney's fee to be fixed by the court. This bond shall inure to the benefit of any and all persons, companies and corporations entitled to file claims under Section 3181 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond. And the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any wise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

IN WITNESS WHEREOF, We have hereunto set our hands and seals this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**City of Costa Mesa, Department of Public Services**  
**Application and Permit for Work Described Below**

PERMIT NO.

VENDOR NO.

Address or Location of Work \_\_\_\_\_ Date \_\_\_\_\_

Type of Work to be Done \_\_\_\_\_

Start Date \_\_\_\_\_ Permit Not Valid After \_\_\_\_\_ (Expiration Date) Plan No. \_\_\_\_\_

Contractor's Name \_\_\_\_\_ Address \_\_\_\_\_

Telephone No. (Day) \_\_\_\_\_ (Night) \_\_\_\_\_ City and State \_\_\_\_\_

State License No./Class \_\_\_\_\_ City Business License No. \_\_\_\_\_

Applicant's Name \_\_\_\_\_ Address \_\_\_\_\_

Telephone No. \_\_\_\_\_ Developer's Name \_\_\_\_\_ Telephone No. \_\_\_\_\_

Name of Insurance Co. \_\_\_\_\_ Insurance Cert. No.(s) \_\_\_\_\_

24-Hour Emergency Contact \_\_\_\_\_ Telephone No. \_\_\_\_\_

<p align="center"><b>FEES</b></p> <p>Bond \$ _____</p> <p>Cash Deposit \$ _____</p> <p>Issuance \$ _____</p> <p>Inspection \$ _____</p> <p>TOTAL \$ _____</p>	<p><b>48 HOURS MINIMUM REQUIRED FOR PROCESSING PERMIT</b></p> <p>Account # <span style="border: 1px solid black; display: inline-block; width: 100px; height: 15px; vertical-align: middle;"></span></p>	<p align="center"><b>PERMIT APPROVED FOR CITY ENGINEER</b></p> <p>By _____</p> <p>Date _____</p> <p>Underground Service Alert ID No. _____</p>
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Permittee shall contact the City Inspector's office (754-5025) at least 24 hours prior to commencing any work. Failure to obtain proper inspections prior to commencement of work may be cause for its rejection. **THIS PERMIT WITH APPROVED PLANS MUST BE ON THE JOB AND AVAILABLE TO CITY REPRESENTATIVES AT ALL TIMES.** You are guided by Municipal Code Sections 1-33, 15-25, 15-27, 15-27.1, 15-39 and 15-48.

**THE UNDERSIGNED PERMITTEE HEREBY CERTIFIES:**

1. That all work shall be performed in accordance with the Standard Specifications for Public Works Construction (latest edition); Standard Drawings of the City of Costa Mesa; special agency provisions; and all applicable laws and ordinances.
2. Control of traffic shall conform to the Work Area Traffic Control Handbook (W.A.T.C.H.) (latest edition). The permittee shall furnish and/or install all signs, lights, barricades, traffic control or warning devices, flagmen and flashing arrow board. The permittee shall obtain approval of the Transportation Services Engineer for all street closures, detours, turn restrictions, parking prohibitions and methods of accommodating traffic. The permittee shall notify Emergency, Fire and Police services and residents or businesses twenty-four (24) hours in advance of any access limitation or traffic restrictions.
3. That a maximum of \_\_\_\_\_ lane(s) may be closed if necessary to perform work within the public right of way during the hours of 8:30 a.m. - 3:30 p.m. Monday through Friday as long as traffic can be maintained in each direction with flagmen unless otherwise approved by the Transportation Services Engineer.
4. That throughout all phases of construction the work site shall be kept clean and free of rubbish, debris and dust and drainage shall be maintained.

**SUBJECT TO THE NOTES BELOW: (Inspection fees over the basic inspection time will be billed at the approved hourly rate.)**

1. City will provide inspection between 7:30 a.m. and 3:00 p.m., Monday through Friday (except on City observed holidays).
2. Prior to placing Portland Cement Concrete or Asphalt Concrete (A.C.), the following will have been inspected and approved; native  and imported .
3. Curb and gutter shall not be removed on the day prior to a weekend or a City observed holiday.
4. Fill in areas left by curb and gutter removal flush with the adjacent pavement on the same day that removal occurs.
5. Bore under all streets, curbs and gutters, sidewalks, cross-gutters and driveway approaches. Tunneling is not allowed.
6. Open excavations must be backfilled or plated with spikes and A.C. tacked around edges during non-working hours.
7. Sidewalk shall be constructed per City of Costa Mesa Standard Drawing No. \_\_\_\_\_
8. Driveway approach shall be constructed per City of Costa Mesa Standard Drawing No. \_\_\_\_\_
9. No traffic allowed on concrete for minimum of seven days for curing. See traffic control above.
10. Trench compaction and resurfacing shall conform to City of Costa Mesa Standard Drawing No. 813.
11. Trenches exceeding five (5) feet in depth require a permit from the Division of Industrial Safety, State of California.
12. Permittee shall pay for all S.E., compaction and materials tests deemed necessary by the City.
13. All trenches shall be permanently patched within ten (10) days of completion of work below subgrade.
14. Permittee shall provide the City with record drawings of permitted work before final inspection by the City.
15. Permittee understands and agrees to the hold-harmless agreement required by CMMC Section 15-27 and printed on the reverse of this application.
16. Other: \_\_\_\_\_

**NOTICE:** Contractor must notify the following Utility Companies two working days before starting work:

Costa Mesa Sanitary District  
(714) 631-1731

Mesa Consolidated Water District  
(714) 631-1200

**UNDERGROUND SERVICE ALERT**  
Toll Free - 1-800-422-4133; After Hours & Holidays - (714) 739-3031; (213) 621-3111

INSPECTION RECORD		Inspector of Records:	<p align="center"><b>CERTIFICATE OF INSPECTION</b></p> <p>I hereby certify that the street work allowed by this permit has been constructed according to the plans and specifications and I hereby accept the work in this manner.</p> <p>By: _____ Inspector</p> <p>_____ Date</p>
Date	Remarks	Remarks	

0183-62 ww, rev. 5/95  
 White - Inspectors;  
 Canary - Engineering;  
 Pink - Finance  
 Goldenrod - Applicant

I certify I have read and understand all of the above and that all statements made are correct and complete.

Applicant's Signature \_\_\_\_\_ Date \_\_\_\_\_

**3 COPIES OF SKETCHES OR PLANS ARE REQUIRED PRIOR TO PERMIT ISSUANCE**  
**THIS APPLICATION BECOMES A PERMIT WHEN APPROVED AND VALIDATED**



**APPLICATION FOR BUSINESS LICENSE**  
 SEND YOUR CHECK MADE PAYABLE TO THE CITY OF COSTA MESA  
 TREASURY MANAGEMENT DIVISION, PO BOX 1200, COSTA MESA, CA 92618-1200  
 (714) 754-5244 TDD: (714) 754-5244

Business Name \_\_\_\_\_

Parent Company Name \_\_\_\_\_  
 (If Corporate Owned)

Note: Business address will be compared to zoning requirements before approval. Check with the Planning Division regarding the use of the location at (714) 754-5245.

Business Address \_\_\_\_\_  
 (Can be a P.O. Box) Street # Street name Unit # City State Zip

Mailing Address \_\_\_\_\_  
 (Can be a P.O. Box) Street # Street name Unit # City State Zip

Business Telephone # ( ) \_\_\_\_\_ Business Start Date \_\_\_\_\_ No. of Employees (on average) \_\_\_\_\_

Ownership (Check One only)  
 Sole Owner  Corporation  Partnership  Husband & Wife Co-ownership  Limited Liability Company  
 Limited Liability Partnership

Seller's Permit No. \_\_\_\_\_ Contractors State No. & Class \_\_\_\_\_  
 (If Applicable) (If Applicable)

Federal Employer ID # or, Owner's Social Security # \_\_\_\_\_ Federal Firearms License # (if applicable) \_\_\_\_\_

**OWNER'S OR PRINCIPAL'S NAME(S)**

Name _____	Name _____
Home Address _____	Home Address _____
City _____ Zip _____	City _____ Zip _____
Telephone # ( ) _____ Title _____	Telephone # ( ) _____ Title _____
Drivers License No. _____ Date of Birth _____	Drivers License No. _____ Date of Birth _____

**TYPE OF BUSINESS**

PLEASE CIRCLE ONE: Wholesale/Retail/Manufacturing/Services/Non-Profit/Administrative Only/Warehouse/ Other

Fully Describe Business Operation: \_\_\_\_\_

Standard Industrial Class Code (SIC) \_\_\_\_\_

Alcohol Beverage Control Permit No. \_\_\_\_\_ Department of Motor Vehicles Permit # \_\_\_\_\_  
 (If Applicable) (Required for automobile/motorcycle sales businesses)

Hours of Operation (M-F) \_\_\_\_\_ (S-SU) \_\_\_\_\_ Number of Rental Units/Rooms/Spaces \_\_\_\_\_  
 (Commercial/Industrial only) (If Applicable)

**CHOOSE ONE OF THE APPROPRIATE FEES BELOW**

**GENERAL BUSINESS**  
 (Wholesale, retail, professional, Etc.)

Enter Annual Gross Receipts Amount \$ \_\_\_\_\_

And Circle the corresponding category below

Annual Gross Receipts	Tax
\$0.00 to 1,000.00	\$0.00
\$1,000.01 to 25,000.00	\$25.00
\$25,000.01 to 40,000.00	\$35.00
\$40,000.01 to 75,000.00	\$45.00
\$75,000.01 to 200,000.00	\$60.00
\$200,000.01 to 500,000.00	\$100.00
Over \$500,000.00	\$200.00

**TAX EXEMPT ORGANIZATIONS**  
 Attach proof of Tax Exempt Status (required for waiver of tax due)

**SHOW EXHIBITION, SWAP MEET** Tax on the Promoter's Gross Receipts from the Gross Receipts schedule to the left \_\_\_\_\_  
 Enter the tax due amount here \$ \_\_\_\_\_  
 PLUS \_\_\_\_\_ (# of sellers \_\_\_\_\_ x \$5 = \$ \_\_\_\_\_)  
 EQUALS \_\_\_\_\_ Total tax due \$ \_\_\_\_\_

**ADMINISTRATIVE OFFICES/WAREHOUSES**  
 (Fees based on annual operating expenses when no receipts generated)  
 Enter annual operating expenses amount \$ \_\_\_\_\_  
 Use Gross Receipts schedule to the left to determine business license tax.

**CONTRACTOR**  
 (California Licensed) Total tax due \$50.00

**VEHICLE WHEEL, TAXI, TOW TRUCK, BUS**  
 Number of Vehicles: \_\_\_\_\_ x \$25.00 = Total Tax Due \$ \_\_\_\_\_

- Will you store, handle or use 55 gallons, 500 pounds or 200 cubic feet of hazardous materials per year? Yes  No
  - Will you have an assembly room with an occupant load of 50 or more persons? Yes  No
  - Will you be installing a spray booth? Yes  No
  - Will your business produce dust/wood shavings or other material? Yes  No
  - Will you be storing or using flammable or combustible liquids or compressed gases? Yes  No
  - Will you be warehousing materials higher than 12 feet? Yes  No
- Fire Department approval required for any "Yes" answer. Please make an appointment by calling (714) 754-5128.

Your Business License will be issued under the provisions of Municipal Code Section 9-1. You are cautioned that this License does not permit operation of a business in violation of other Municipal Code Sections. These will be no tax refund if you are found operating illegally after the Certificate has been issued. Your business location will be checked by Planning, Building, and, if necessary, Fire Department officials. If you have any doubt whether your business location and/or building may conform with the requirements of the Municipal Code administered by these departments, you are urged to contact these departments for further information before filing your application. \*\* Sales or use tax may apply to your business activities. You may seek written advice regarding the application of tax to your particular business by writing or visiting the nearest State Board of Equalization. \*\* I declare under penalty of perjury that, to the best of my knowledge and belief, the statements made herein are correct and true and that acceptance of payment does not constitute approval of the Business License. Authorization to conduct business is not granted until issuance of the license.

Authorized Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

**FOR CITY OFFICE USE ONLY**

Planning Approval \_\_\_\_\_ Date Approved \_\_\_\_\_ CUP Required? \_\_\_\_\_ CUP # \_\_\_\_\_  
 Building Approval \_\_\_\_\_ Date Approved \_\_\_\_\_ Comments \_\_\_\_\_  
 Fire Department Approval \_\_\_\_\_ Date Approved \_\_\_\_\_

FEDERAL PREVAILING WAGES

"General Decision Number: CA20200024 05/29/2020

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](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0	01/03/2020
1	01/10/2020
2	01/31/2020
3	03/06/2020
4	05/08/2020
5	05/15/2020
6	05/29/2020

FEDERAL PREVAILING WAGES

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

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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

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\* BRCA0004-010 05/01/2020

	Rates	Fringes
BRICKLAYER; MARBLE SETTER.....	\$ 41.39	18.95

\*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

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BRCA0018-004 06/01/2019

	Rates	Fringes
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FEDERAL PREVAILING WAGES

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

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BRCA0018-010 09/01/2018

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

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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.

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CARP0409-005 07/01/2015

	Rates	Fringes
Drywall		
DRYWALL INSTALLER/LATHER....	\$ 37.35	11.08

FEDERAL PREVAILING WAGES

STOCKER/SCRAPPER.....\$ 10.00 7.17

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 CARP0409-008 08/01/2010

Rates Fringes

Modular Furniture Installer.....\$ 17.00 7.41

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 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.

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 ELEC0441-001 02/24/2020

Rates Fringes

CABLE SPLICER.....\$ 48.28 21.90

ELECTRICIAN.....\$ 46.16 21.83

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 \* ELEC0441-003 12/01/2019



FEDERAL PREVAILING WAGES

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

	Rates	Fringes
Communications System		
Installer.....	\$ 36.72	14.81
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

FEDERAL PREVAILING WAGES

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.

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ELEC0441-004 02/24/2020

	Rates	Fringes
ELECTRICIAN (TRANSPORTATION SYSTEMS, TRAFFIC SIGNALS & STREET LIGHTING)		
Cable Splicer/Fiber Optic		
Splicer.....	\$ 46.76	21.86
Electrician.....	\$ 46.16	21.83
Technician.....	\$ 34.62	21.49

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.

FEDERAL PREVAILING WAGES

JOURNEYMAN TRANSPORTATION ELECTRICIAN shall perform all tasks necessary to install 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, detector loop, fiber optic cable and video/data.

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 ELEC1245-001 01/01/2020

	Rates	Fringes
LINE CONSTRUCTION		
(1) Lineman; Cable splicer..	\$ 58.09	19.74
(2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), overhead & underground distribution line equipment).....	\$ 46.40	18.55
(3) Groundman.....	\$ 35.47	18.17
(4) Powderman.....	\$ 51.87	18.79

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

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 ELEV0018-001 01/01/2020

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 57.40	34.765+a+b

FOOTNOTE:

- a. PAID VACATION: Employer contributes 8% of regular hourly rate as vacation pay credit for employees with more than 5 years of service, and 6% for 6 months to 5 years of service.
- b. PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

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 ENGI0012-003 07/01/2018

FEDERAL PREVAILING WAGES

	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

FEDERAL PREVAILING WAGES

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 economic or

## FEDERAL PREVAILING WAGES

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 (guniting work); Compactor operator (self-propelled); Concrete mixer operator (paving); Crushing plant operator; Drill Doctor;

## FEDERAL PREVAILING WAGES

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

## FEDERAL PREVAILING WAGES

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 than 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,



## FEDERAL PREVAILING WAGES

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,

## FEDERAL PREVAILING WAGES

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;

## FEDERAL PREVAILING WAGES

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

## FEDERAL PREVAILING WAGES

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

## FEDERAL PREVAILING WAGES

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

FEDERAL PREVAILING WAGES

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

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 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

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 IRON0377-002 07/01/2019

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

FEDERAL PREVAILING WAGES

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

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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.

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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

FEDERAL PREVAILING WAGES

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

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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



## FEDERAL PREVAILING WAGES

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;

## FEDERAL PREVAILING WAGES

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, cabledtender; 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

FEDERAL PREVAILING WAGES

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 LAB00652-003 07/01/2018

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

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 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

FEDERAL PREVAILING WAGES

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

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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.

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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.

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PAIN0036-008 10/01/2019

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

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PAIN0036-015 01/01/2020

	Rates	Fringes
GLAZIER.....	\$ 43.45	23.39

FEDERAL PREVAILING WAGES

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

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 PAIN1247-002 01/01/2020

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 37.55	13.78

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 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

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 \* PLUM0016-001 09/01/2019

	Rates	Fringes
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PLUMBER/PIPEFITTER

Work ONLY on new additions and remodeling of bars, restaurant, stores and commercial buildings not to exceed 5,000 sq. ft. of floor space.....\$ 49.83 22.68

Work ONLY on strip malls, light commercial, tenant improvement and remodel work.....\$ 38.05 21.01

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



FEDERAL PREVAILING WAGES

	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 aritectural sheet metal work, excluding A-C, heating, ventilating systems for human comfort....	\$ 45.78	28.96

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 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

FEDERAL PREVAILING WAGES

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

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

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the



FEDERAL PREVAILING WAGES

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](http://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)).

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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.

## FEDERAL PREVAILING WAGES

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.

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## WAGE DETERMINATION APPEALS PROCESS

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

## FEDERAL PREVAILING WAGES

- \* 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.

FEDERAL PREVAILING WAGES



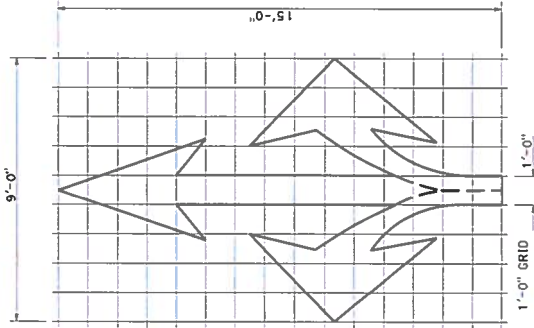
END OF GENERAL DECISION"

# Reference Drawings (Standard Plans)

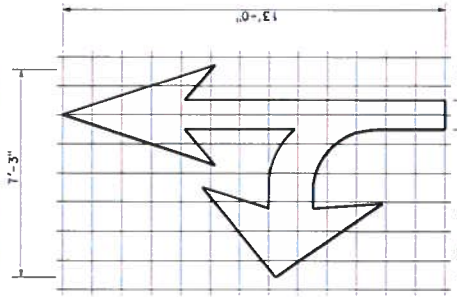
POST MILES	ROUTE	TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

**Alvin Farouk**  
 REGISTERED CIVIL ENGINEER  
 No. 45000  
 Exp. 01-15  
 STATE OF CALIFORNIA  
 DIVISION OF PROFESSIONAL ENGINEERS

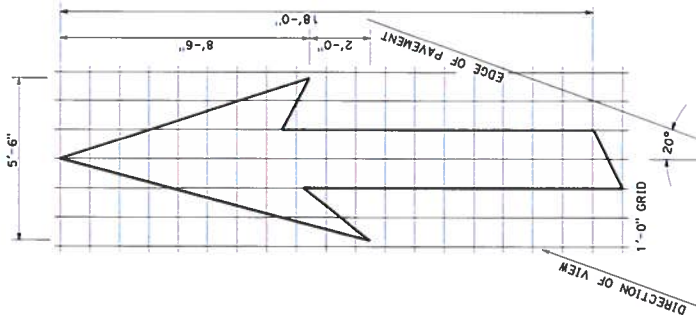
May 31, 2018  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS  
 AND AGENCIES SHALL NOT BE HELD LIABLE FOR  
 THE ACCURACY OR COMPLETION OF ANY  
 PORTION OF THIS PLAN SHEET.



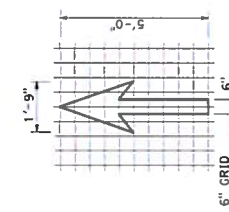
**TYPE VIII ARROW**  
A=36 ft<sup>2</sup>



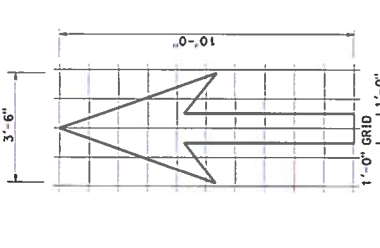
**TYPE VII (L) ARROW**  
A=27 ft<sup>2</sup>  
(For Type III (R) arrow, use mirror image)



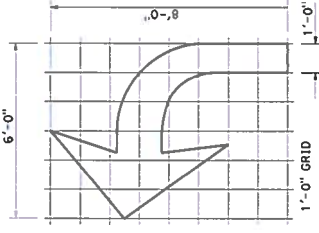
**TYPE VI ARROW**  
A=42 ft<sup>2</sup>  
Right lane drop arrow  
(For left lane, use mirror image)



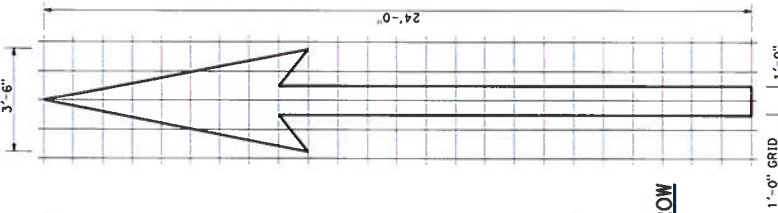
**BIKE LANE ARROW**  
A=3.5 ft<sup>2</sup>



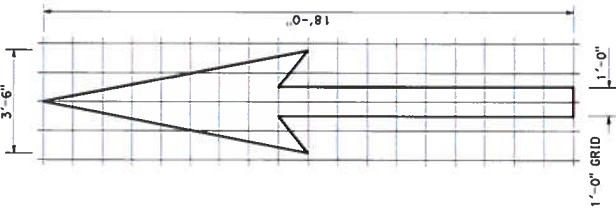
**TYPE I 10'-0" ARROW**  
A=14 ft<sup>2</sup>



**TYPE IV (L) ARROW**  
A=15 ft<sup>2</sup>  
(For Type IX (R) arrow, use mirror image)



**TYPE I 24'-0" ARROW**  
A=31 ft<sup>2</sup>



**TYPE I 18'-0" ARROW**  
A=25 ft<sup>2</sup>

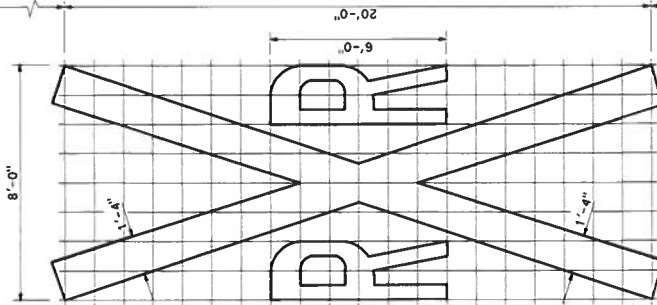
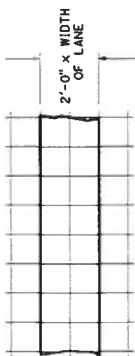
**NOTE:**  
Minor variations in dimensions may be accepted by the Engineer.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKINGS  
ARROWS**  
NO SCALE

**A24A**

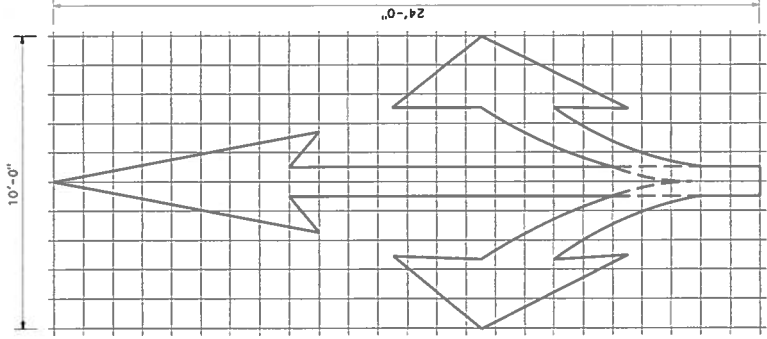
POST-MILES	SHEET TOTAL SHEETS
COUNTY	ROUTE
PROJECT TOTAL PROJECT SHEETS PROJECT TOTAL PROJECT SHEETS	

REGISTERED CIVIL ENGINEER  
*Allyo Feroz*  
 May 31, 2018  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION  
 THE ACCOUNT OF COMPLETION OF THIS PROJECT IS THE RESPONSIBILITY OF THE ENGINEER.  
 THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION  
 THE ACCOUNT OF COMPLETION OF THIS PROJECT IS THE RESPONSIBILITY OF THE ENGINEER.

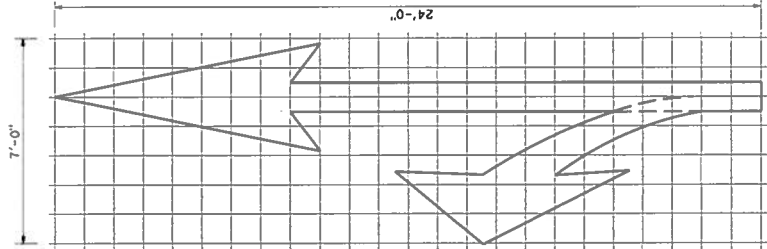


1'-0" GRID  
A=70 ft± \*

**RAILROAD CROSSING SYMBOL**  
 \* 70 ft± does not include the 2'-0" x variable width transverse lines.

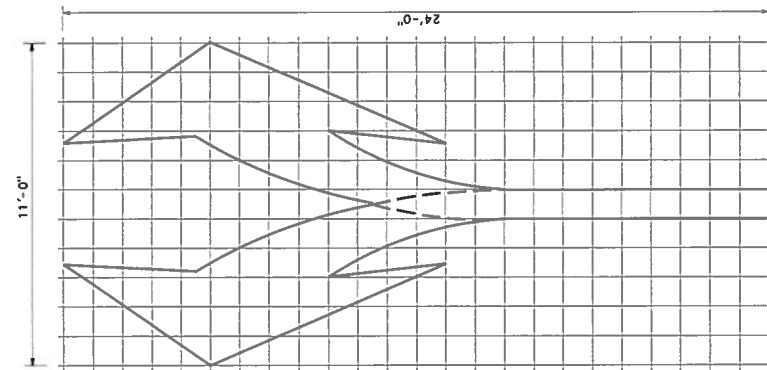


A=59 ft±  
**TYPE II (B) ARROW**

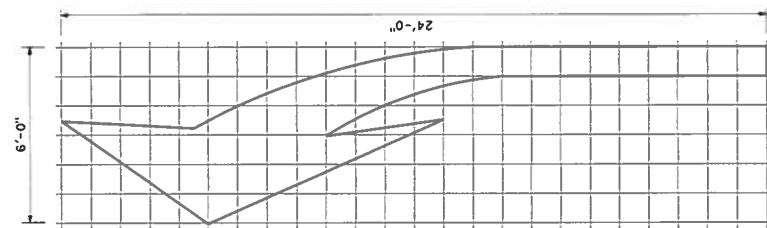


A=45 ft±  
**TYPE II (L) ARROW**

(For Type II (R) use mirror image)



A=73 ft±  
**TYPE III (B) ARROW**



A=42 ft±  
**TYPE III (L) ARROW**

(For Type III (R) use mirror image)

**NOTE:**  
 Minor variations in dimensions may be accepted by the Engineer.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

**PAVEMENT MARKINGS  
 ARROWS AND SYMBOLS**

NO SCALE

**A24B**

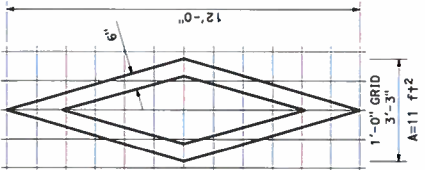
1-2018

Return to Table of Contents

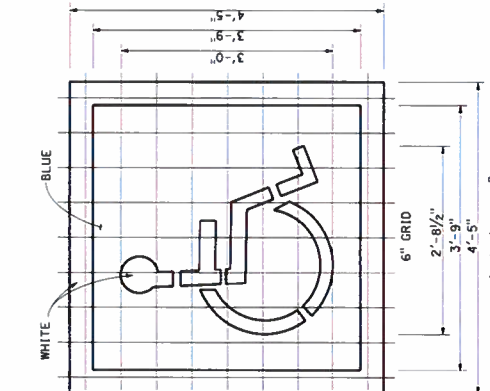
DATE	COUNTY	ROUTE	POST MILES	SHEET	TOTAL SHEETS

**REGISTERED CIVIL ENGINEER**  
*Oliver Feroz*  
 May 31, 2018  
 PLANS APPROVAL DATE  
 Myra Feroz  
 CHAIRMAN  
 May 31, 2018  
 THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION  
 THE ACCURACY OF THIS PLAN SHEET IS THE RESPONSIBILITY OF THE ENGINEER.

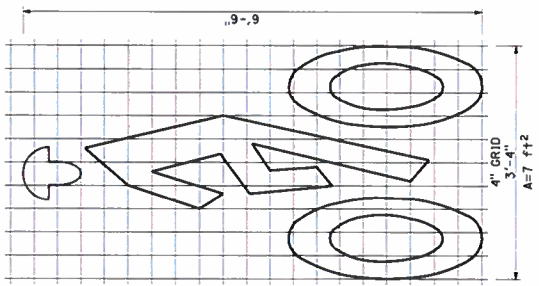
**NOTE:**  
Minor variations in dimensions may be accepted by the Engineer.



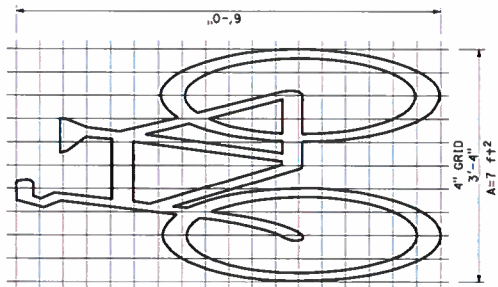
**DIAMOND SYMBOL**



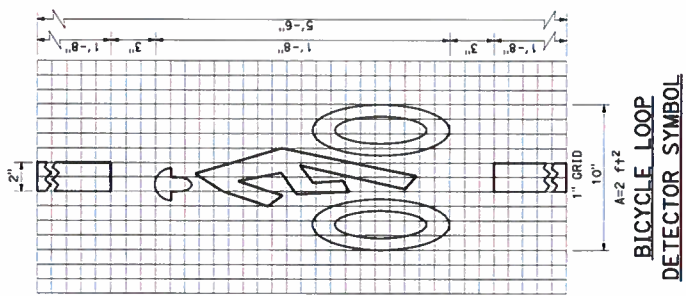
**INTERNATIONAL SYMBOL OF ACCESSIBILITY (ISA) MARKING**



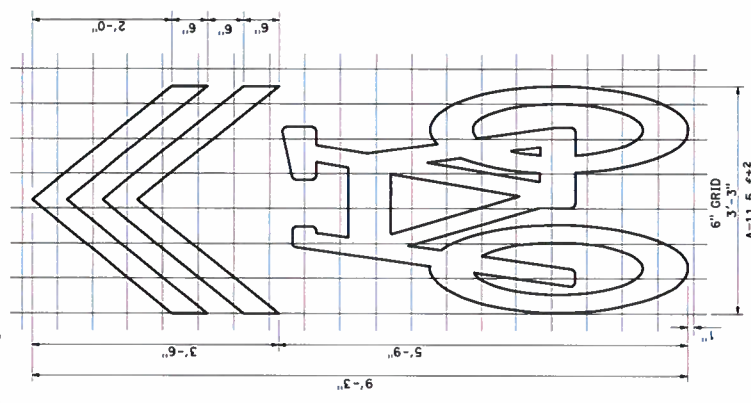
**BIKE LANE SYMBOL WITH PERSON**



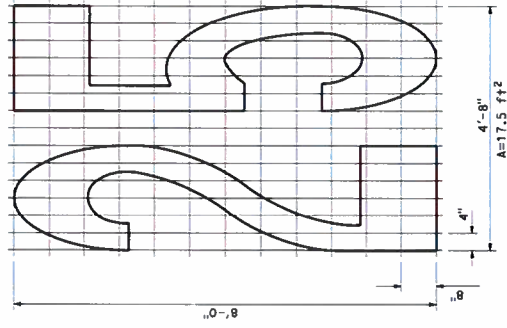
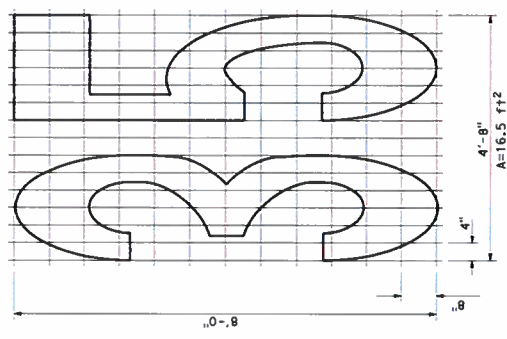
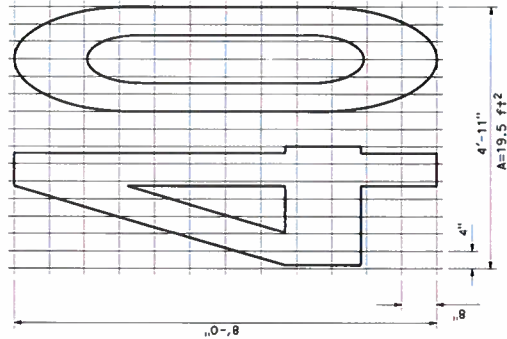
**BIKE LANE SYMBOL WITHOUT PERSON**



**BIKE LOOP DETECTOR SYMBOL**



**SHARED ROADWAY BICYCLE MARKING**



**NUMERALS**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKINGS SYMBOLS AND NUMERALS**  
NO SCALE

**A24C**



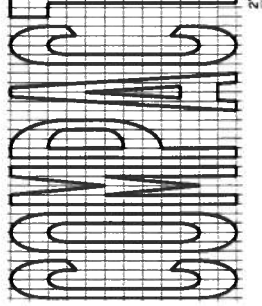
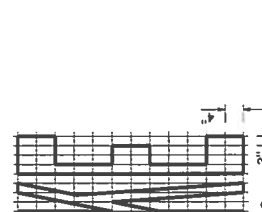
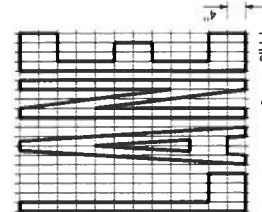
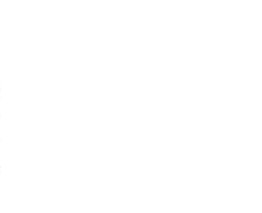
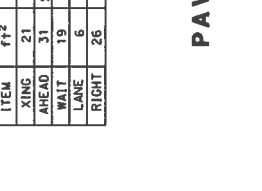
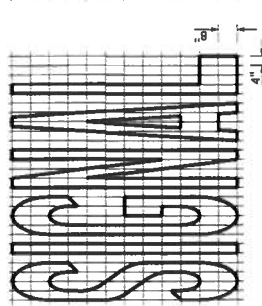
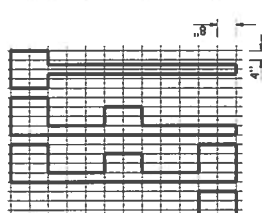
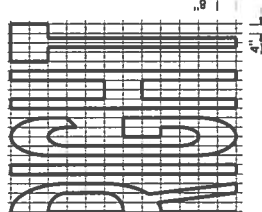
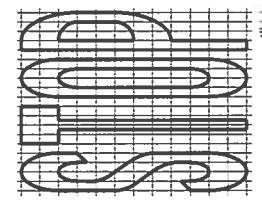
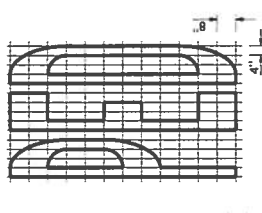
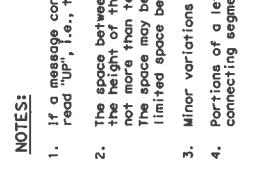
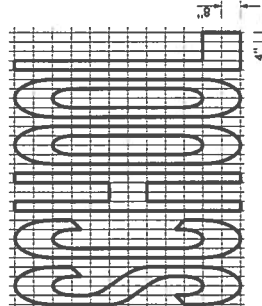
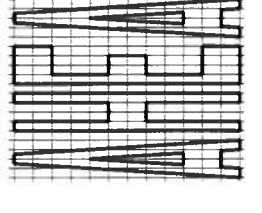
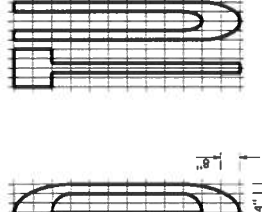
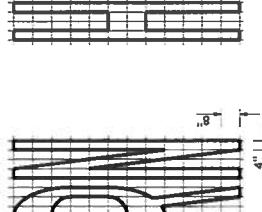
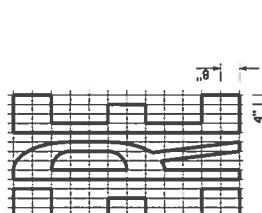
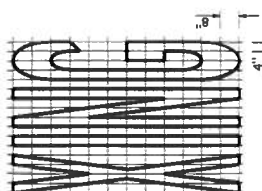
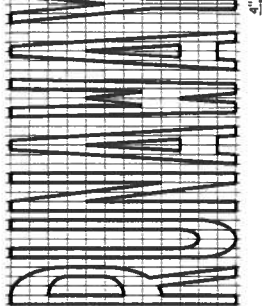
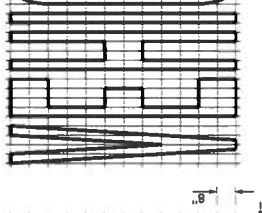
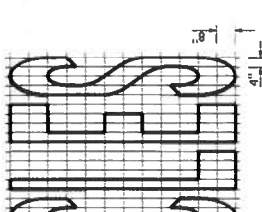
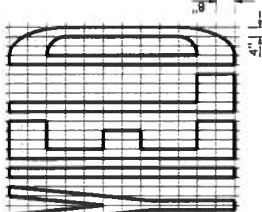
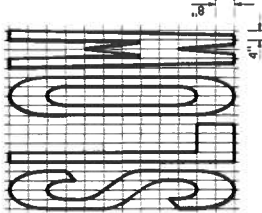
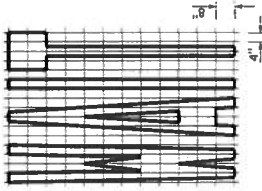
DATE	COUNTY	ROUTE	POST MILES	SHEET TOTAL
			TOTAL PROJECT	NO. SHEETS

*Oliver Jensen*  
REGISTERED CIVIL ENGINEER

May 31, 2018  
PLANS APPROVAL DATE

11116 RECORDS  
CIVIL ENGINEER  
NO. 5211-119  
STATE OF CALIFORNIA  
REGISTERED PROFESSIONAL ENGINEER

THE STATE OF CALIFORNIA OFFICE OF THE REGISTERED PROFESSIONAL ENGINEERS HAS REVIEWED THE ACCURACY OF THE DIMENSIONS OF THIS PLAN SHEET.



- NOTES:**
- If a message consists of more than one word, it must read 'up', i.e., the first word must be nearest the driver.
  - 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.
  - Minor variations in dimensions may be accepted by the Engineer.
  - 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
XING	24	BIKE	5	PED	18
AHEAD	31	SCHOOL	35	SLOW	23
WAIT	19	SIGNAL	32	STOP	22
LANE	6	TURN	24	LEFT	19
RIGHT	26	HERE	26	VEHICLES	42

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**PAVEMENT MARKINGS**  
**WORDS**

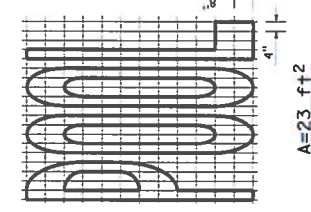
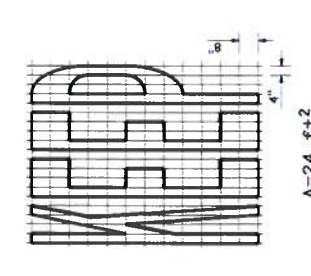
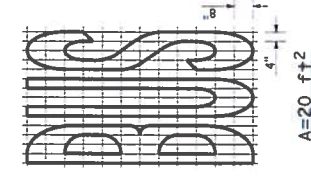
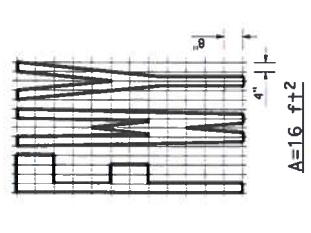
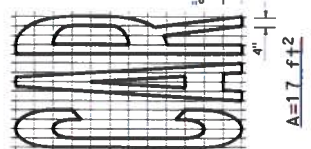
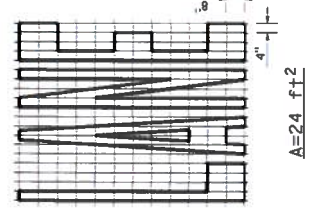
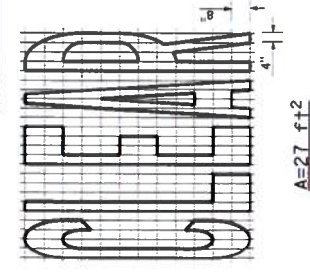
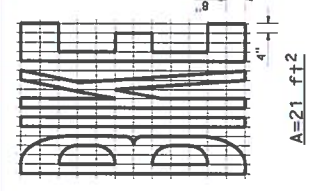
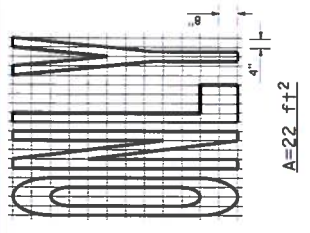
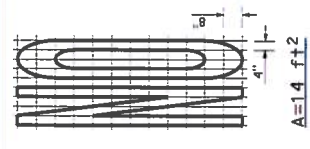
NO SCALE

**A24D**

DIST.	COUNTY	ROUTE	POST MILES	SHEET TOTAL
			TOTAL PROJECT	NO. SHEETS

*Stephen Ferrozzi*  
REGISTERED PROFESSIONAL ENGINEER  
MAY 31, 2018  
No. 331-19  
CIVIL

THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
DESIGNED BY: *Stephen Ferrozzi*  
CHECKED BY: *[Signature]*  
DATE: *[Date]*



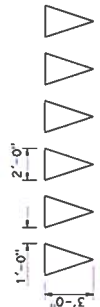
ITEM	ft+2	ITEM	ft+2
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16

**NOTES:**

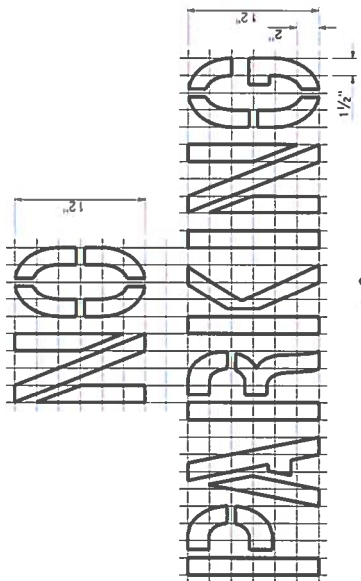
- If a message consists of more than one word, it must read "Up", i.e., the first word must be nearest the driver.
- The space between words must be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be reduced appropriately where there is limited space because of local conditions.
- Minor variations in dimensions may be accepted by the Engineer.
- Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.
- The words "NO PARKING" pavement marking is to be used for parking facilities. For typical locations of markings, see Standard Plans A90A and A90B.
- The words "NO PARKING" shall be painted in white letters no less than 1'-0" high and no less than 1/2" wide and located so that it is visible to traffic enforcement officials.



LIMIT LINE (STOP LINE)



YIELD LINE



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**PAVEMENT MARKINGS  
WORDS, LIMIT AND YIELD LINES**

NO SCALE

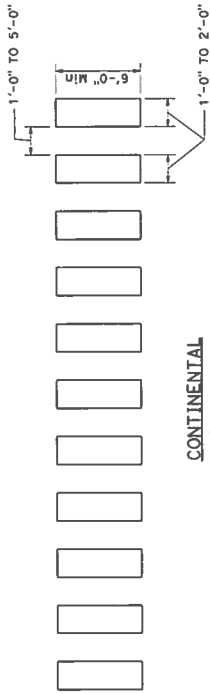
**A24E**

DIST. COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL SHEETS
REGISTERED CIVIL ENGINEER <i>Alfonso Ferraz</i>		PROJECT NO. 2-31-19 DATE 05/31/18	PROJECT NO. 2-31-19 DATE 05/31/18

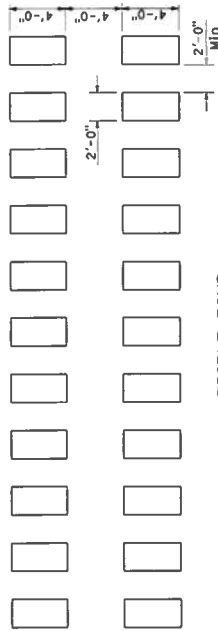
PROFESSIONAL ENGINEER  
 No. 44170  
 STATE OF CALIFORNIA  
 REGISTERED PROFESSIONAL ENGINEER  
 CIVIL  
 THE ACCURACY OF THIS PLAN SHEET IS THE RESPONSIBILITY OF THE ENGINEER.

**NOTES:**

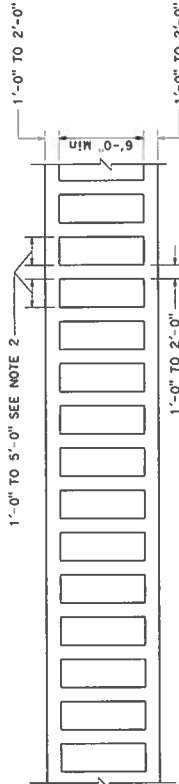
1. Spaces between markings must be placed in wheel tracks of each lane.
2. Spacings not to exceed 2.5 times width of longitudinal line.
3. All crosswalk markings must be white except those near schools must be yellow.



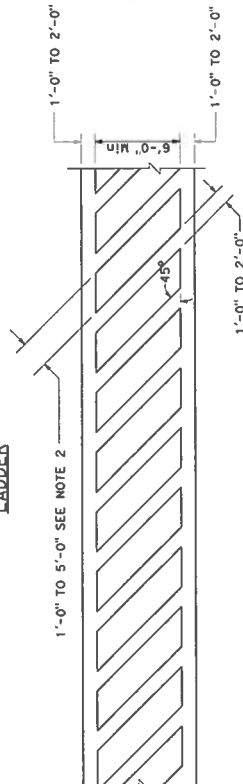
**CONTINENTAL**  
See Note 1



**TRIPLE FOUR**  
See Note 1

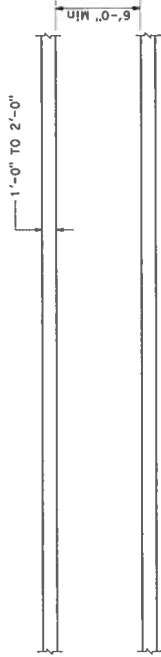


**LADDER**



**DIAGONAL**

**HIGHER VISIBILITY CROSSWALKS**



**BASIC**

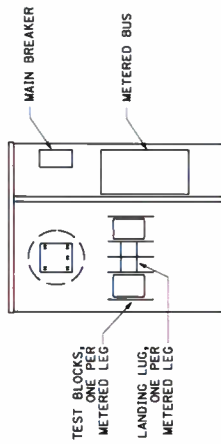
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKINGS  
CROSSWALKS**  
NO SCALE

**A24F**

POST MILES	SHEET TOTAL
TOTAL PROJECT	NO. SHEETS
COUNTY	ROUTE
May 31, 2018 REGISTERED ELECTRICAL ENGINEER	
PLANS APPROVAL DATE THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS DIVISION OF INDUSTRIAL SAFETY THE ACTIVITY OF COMPLETELY OF SLAMMED COMPLETION OF THIS PLAN SHEET.	

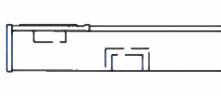
**NOTES:**

1. In unpoored areas, a raised portion of concrete pad of 2'-0" x 4" x width of service equipment enclosure, controller cabinet, foundation shall be constructed in front of Type II service equipment enclosure.
2. Circuit breakers may be mounted in the vertical or horizontal position.

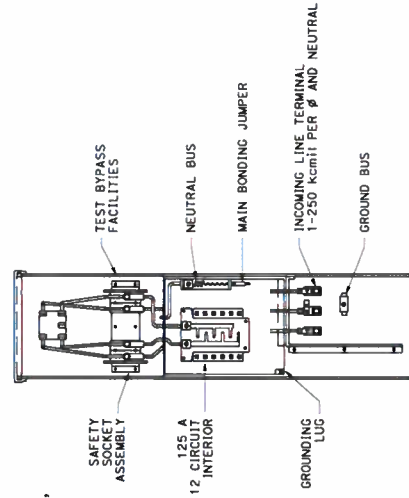


ELEVATION

TYPE II-A

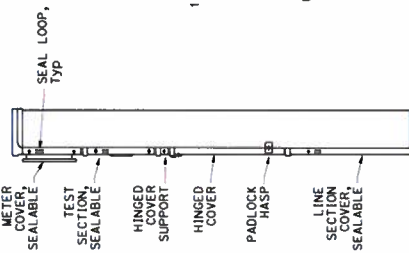


SIDE VIEW

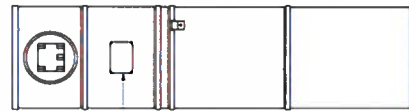


FRONT VIEW

(Less covers and dead front panel)  
For metered circuits only



SIDE VIEW



FRONT VIEW

TYPE II-B

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
(SERVICE EQUIPMENT ENCLOSURE  
TYPE II SERIES)**

NO SCALE

ES-2B

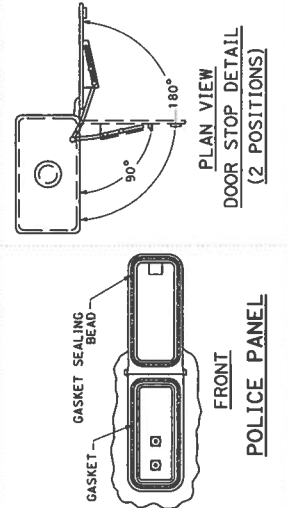
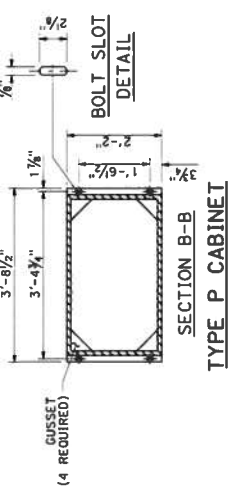
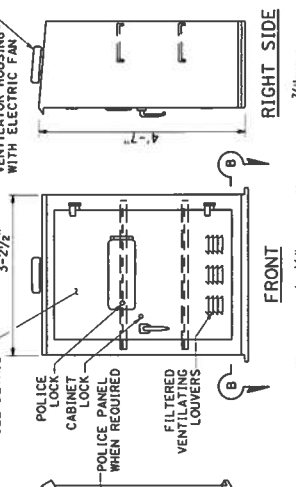
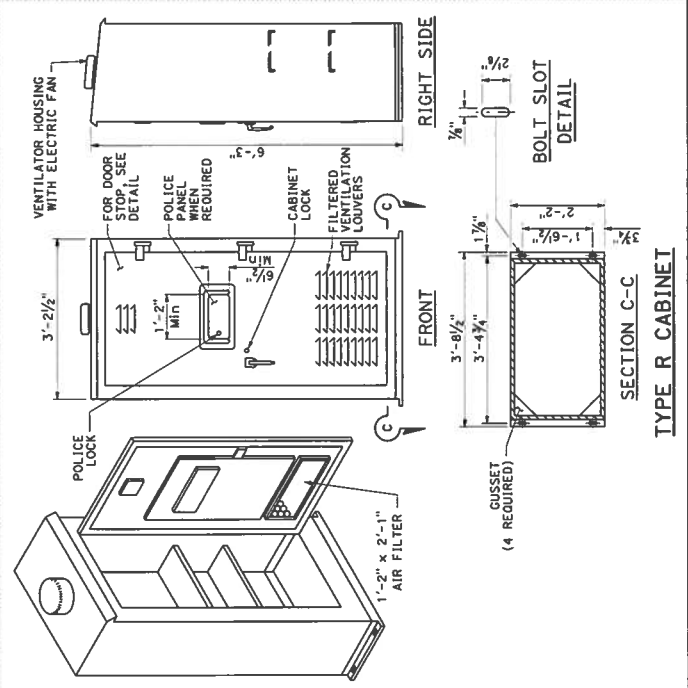
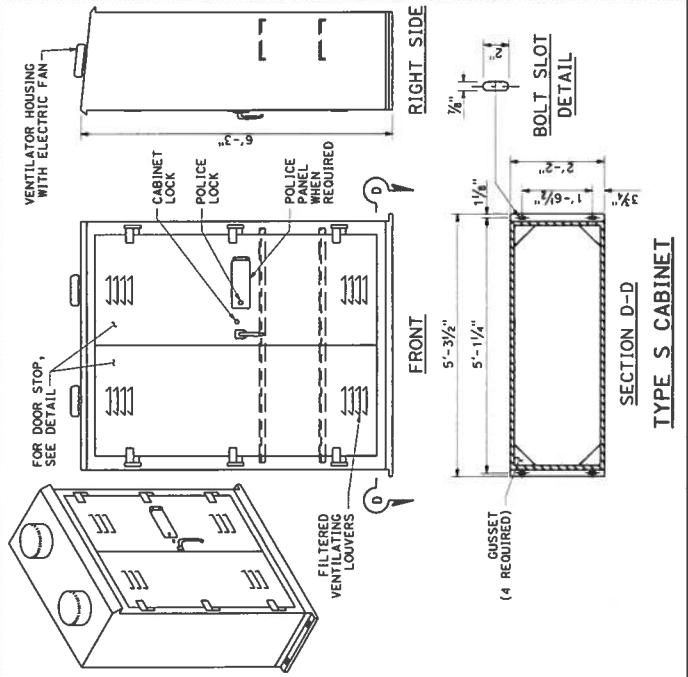
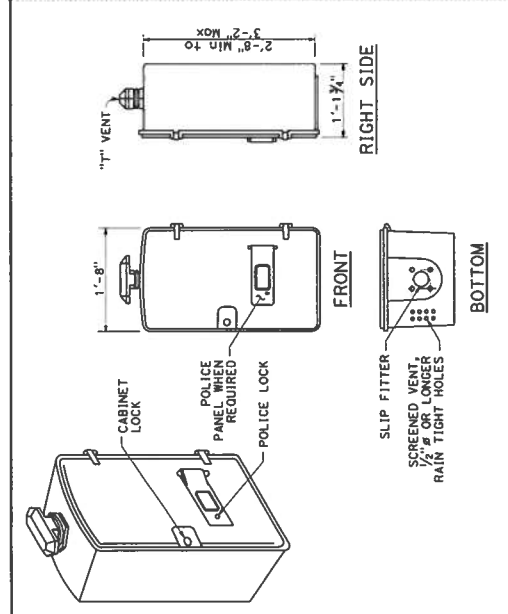
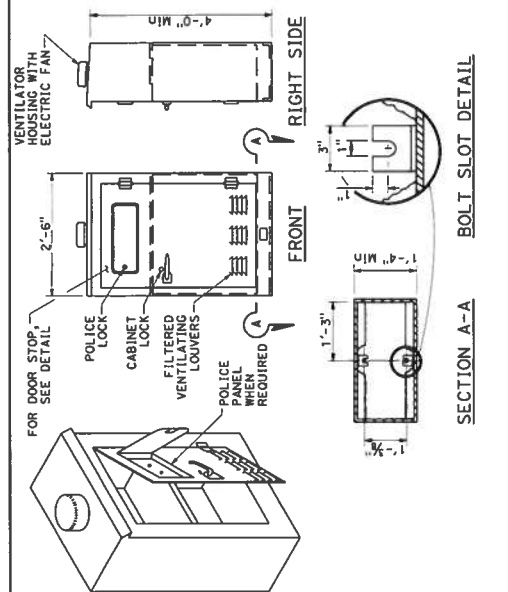
CITY COUNTY ROUTE	POST MILES LOCAL PROJECT SHEET TOTAL SHEETS
REGISTERED ELECTRICAL ENGINEER	REGISTERED ARCHITECT
PLANS APPROVAL DATE	DATE OF EXPIRATION
May 31, 2018	12/31/19

REGISTERED ELECTRICAL ENGINEER  
 REGISTERED ARCHITECT

STATE OF CALIFORNIA  
 DEPARTMENT OF INDUSTRIAL RELATIONS  
 DIVISION OF INDUSTRIAL SAFETY

APPROVED FOR THE STATE OF CALIFORNIA BY THE REGISTERED ELECTRICAL ENGINEER AND REGISTERED ARCHITECT ON THE BASIS OF THIS PLAN SHEET.

- NOTES:**
1. Cabinet dimensions are nominal.
  2. Cabinet fan may be installed on top of the cabinet when approved by the Engineer.



STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS  
 (CONTROLLER CABINET  
 DETAILS)**

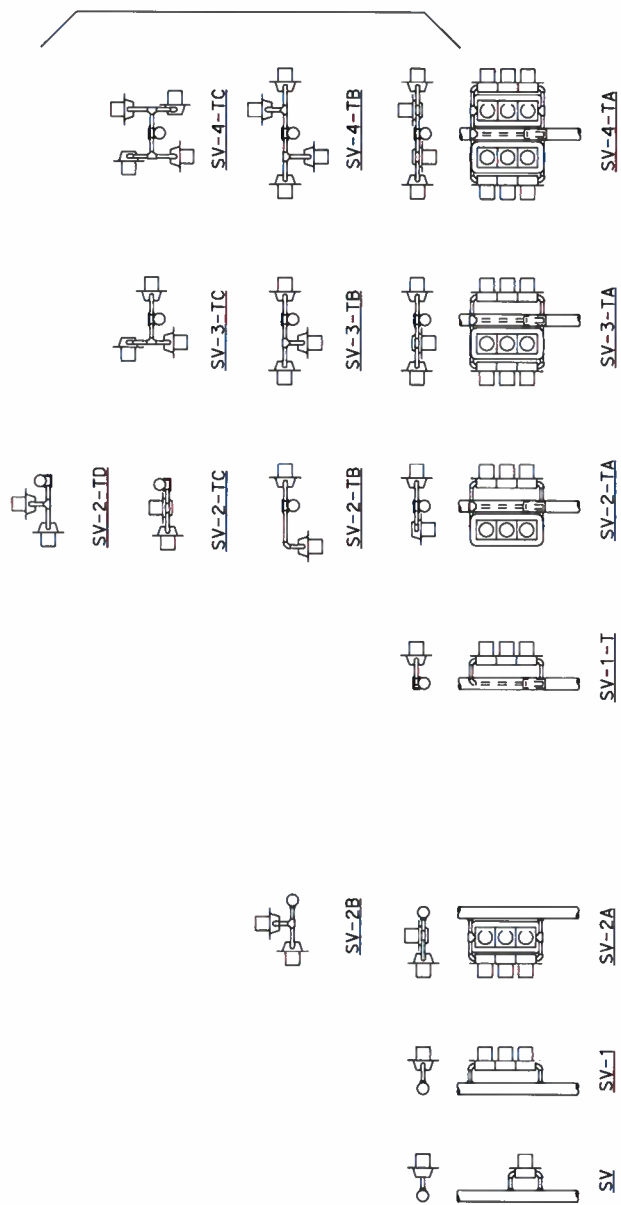
NO SCALE

**ES-3A**

DIST	COUNTY	ROUTE	POST MILES	SHEET NO.	TOTAL SHEETS

REGISTERED ELECTRICAL ENGINEER  
 H.R.F.  
 May 31, 2018  
 PROFESSIONAL ENGINEER  
 No. E15636  
 STATE OF CALIFORNIA  
 CIVIL ENGINEER  
 No. 12-31-15  
 LICENSE  
 No. 12-31-15  
 No. 12-31-15  
 No. 12-31-15

PLAN VIEW OF OTHER SIDE MOUNTINGS



ABBREVIATIONS:

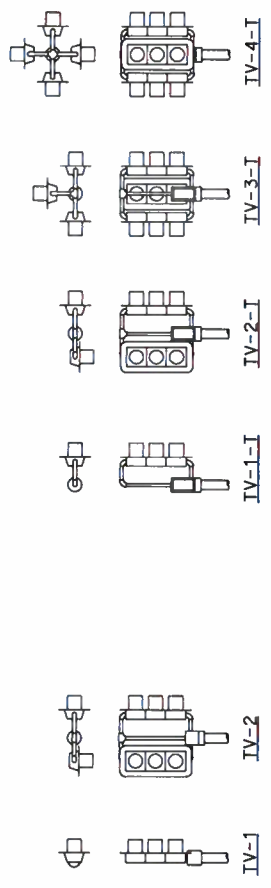
- SV SIDE MOUNTED SIGNAL HEADS
- T TERMINAL COMPARTMENT
- TV TOP MOUNTED SIGNAL HEADS
- 1, 2, 3, 4 NUMBER OF SIGNAL FACES (3 - SECTION, UNLESS OTHERWISE INDICATED)
- A, B, C, D CONFIGURATION OF SIGNALS

SIDE MOUNTINGS

NOTES:

1. Mountings shall be oriented to provide maximum horizontal clearance to adjacent roadway.
2. Bracket arms shall be long enough to permit proper alignment of signals and backplate installation.
3. See Standard Plans ES-4D and ES-4E for attachment fitting details.

PLAN VIEW OF TOP MOUNTINGS



TOP MOUNTINGS

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
 (SIGNAL HEADS  
 AND MOUNTINGS)**

NO SCALE  
**ES-4A**

POST MILES SHEET TOTAL  
TOTAL PROJECT No. SHEETS

COUNTY ROUTE

REGISTERED ELECTRICAL ENGINEER  
H.R. [Signature]  
MAY 31, 2018  
PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS  
DO NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF PLANNED  
CONSTRUCTION OF THIS PLAN SHEET.

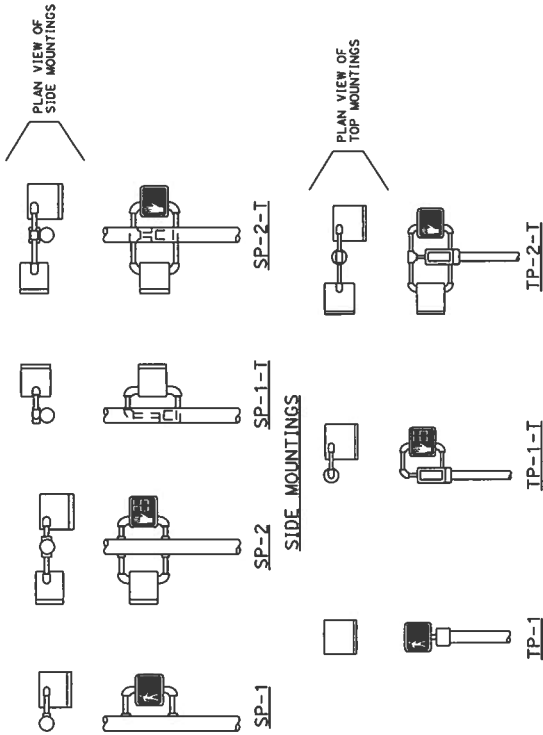
Professional Engineer Seal: H.R. [Signature], License No. 13119, State of California, Electrical Engineering.

**NOTES:**

1. Mounting shall be oriented to provide maximum horizontal clearance to adjacent roadway.
2. Bracket arms shall be long enough to permit proper alignment of signals.
3. See Standard Plan ES-4D for attachment fittings details.

**ABBREVIATIONS:**

- 1, 2 NUMBER OF SIGNAL FACES
- SP SIDE MOUNTED PEDESTRIAN SIGNAL
- T TERMINAL COMPARTMENT
- TP TOP MOUNTED PEDESTRIAN SIGNAL



TOP MOUNTINGS  
PEDESTRIAN SIGNAL HEAD MOUNTINGS  
DETAIL A



PERSON WALKING INTERVAL FLASHING UPRAISED HAND INTERVAL STEADY UPRAISED HAND INTERVAL  
LED COUNTDOWN PEDESTRIAN SIGNAL FACE MODULE  
DETAIL B

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
(PEDESTRIAN SIGNAL HEADS)**  
NO SCALE

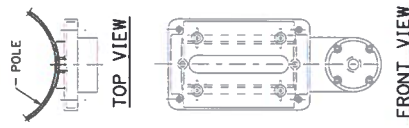
**ES-4B**

BLIST	COUNTY	ROUTE	POST MILES	SHEET	TOTAL SHEETS

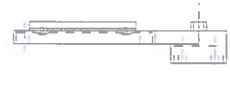
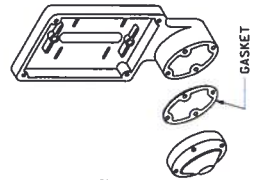
REGISTERED ELECTRICAL ENGINEER  
 H.R.  
 May 31, 2018  
 PLANS APPROVAL DATE  
 Haida Zoligorski  
 No. E15658  
 THE STATE OF CALIFORNIA OR ITS OFFICES  
 DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF DRAWINGS  
 OR THE QUALITY OF THE WORKMANSHIP OF THE CONTRACTOR.

**NOTES:**

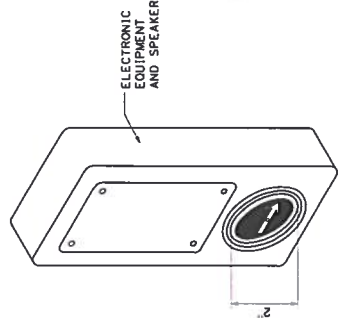
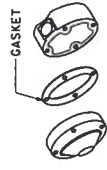
1. Back casting shape to fit curvature of pole.
2. Provide cover fitting for top of post, when PBA is mounted on push button assembly post.
3. Install push button on crosswalk side of standard.
4. Use R10 series regulatory signs and plaques for pedestrian and bicycle facilities.



TYPE B PUSH BUTTON ASSEMBLY  
DETAIL B



TYPE C PUSH BUTTON ASSEMBLY  
DETAIL C



ACCESSIBLE PEDESTRIAN SIGNAL  
DETAIL A

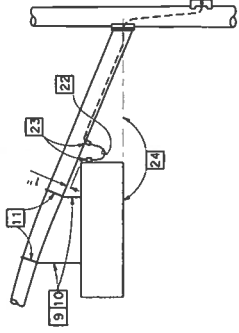
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
 (ACCESSIBLE PEDESTRIAN SIGNAL  
 AND PUSH BUTTON ASSEMBLIES)**  
 NO SCALE

**ES-5C**

Return to Table of Contents



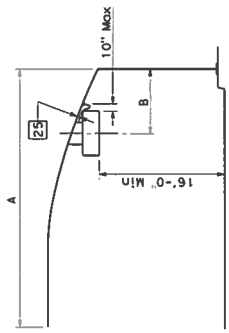
COUNTY ROUTE POST MILES TOTAL PROJECT SHEET TOTAL SHEETS  
 REGISTERED CIVIL ENGINEER  
 May 31, 2018  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION  
 THE ACCOUNTABILITY OF THE COMPLETION OF THIS PROJECT IS THE RESPONSIBILITY OF THE REGISTERED CIVIL ENGINEER.  
 REGISTERED PROFESSIONAL ENGINEER  
 License No. 44388  
 Exp. 12-31-20  
 CIVIL  
 STATE OF CALIFORNIA



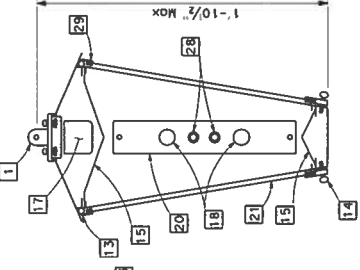
**SIGN MOUNTING**  
DETAIL\_H

**SIGN PLACEMENT**

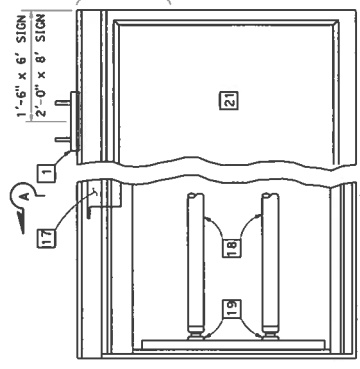
A	B
PROJECTED LENGTH	8'-0" SIGN
20'-0"	8'-10"
25'-0"	10'-2"
30'-0"	10'-6"
35'-0"	11'-6"
40'-0"	
45'-0"	
50'-0"	13'-6"
55'-0"	
60'-0"	
65'-0"	



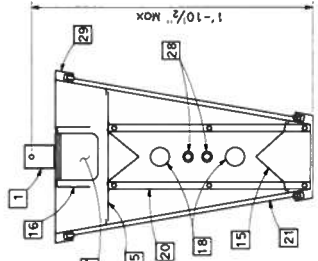
**SIGN PLACEMENT**  
DETAIL\_G



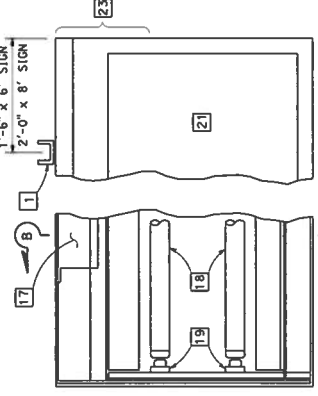
**SECTION A-A**



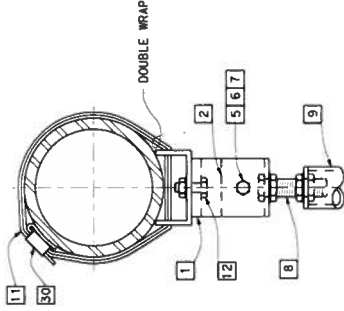
**TYPE A SIGN**  
DETAIL\_A



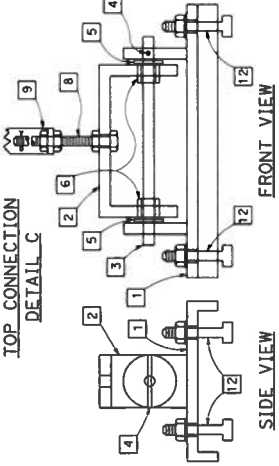
**SECTION B-B**



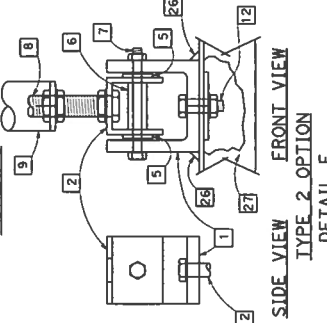
**TYPE B SIGN**  
DETAIL\_B



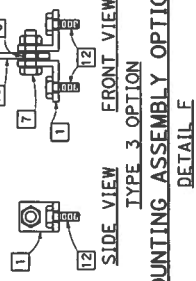
**TOP CONNECTION**  
DETAIL\_C



**TYPE 1 OPTION**  
DETAIL\_D



**TYPE 2 OPTION**  
DETAIL\_E



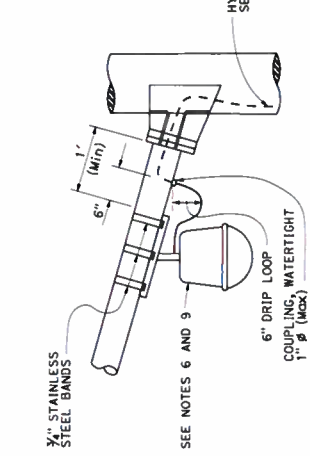
**TYPE 3 OPTION**  
DETAIL\_F

- 16 ALUMINUM STIFFENER.
- 17 FLUORESCENT BALLAST (2 REQUIRED).
- 18 LAMP, F72T12CW FOR 6'-0" SIGN  
F96T12CW FOR 8'-0" SIGN
- 19 LAMP HOLDER.
- 20 LAMP HOLDER TURRET.
- 21 SIGN PANEL, 1'-3" MINIMUM HEIGHT.  
MESSAGE IS SHOWN ELSEWHERE.
- 22 CORD, 16/3 TYPE SJT. CONTINUOUS FROM  
SIGN TERMINAL BLOCK TO SIGNAL HEAD  
MOUNTING TERMINAL COMPARTMENT.  
FORM A 1'-0" DRIP LOOP BETWEEN  
SIGN AND SIGNAL MAST ARM.
- 23 CORD CONNECTOR, 90° ANGLE CONNECTOR AT  
THE SIGN LOCATED IN UPPER 1/3 OF THE  
SIGN AND STRAIGHT CONNECTOR AT THE  
SIGNAL MOUNTING ORILLER AND TAP BOTTOM  
OF THE SIGNAL MAST ARM.
- 24 ADJUST FIXTURE LEVEL NO LOWER THAN  
CENTER OF SIGNAL MAST ARM CONNECTION.
- 25 APPROXIMATE CLEARANCE, 1".
- 26 1/4" FILLET WELD, 1/2" LONG.
- 27 SIGN FRAME.
- 28 FUSE HOLDER AND FUSE.
- 29 CLOSE CELL NEOPRENE GASKET  
(CONTINUOUS).
- 30 STAINLESS STEEL STRAP BUCKLE.

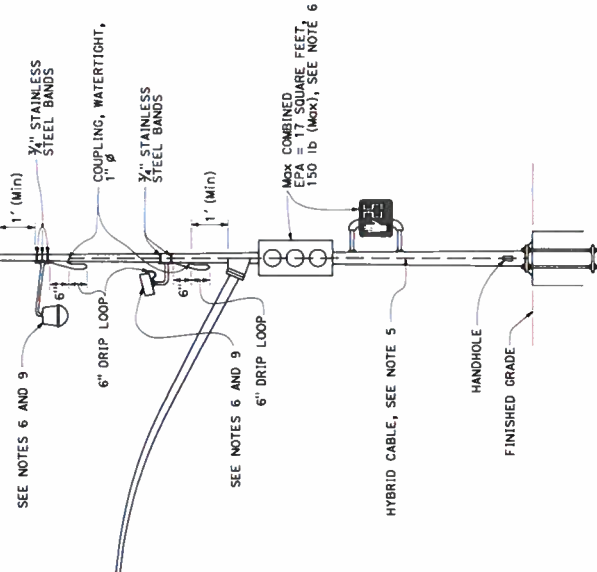
- LEGEND:**
- 1 LOWER MOUNTING ASSEMBLY WITH GASKET.
  - 2 UPPER MOUNTING ASSEMBLY.
  - 3 ROD, 1/2" Ø, STAINLESS STEEL.
  - 4 LOCKING PIN, STEEL.
  - 5 FLAT WASHER, STAINLESS STEEL.
  - 6 BUSHING, BRONZE.
  - 7 BOLT, 1/2" Ø STAINLESS STEEL, WITH  
SELF-LOCKING NUT.
  - 8 BOLT, 1/2" Ø STAINLESS STEEL, WITH  
THREE NUTS, AND COTTER KEY. LENGTH AS  
REQUIRED FOR PROPER MOUNTING OF SIGN.
  - 9 BRACKET, 1/4" X 1 1/2" MINIMUM, LENGTH  
VARIABLE.
  - 10 BRACKET, 2-PIECE ADJUSTABLE 1/4" X 1 1/2"  
MINIMUM TWO 1/4" HEADON. HEAD BOLTS  
WITH NUTS AND LOCKWASHERS.
  - 11 3/4" X 0.020" MINIMUM ROUNDED EDGE  
STAINLESS STEEL STRAP WITH 2" LONG BEND  
UNDER BUCKLE. IF ATTACHING TO A MULTITISED  
SECTION BEND UNDER SECTION SHALL BE LONG  
ENOUGH TO CONTACT AT LEAST 3 CORNERS.
  - 12 MOUNTING BOLT, 1/2" Ø MINIMUM, WITH NUT  
AND LOCKWASHER, OR SELF-LOCKING NUT AND  
COTTER KEY.
  - 13 CONTINUOUS HINGE.
  - 14 THUMB SCREW, 3/8" Ø MINIMUM TWO PER  
SIDE ON 4'-0" CENTERS.
  - 15 REFLECTOR, 0.040" MINIMUM THICKNESS.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(INTERNALLY ILLUMINATED**  
**STREET NAME SIGN)**  
 NO SCALE  
**ES-7P**

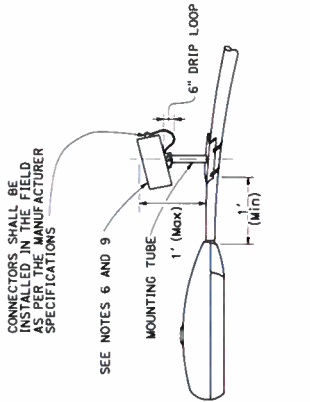
COUNTY	ROUTE	POST MILES	SHEET TOTAL
May 31, 2018 PLANS APPROVAL DATE THE STATE OF CALIFORNIA OR ITS OFFICERS IN THE COUNTY OF CALIFORNIA SHALL NOT BE HELD RESPONSIBLE FOR THE ACCURACY OR COMPLETION OF THE WORK SHOWN ON THIS PLAN SHEET.			



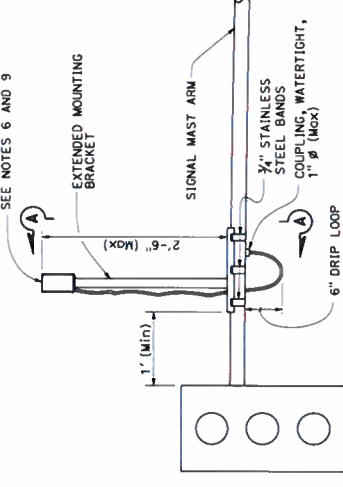
LUMINAIRE MAST ARM MOUNT  
DETAIL C



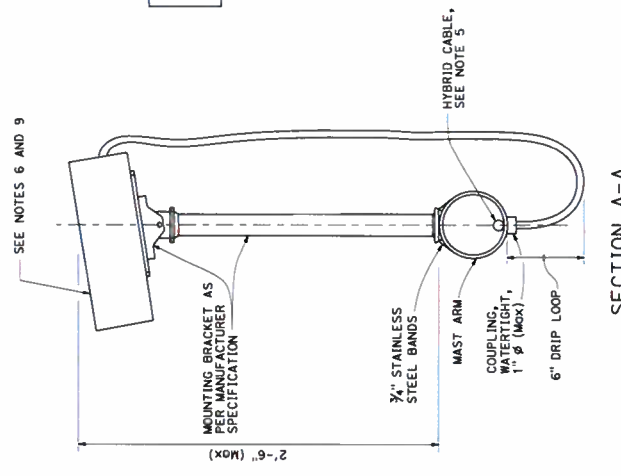
SIGNAL POLE MOUNT  
DETAIL D



LUMINAIRE MAST ARM MOUNT  
DETAIL B



SIGNAL MAST ARM MOUNT  
DETAIL A



SECTION A-A

- NOTES:**
- Exact mounting location of miscellaneous attachment and bracket shall be approved by the Engineer per manufacturer's recommendation.
  - Location of cable entrances on signal pole shall be a minimum of 1' from any flange or base plate.
  - Hybrid cable entrances on signal pole shall be drilled for weathertight coupling as required.
  - Hybrid cable shall have a drip loop at the entrance into signal pole, luminaire mast arm and signal mast arm.
  - A single hybrid cable shall run continuous and shall not be twisted from the miscellaneous attachment to the controller cabinet. No splices shall be allowed.
  - Use the manufacturer's Effective Projected Area (EPA) for miscellaneous attachment. The maximum EPA for each miscellaneous attachment shall be 1.0 square feet with 10 lb Max.
  - Maximum of two miscellaneous attachments per traffic signal standard.
  - Maximum of one miscellaneous attachment per mast arm.
  - Miscellaneous attachment shall be mounted using clamping devices.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS  
(SIGNAL AND LIGHTING,  
MISCELLANEOUS ATTACHMENT)**

NO SCALE

**ES-7R**

01841	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL SHEETS

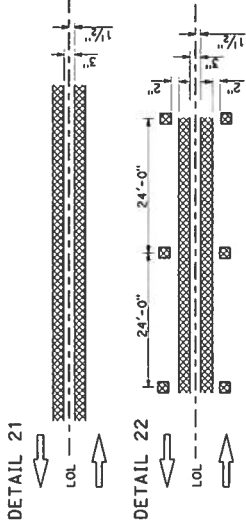
*Alpha Team*  
REGISTERED CIVIL ENGINEER

May 31, 2018  
PLANS APPROVAL DATE

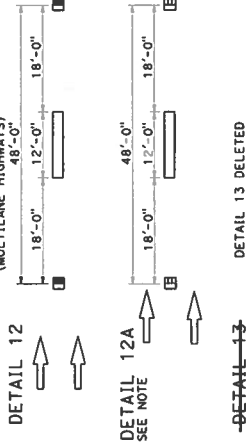
11110 Ecorse  
CHAD2  
3-31-19  
CITY

REGISTERED PROFESSIONAL ENGINEER  
STATE OF CALIFORNIA  
THE ACCOUNT OF THE ENGINEER  
FOR THE COMPLETION OF THE WORK  
COPIES OF THIS PLAN SHEET

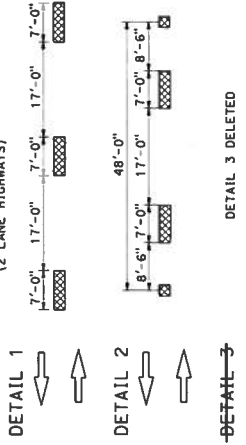
**NO PASSING ZONES-TWO DIRECTION**



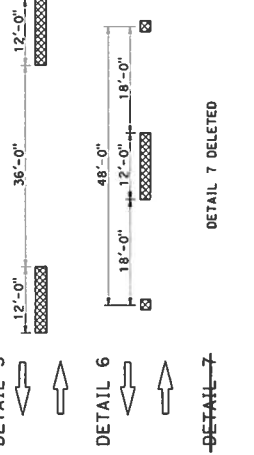
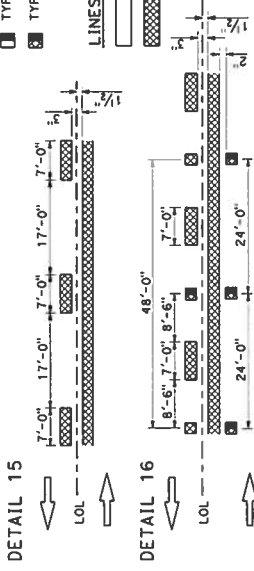
**LANELINES (Cont)**  
(MULTILANE HIGHWAYS)



**CENTERLINES**  
(2 LANE HIGHWAYS)



**NO PASSING ZONES-ONE DIRECTION**



~~DETAIL 23~~ DETAIL 23 DELETED

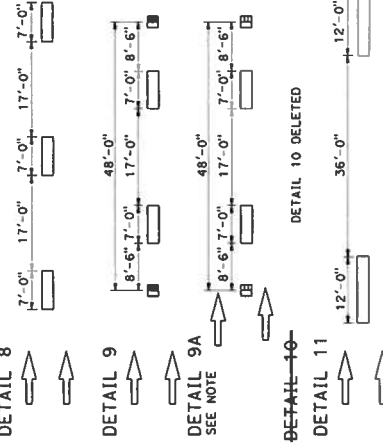
**LEGEND**  
**MARKERS**

- TYPE C RED-CLEAR RETROREFLECTIVE
- TYPE D TWO-WAY YELLOW RETROREFLECTIVE
- TYPE G ONE-WAY CLEAR RETROREFLECTIVE
- TYPE H ONE-WAY YELLOW RETROREFLECTIVE

**LINES**

- 6" WHITE
- 6" YELLOW

**LANELINES**  
(MULTILANE HIGHWAYS)



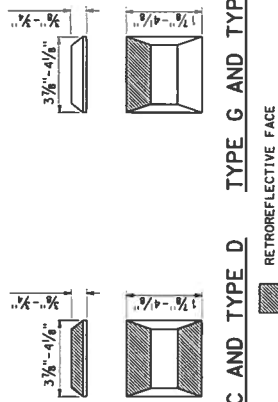
~~DETAIL 17~~ DETAIL 17 DELETED

~~DETAIL 18~~ DETAIL 18 DELETED

~~DETAIL 19~~ DETAIL 19 DELETED

~~DETAIL 20~~ DETAIL 20 DELETED

**TYPE C AND TYPE D** **TYPE G AND TYPE H**



RETROREFLECTIVE FACE

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKERS  
AND TRAFFIC LINES  
TYPICAL DETAILS**

NO SCALE

**A20A**

NOTE:  
FOR FREEWAY APPLICATION ONLY

COUNTY ROUTE TOTAL PROJECT SHEET NO. TOTAL SHEETS  
 REGISTERED CIVIL ENGINEER  
 May 31, 2018  
 APPROVAL DATE  
 THE STATE OF CALIFORNIA ON 15th OF 2018  
 IN THE COUNTY OF CALIFORNIA  
 IN WITNESS WHEREOF I HAVE HEREBY SET MY HAND AND SEAL OF OFFICE  
 ON THIS 15th DAY OF MAY 2018

**INTERSECTION TREATMENTS**

**LEGEND**

**MARKERS**

- TYPE D TWO-WAY YELLOW RETROREFLECTIVE
- TYPE K ONE-WAY YELLOW RETROREFLECTIVE
- TYPE RY RED-YELLOW RETROREFLECTIVE

**LINES**

- 6" WHITE
- 6" YELLOW

**MEDIAN ISLANDS**

DETAIL 24  
 DETAIL 25  
 DETAIL 25A  
 DETAIL 26  
 DETAIL 27

**RIGHT EDGELINES**

DETAIL 27A DELETED  
 DETAIL 27B  
 DETAIL 27C  
 DETAIL 27D

**RIGHT EDGELINE EXTENSION THROUGH INTERSECTIONS**

**TWO-WAY LEFT TURN LANES**

DETAIL 31  
 DETAIL 32  
 DETAIL 33 DELETED

**MARKER DETAILS**

TYPE RY  
 TYPE H  
 AND TYPE D  
 RETROREFLECTIVE FACE

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**PAVEMENT MARKERS AND TRAFFIC LINES TYPICAL DETAILS**

NO SCALE

A20B



POST MILES SHEET TOTAL  
TOTAL PROJECT NO. SHEETS

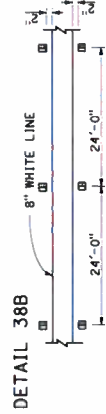
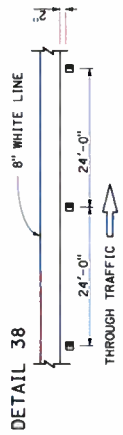
COUNTY ROUTE

REGISTERED CIVIL ENGINEER  
*Olga Ferraz*  
May 31, 2018  
PLANS APPROVAL DATE

PROFESSIONAL ENGINEER  
ASIA FERRAZ  
C00002  
No. 3-31-19  
STATE OF CALIFORNIA  
DIVISION OF PROFESSIONAL ENGINEERS

THE STATE OF CALIFORNIA OR ITS OFFICERS  
OR AGENTS SHALL NOT BE RESPONSIBLE FOR  
ANY ERRORS OR OMISSIONS OR FOR THE  
CONSEQUENCES OF THIS PLAN SHEET.

**CHANNELIZING LINE**

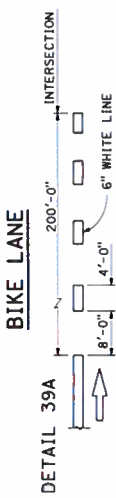


~~DETAIL 38C~~

**BIKE LANE LINE**

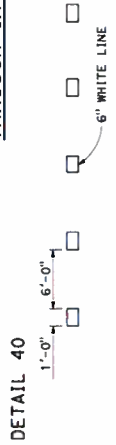


**INTERSECTION LINE**



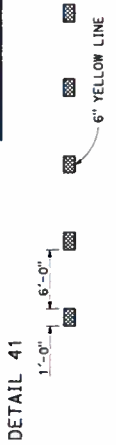
**LANE LINE EXTENSIONS**

**THROUGH INTERSECTIONS**



**CENTER LINE EXTENSIONS**

**THROUGH INTERSECTIONS**

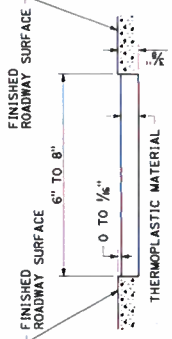
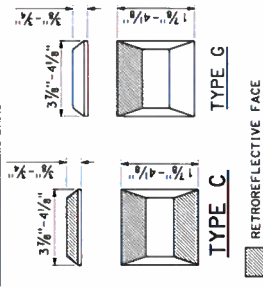


**LEGEND**

**MARKERS**

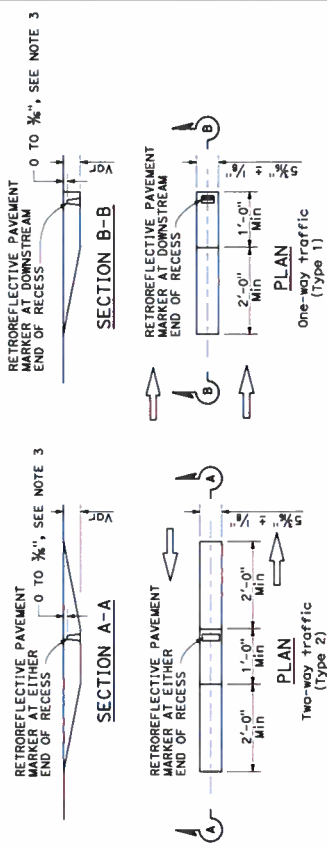
- TYPE C RED-CLEAR RETROREFLECTIVE
- TYPE G ONE-WAY CLEAR RETROREFLECTIVE
- 6" YELLOW LINE

**MARKER DETAILS**

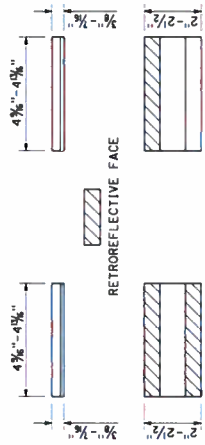


**DETAIL FOR RECESSED THERMOPLASTIC TRAFFIC STRIPE**

- See Notes A and B.
- RECESSED THERMOPLASTIC NOTES**
- A. See typical traffic line details for pavement marking patterns.
  - B. The top of the thermoplastic installed in recessed pavement shall be 0 to 1/8" below the pavement surface.



**RECESS DETAIL FOR RETROREFLECTIVE PAVEMENT MARKER**



TYPE C AND TYPE D TYPE G AND TYPE H  
See Notes 1 and 2.

**RETROREFLECTIVE PAVEMENT MARKER FOR RECESSED INSTALLATION**

- RECESSED MARKER NOTES:**
1. See typical traffic line details for pavement marking patterns to be used with recessed pavement markers. Detail 14A requires a Type 2 recess.
  2. The retroreflective pavement markers shown for recessed installations are not to be used for non-recessed installations.
  3. The top of pavement markers installed in recesses shall be 0 to 1/8" below the pavement surface.

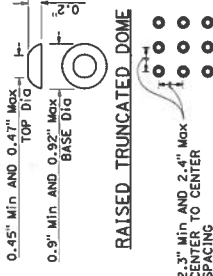
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**PAVEMENT MARKERS AND TRAFFIC LINES TYPICAL DETAILS**

NO SCALE

A20D

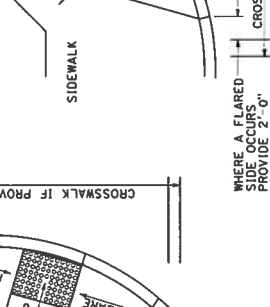
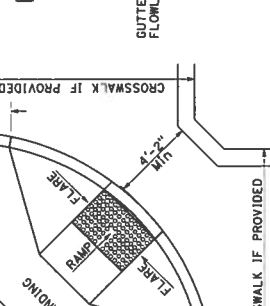
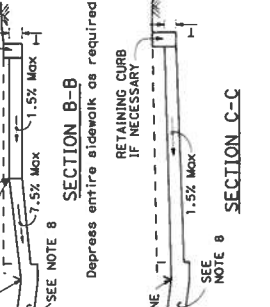
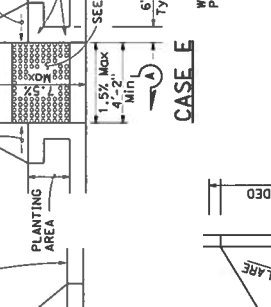
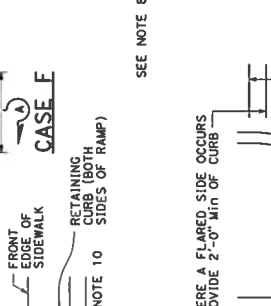
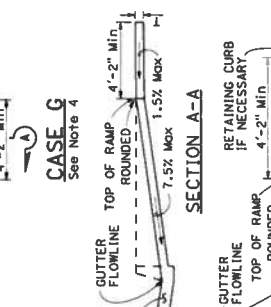
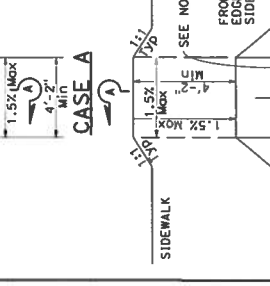
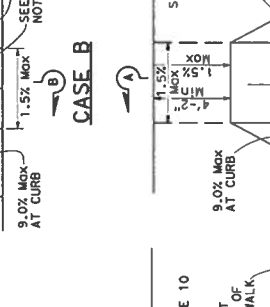
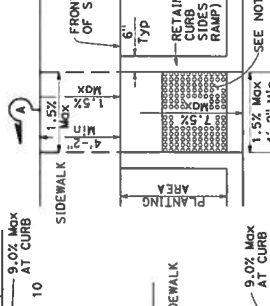
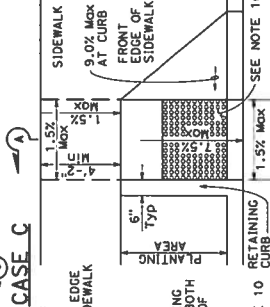
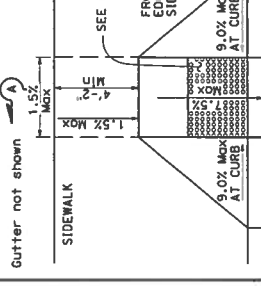
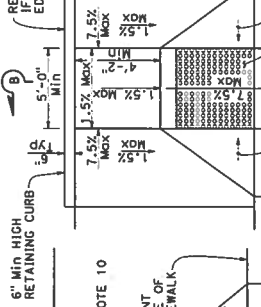
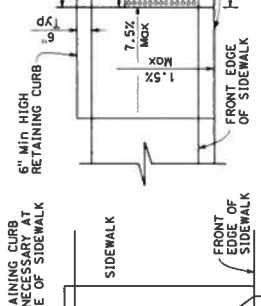
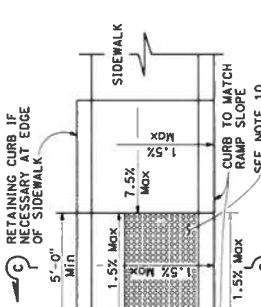
POST MILES SHEET TOTAL SHEETS  
 COUNTY ROUTE PROJECT NO. SHEETS  
 REGISTERED CIVIL ENGINEER  
 May 31, 2018  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS  
 THE REGISTERED PROFESSIONAL ENGINEER  
 IN CHARGE OF THE PROJECT OR THE PROJECT'S SUPERVISOR



**RAISED TRUNCATED DOME PATTERN (IN-LINE)**  
**DETECTABLE WARNING SURFACE**

NOTES:  
 See Note 10

- As site conditions dictate, Case A through Case G curb ramps may be used in the corner installations similar to those shown. The curb ramp shall be placed through Case G curb ramps also may be used at mid-block locations, as site conditions dictate. For specific site condition configuration, including the conform to existing sidewalk, see Project Plans.
- If distance from curb to back of sidewalk is too short to accommodate ramp and 4'-2" platform (landing) as shown in Case A, the sidewalk may be depressed longitudinally as in Case B or C or may be widened as in Case D.
- When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
- As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
- The ramp portion of the curb ramp is a typical rectangle, unless modified in the Project Plans.
- Side slope of ramp flares vary uniformly from a maximum of 9.0% at curb, except in Case C and Case F.
- The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.
- Counter slopes of adjoining gutters and road surfaces immediately adjacent to the gutter shall not exceed 1" of depth for each 2'-0" of width.
- Gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.
- Typical gutter pan slope per Standard Plan A87A.
- The detectable warning surface will be a rectangle as shown at back of curb, unless modified in the Project Plans. Curb ramps shall have a detectable warning surface that extends the full width and full depth of the ramp. A maximum gap of 1/4 inch is allowed on each side of the ramp. Detectable warning surfaces shall conform to the requirements in the Standard Specifications.
- Sidewalk and ramp thickness, "T", shall be 3/2" minimum.
- Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp shall be depressed to grade by the same amount as the curb ramp construction with curb ramp construction.
- Detectable warning surface may have to be cut to allow removal of utility covers while maintaining detectable warning width and depth.



**DETAIL B**  
**TYPICAL ONE-RAMP CORNER INSTALLATION**  
 See Notes 1 and 3

**DETAIL A**  
**TYPICAL TWO-RAMP CORNER INSTALLATION**  
 See Note 1

**DETAIL B**  
**TYPICAL ONE-RAMP CORNER INSTALLATION**  
 See Notes 1 and 3

**DETAIL A**  
**TYPICAL TWO-RAMP CORNER INSTALLATION**  
 See Note 1

**DETAIL B**  
**TYPICAL ONE-RAMP CORNER INSTALLATION**  
 See Notes 1 and 3

**DETAIL A**  
**TYPICAL TWO-RAMP CORNER INSTALLATION**  
 See Note 1

**DETAIL B**  
**TYPICAL ONE-RAMP CORNER INSTALLATION**  
 See Notes 1 and 3

**DETAIL A**  
**TYPICAL TWO-RAMP CORNER INSTALLATION**  
 See Note 1

**DETAIL B**  
**TYPICAL ONE-RAMP CORNER INSTALLATION**  
 See Notes 1 and 3

**DETAIL A**  
**TYPICAL TWO-RAMP CORNER INSTALLATION**  
 See Note 1

**DETAIL B**  
**TYPICAL ONE-RAMP CORNER INSTALLATION**  
 See Notes 1 and 3

**DETAIL A**  
**TYPICAL TWO-RAMP CORNER INSTALLATION**  
 See Note 1

**DETAIL B**  
**TYPICAL ONE-RAMP CORNER INSTALLATION**  
 See Notes 1 and 3

**DETAIL A**  
**TYPICAL TWO-RAMP CORNER INSTALLATION**  
 See Note 1

**DETAIL B**  
**TYPICAL ONE-RAMP CORNER INSTALLATION**  
 See Notes 1 and 3

**DETAIL A**  
**TYPICAL TWO-RAMP CORNER INSTALLATION**  
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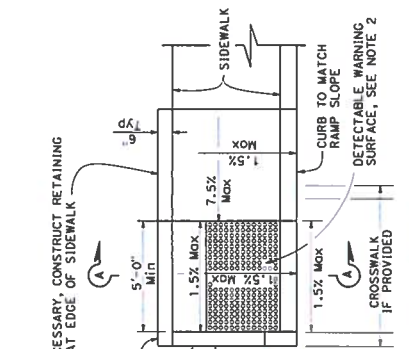
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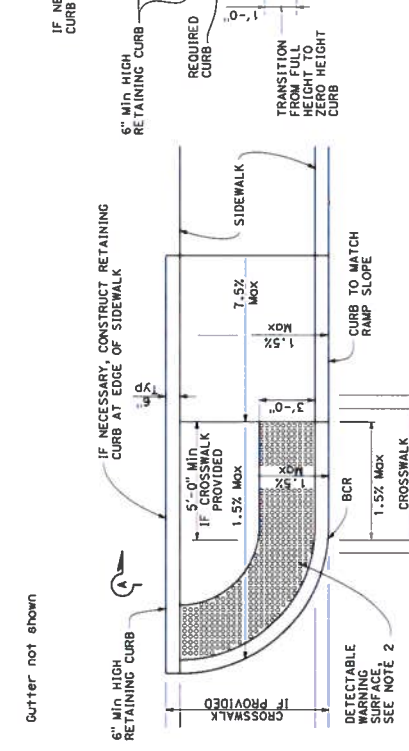
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**TYPICAL TWO-RAMP CORNER INSTALLATION**  
 See Note 1

SHEET NO.	TOTAL SHEETS
PROJECT NO.	PROJECT NAME
COUNTY	ROUTE
REGISTERED CIVIL ENGINEER	
MAY 31, 2018 PLANS APPROVAL DATE THE STATE OF CALIFORNIA ON ITS OFFICIAL RECORDS TO BE KEPT IN THE OFFICE OF THE CHIEF OF THIS PLAN SHEET.	

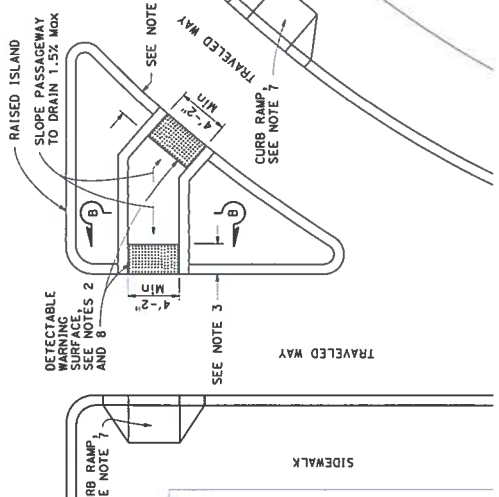
- NOTES:**
1. Sidewalk, ramp and passageway thickness, shall be 3/2" minimum.
  2. For details of detectable warning surfaces, see Standard Plan A88A.
  3. Where an island passageway length is greater than or equal to 6'-0", but less than 8'-0", each detectable warning surface shall extend the full width and 2'-0" depth of the passageway length. Where an island passageway length is less than or equal to 8'-0", each detectable warning surface shall extend the full width and 3'-0" depth of the passageway length. Detectable warning surfaces shall extend the full width of the island passageway except a maximum gap of 1 inch is allowed on each side of the passageway.
  4. The adjacent surfaces at transitions of curb ramps to walks, gutters, and streets shall be at the same level.
  5. Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
  6. Detectable warning surface may have to be cut to allow removal of utility covers while maintaining detectable warning width and depth.
  7. For additional curb ramp details, see Standard Plan A88A.
  8. The detectable warning surface will be a rectangle as shown at the face of curb, unless modified in the Project Plans.



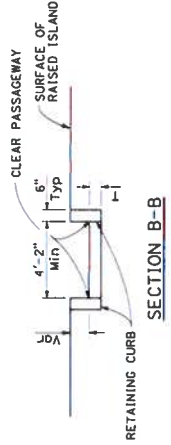
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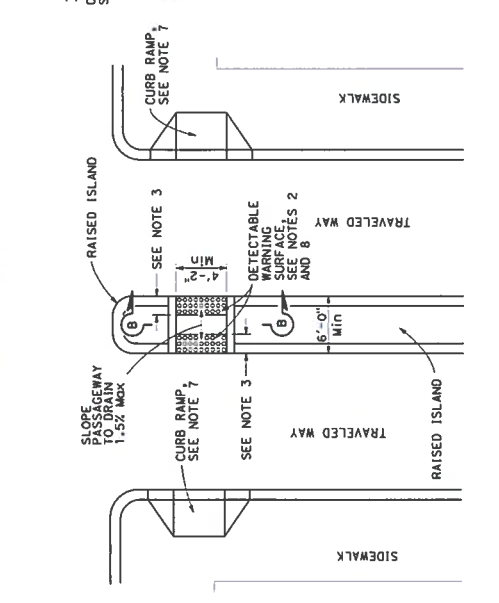
CASE CM CURB RAMP



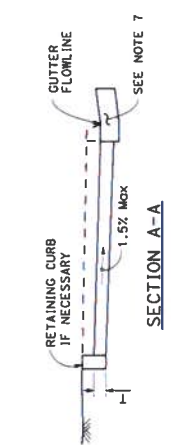
TYPE B PASSAGEWAY



SECTION B-B



TYPE C PASSAGEWAY



SECTION A-A

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**CURB RAMP AND ISLAND PASSAGEWAY DETAILS**  
 NO SCALE  
**A88B**



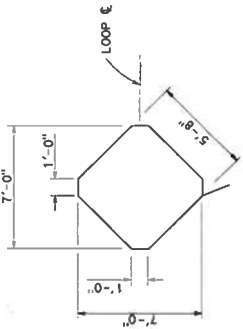




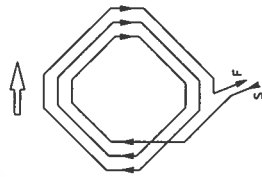
POST MILES	ROUTE	COUNTY	TOTAL SHEETS	TOTAL SHEETS

REGISTERED ELECTRICAL ENGINEER  
 H.R.F.  
 May 31, 2018  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA BY ITS OFFICERS  
 AND THE BOARD OF ELECTRICAL ENGINEERS  
 HAS REVIEWED THIS PLAN SHEET FOR CONFORMANCE WITH THE  
 REQUIREMENTS OF THE ELECTRICAL ENGINEERING ACT AND  
 THE REGULATIONS THEREUNDER AND HAS FOUND IT TO BE IN  
 ACCORDANCE WITH THE REQUIREMENTS OF SAID ACT AND  
 REGULATIONS.

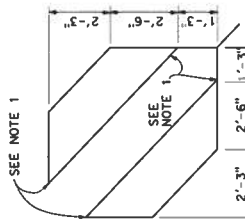
Professional Engineer  
 Harold Zolotor  
 No. CE-18884  
 Exp. 12/31/19  
 State of California  
 Board of Electrical Engineers



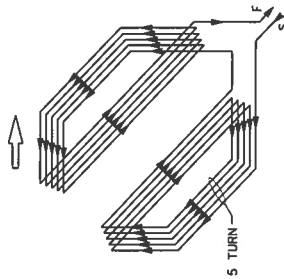
SAW CUT DETAIL  
 TYPE B LOOP DETECTOR CONFIGURATION



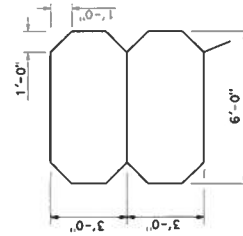
WINDING DETAIL



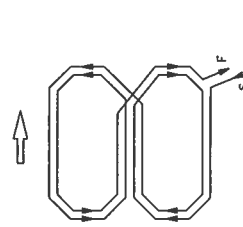
SAW CUT DETAIL  
 TYPE D LOOP DETECTOR CONFIGURATION



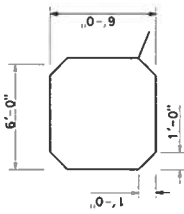
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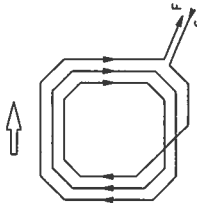
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 TYPE Q LOOP DETECTOR CONFIGURATION



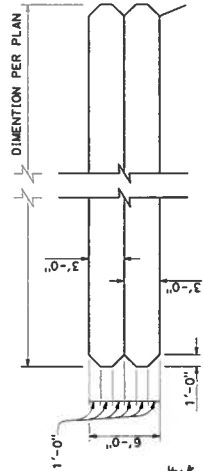
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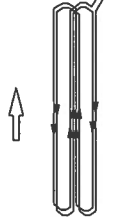
SAW CUT DETAIL  
 TYPE A LOOP DETECTOR CONFIGURATION



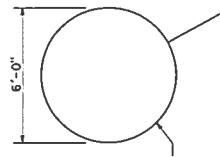
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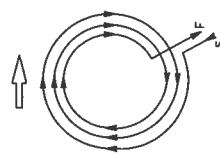
SAW CUT DETAIL  
 TYPE C LOOP DETECTOR CONFIGURATION



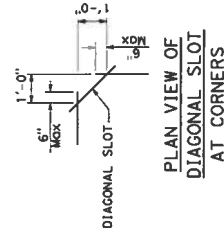
WINDING DETAIL



SAW CUT DETAIL  
 TYPE E LOOP DETECTOR CONFIGURATION



WINDING DETAIL



PLAN VIEW OF  
 DIAGONAL SLOT  
 AT CORNERS

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS  
 (DETECTORS)**

NO SCALE

**ES-5B**

**NOTES:**

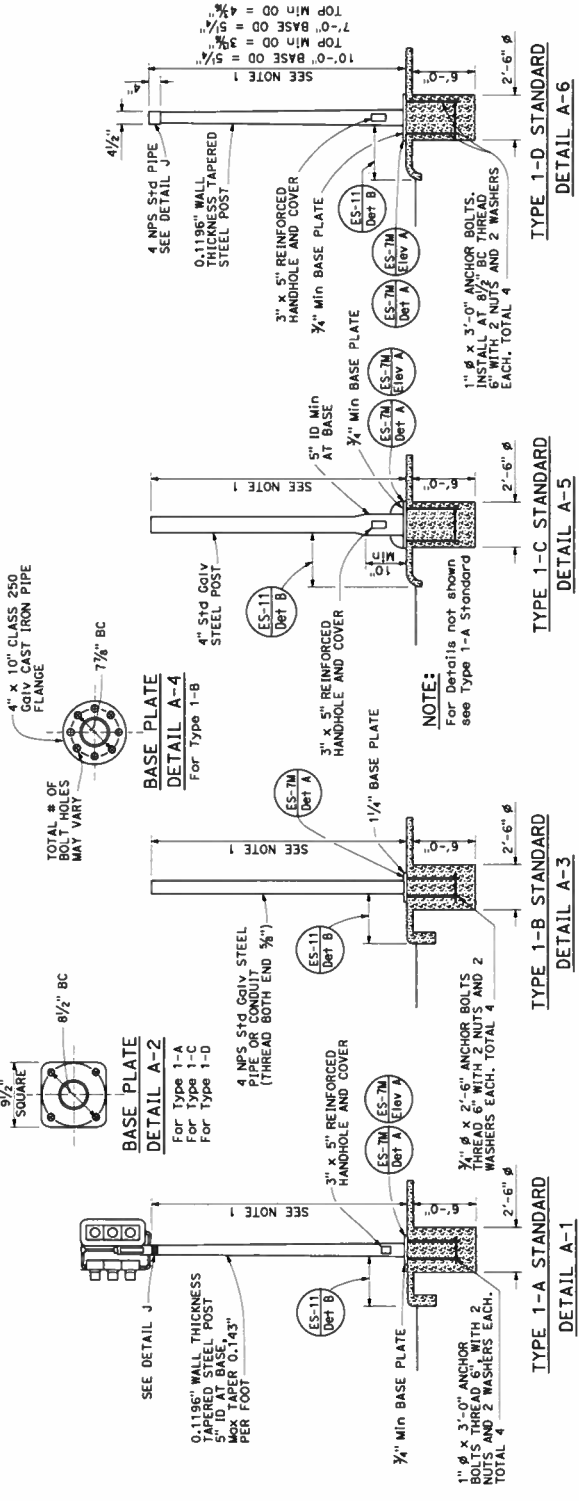
1. Round corners of acute angle saw cuts to prevent damage to conductors.
2. Typical distance separating loops from edge to edge is 10' for Type A, B, D, and E installation in single lane.
3. Use Type D loops for limit line detection and bicycle lanes.



POST MILES	SHEET TOTAL
TOTAL PROJECT	NO. SHEETS
COUNTY	ROUTE
May 31, 2018 PLANS APPROVAL DATE THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION THE ACCOUNT OF COMPLETE PLANS OF "SCANNED" COPIES OF THIS PLAN SHEET.	

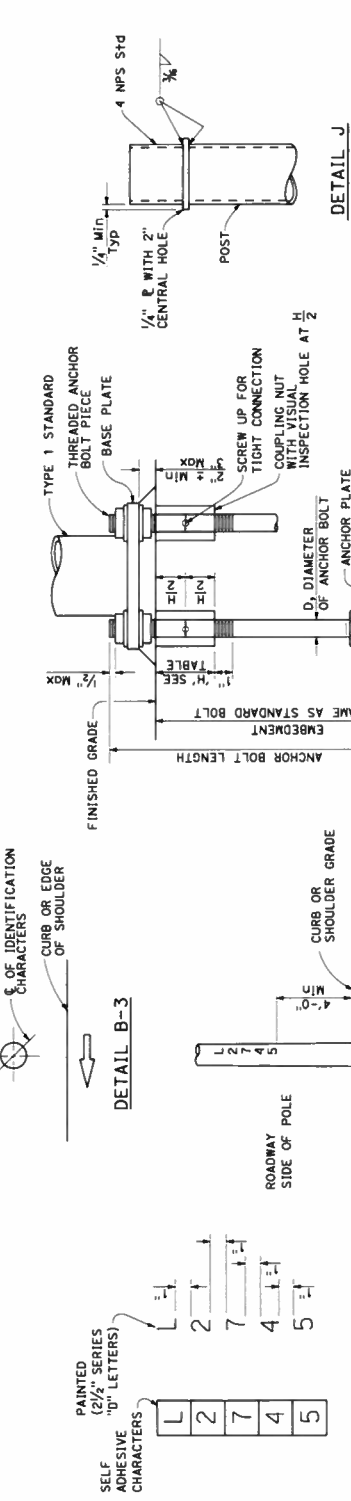
**NOTES:**

- Standards shall be 10'-0" ± 2" for vehicle signals and 7'-0" ± 2" for pedestrian signals unless shorter pole is noted on project plans.
- Top of standards shall be 4 1/2' OD.
- Conduits shall extend 2" maximum above finished surface of foundation and for Types 1-A, 1-C and 1-D shall be sloped toward handhole.
- Anchor bolts shall be bonded to conduit or grounding conductor.
- For additional notes and details, see Standard Plans ES-7M and ES-7N.
- Pour foundation concrete against undisturbed soil.
- For standards with handhole, locate in the downstream side of traffic.
- Coupling nuts to be used only when shown or specified on project plans.



**TYPE 1 SIGNAL STANDARDS**

**DETAIL A**



BOLT DIAMETER	NUT TABLE THICKNESS "H"
3/4"	2/4"
1"	3"

**DETAIL J**



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS  
(SIGNAL AND LIGHTING STANDARD, TYPE 1  
AND EQUIPMENT IDENTIFICATION CHARACTERS)**

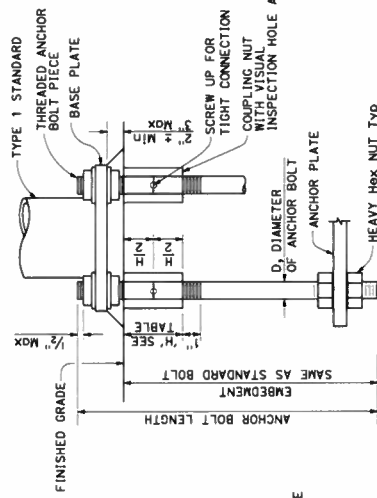
NO SCALE

**ES-7B**

**ANCHOR BOLTS WITH SLEEVE NUTS**

**DETAIL C**

(See Note 8)

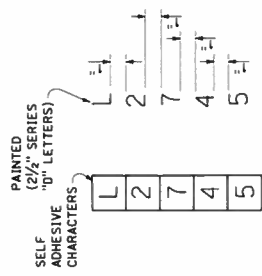


**TYPICAL IDENTIFICATION CHARACTER FORMAT**

**DETAIL B-2**

**LOCATION OF EQUIPMENT IDENTIFICATION CHARACTERS ON STANDARDS AND POSTS**

**DETAIL B**





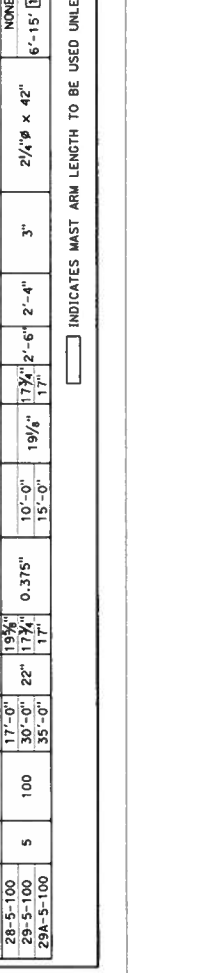
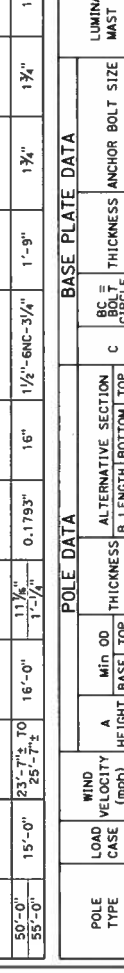
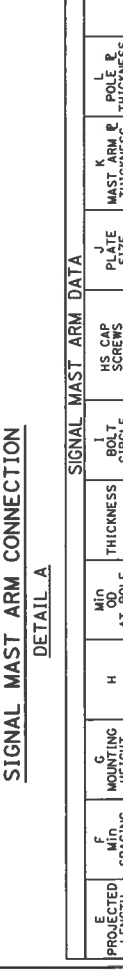
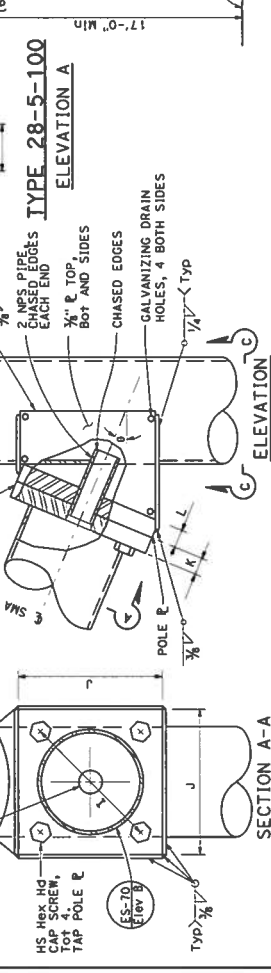
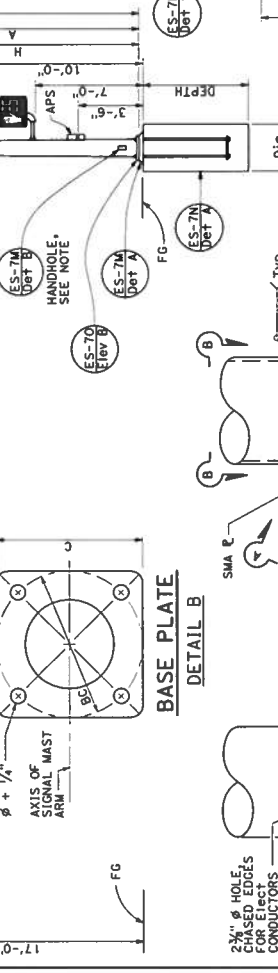
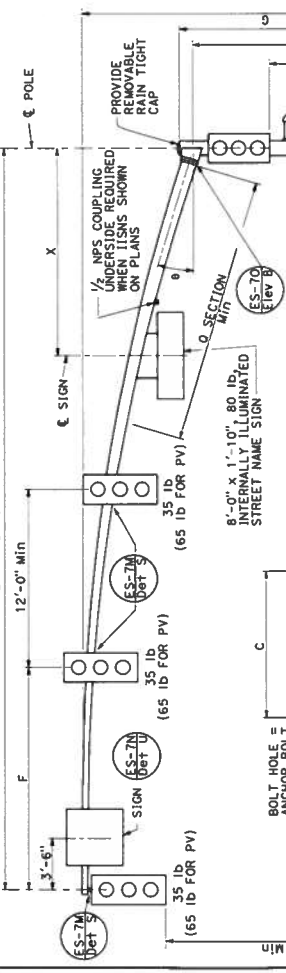
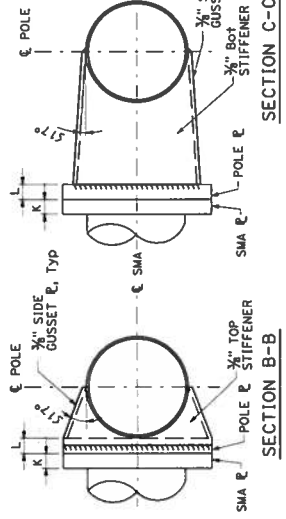
PROJECT MILES: \_\_\_\_\_ SHEET TOTAL: \_\_\_\_\_  
 TOTAL PROJECT: \_\_\_\_\_ SHEET NO.: \_\_\_\_\_

COUNTY: \_\_\_\_\_ ROUTE: \_\_\_\_\_

REGISTERED CIVIL ENGINEER  
 [Signature]

DATE: May 31, 2018

PLANS APPROVAL DATE: \_\_\_\_\_  
 THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION  
 HAS REVIEWED THESE PLANS FOR CONFORMANCE WITH THE CALIFORNIA ENGINEERING PROFESSIONAL ACT AND THE REGULATIONS OF THE BOARD OF PROFESSIONAL ENGINEERS AND ARCHITECTS.  
 THIS REVIEW IS LIMITED TO THE TECHNICAL ASPECTS OF THE PLANS AND DOES NOT CONSTITUTE A GUARANTEE OF THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED HEREON.



**NOTE:**  
 Handhole shall be located on the downstream side of street.

**NOTE:**  
 1/2" NPS COUPLING UNDERSIDE REQUIRED WHEN LISTS SHOWN ON PLANS.

**NOTE:**  
 8'-0" x 1'-10", 80 lb INTERNALLY ILLUMINATED STREET NAME SIGN.

**NOTE:**  
 8'-0" x 1'-10", 80 lb INTERNALLY ILLUMINATED STREET NAME SIGN.

**NOTE:**  
 8'-0" x 1'-10", 80 lb INTERNALLY ILLUMINATED STREET NAME SIGN.

**LUMINAIRE MAST ARM DATA**

M PROJECTED LENGTH	N OD AT POLE	P MOUNTING HEIGHT
6'-0"	2'-0"	30'-0"
8'-0"	2'-6"	31'-6"
10'-0"	3'-3"	32'-0"
12'-0"	4'-3"	32'-9"
15'-0"	4'-9"	33'-9"
		34'-3"
		35'-0"

**SIGNAL MAST ARM DATA**

F MIN SPACING	G MOUNTING HEIGHT	H	I BOLT CIRCLE	J PLATE SIZE	K MAST ARM THICKNESS	L POLE THICKNESS	M SIGN LENGTH	N OD AT POLE	O SECTION LENGTH	P SIGN THICKNESS	Q SIGN WEIGHT	R SIGN WEIGHT	S SIGN WEIGHT	T SIGN WEIGHT	U SIGN WEIGHT	V SIGN WEIGHT	W SIGN WEIGHT	X SIGN WEIGHT	Y SIGN WEIGHT	Z SIGN WEIGHT
15'-0"	23'-7 1/2"	16'-0"	16"	1'-9"	1 3/4"	1 3/4"	18'-0"	1 1/2"	17'-0"	0.2391"	35 lb (65 lb FOR PV)	35 lb (65 lb FOR PV)	35 lb (65 lb FOR PV)	35 lb (65 lb FOR PV)	35 lb (65 lb FOR PV)	35 lb (65 lb FOR PV)	35 lb (65 lb FOR PV)	35 lb (65 lb FOR PV)	35 lb (65 lb FOR PV)	35 lb (65 lb FOR PV)

**POLE DATA**

POLE TYPE	WIND LOAD CASE	WIND VELOCITY (mph)	A HEIGHT	MIN OD BASE	MIN OD TOP	THICKNESS	ALTERNATIVE SECTION B LENGTH	ALTERNATIVE SECTION C BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE	LUMINAIRE MAST ARM	CIDH PILE FOUNDATION	SIGNAL MAST ARM	DIG DEPTH
28-5-100	5	100	17'-0"	22"	19 1/4"	0.375"	10'-0"	19 1/4"	17 1/4"	2 1/4" x 42"	NONE	50'-0"	4'-0"	14'-0"
29-5-100	5	100	30'-0"	22"	17 1/4"	0.375"	15'-0"	19 1/4"	17 1/4"	2 1/4" x 42"	NONE	55'-0"	4'-0"	14'-0"
29A-5-100	5	100	35'-0"	22"	17 1/4"	0.375"	15'-0"	19 1/4"	17 1/4"	2 1/4" x 42"	NONE	55'-0"	4'-0"	14'-0"

**TYPE 29-5-100, 29A-5-100**  
 ELEVATION B

**TYPE 28-5-100**  
 ELEVATION A

**TYPE 28-5-100**  
 ELEVATION B

**TYPE 28-5-100**  
 ELEVATION C

**TYPE 28-5-100**  
 ELEVATION D

**TYPE 28-5-100**  
 ELEVATION E

**TYPE 28-5-100**  
 ELEVATION F

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS STANDARD**  
**(SIGNAL AND LIGHTING MAST ARM LOADING**  
**CASE 5 SIGNAL MAST ARM AND SIGNAL**  
**WIND VELOCITY=100 MPH AND SIGNAL**  
**MAST ARM LENGTHS 50 TO 55)**

NO SCALE

ES-7G

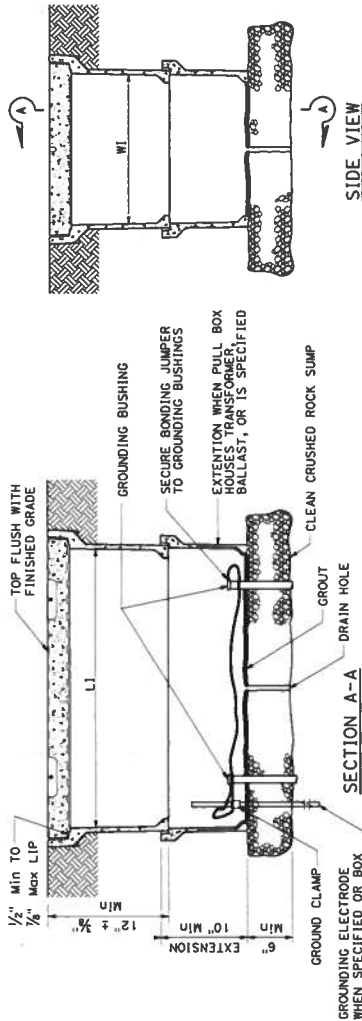




PROJECT NO.	SHEET NO.	TOTAL SHEETS
COUNTY	ROUTE	PROJECT
REGISTERED ELECTRICAL ENGINEER H.R. ELVICK No. 201600021 License No. 12-31-19 THE STATE OF CALIFORNIA OR ITS OFFICERS SHALL NOT BE HELD RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ANY PORTION OF THIS PLAN SHEET.		
PLANS APPROVAL DATE MAY 31, 2018		

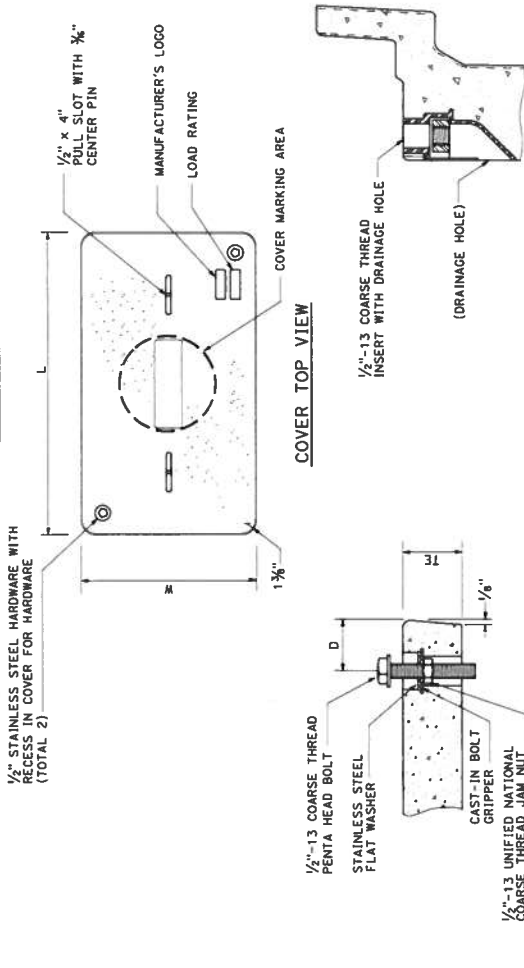
**NOTES:**

1. The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be 1/4" greater.
2. Covers and boxes shall be interchangeable with California standard male and female gages, when interchanged with a standard male or female gage, the top surfaces shall be flush within 1/8". Top outside radius of covers and pull boxes shall have a 1/8" radius.
3. Dimensions for the cover for non-traffic pull box are nominal values.

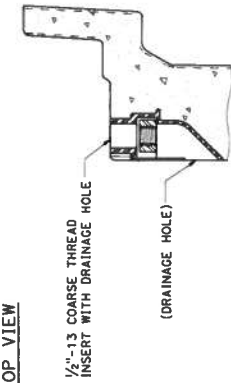


**INSTALLATION DETAILS**

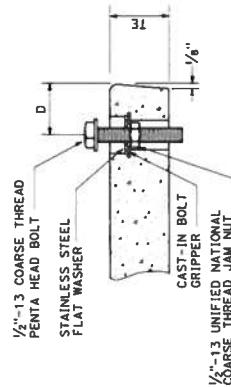
**DETAIL A**



**TYPICAL THREADED INSERT**  
OR SIMILAR



**TYPICAL COVER CAPTIVE BOLT**  
OR SIMILAR



**DIMENSION TABLE**

PULL BOX	PULL BOX			COVER				MINIMUM WEIGHT		
	MINIMUM DEPTH	MINIMUM DEPTH EXTENSION	MINIMUM WEIGHT	LI Min	WI Min	TE	D		L	W
No. 3/2	12"	N/A	40 lb	1' - 3"	9"	1 3/4"	1 3/4"	1' - 3 1/4"	10" - 10 1/2"	30 lb
No. 5	12"	10"	55 lb	1' - 8"	11"	2"	1 3/4"	1' - 11 1/4"	1' - 1 3/4"	60 lb
No. 6	12"	10"	70 lb	2' - 4 1/4"	1' - 3 1/4"	2"	2"	2' - 6 1/2"	1' - 5 1/2"	85 lb

**ES-8A**

NO SCALE

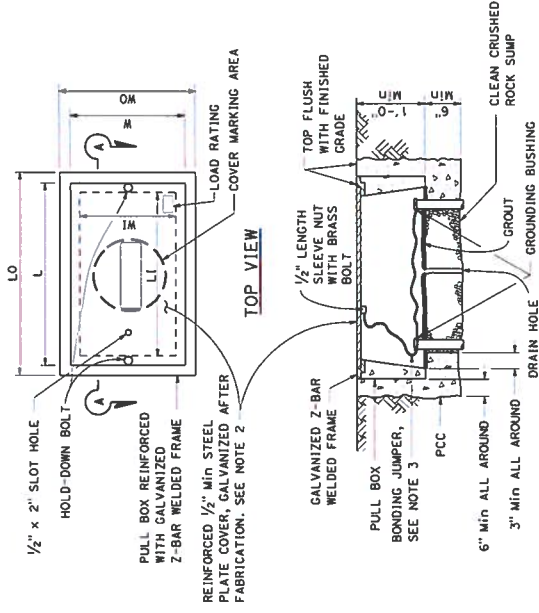
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(NON-TRAFFIC PULL BOX)**

POST MILES	COUNTY	ROUTE	TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED ELECTRICAL ENGINEER  
**H.R.**  
 May 31, 2018  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR U.S. OFFICES  
 THE ASSOCIATION OF PROFESSIONAL ENGINEERS  
 OFFICE OF THIS PLAN SHEET.

- NOTES:**
1. Traffic pull box shall be provided with steel cover and special concrete footing. Steel cover shall have embossed non-skid pattern.
  2. Steel reinforcing shall be as regularly used in the standard products of the respective manufacturer.
  3. Bonding jumper for metal covers shall be 3' long, minimum.
  4. The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
  5. Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within 1/8".



SECTION A-A  
 No. 3 1/2(T), No. 5(T) AND  
 No. 6(T) TRAFFIC PULL BOX

**DIMENSION TABLE**

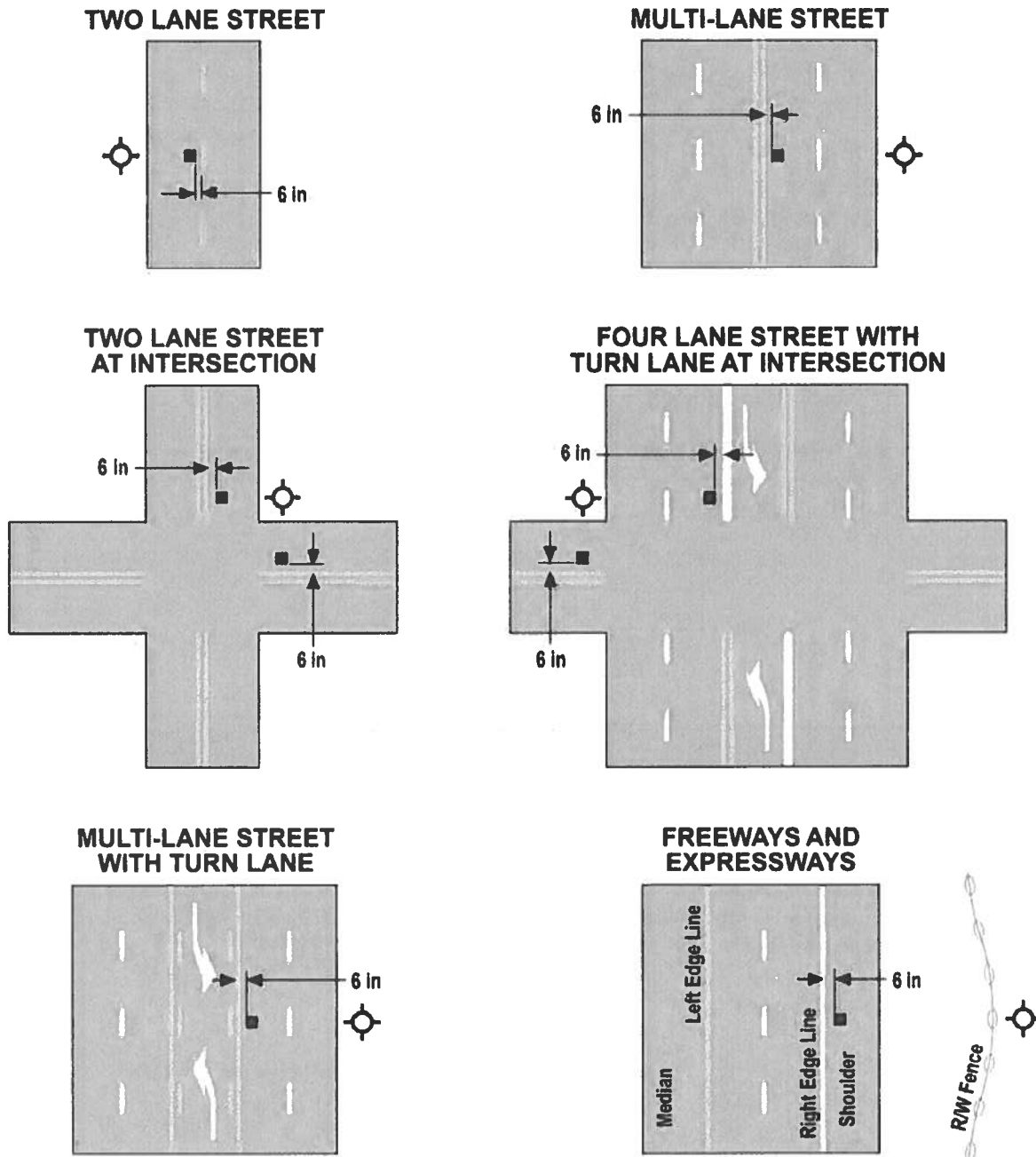
PULL BOX	PULL BOX						COVER			
	MINIMUM * THICKNESS	MINIMUM DEPTH BOX AND EXTENSION	LO	LI	WI	L **	W **	L **	W **	
No. 3 1/2(T)	1 1/2"	1'-0"	1'-10"	1'-11"	1'-5"	1'-6 1/2"	1'-3"	1'-4"	1'-8"	1'-8 1/2"
No. 5(T)	1 3/4"	1'-0"	2'-5"	2'-6"	2'-0"	2'-1"	1'-6"	1'-7"	1'-1"	1'-2"
No. 6(T)	2"	1'-0"	2'-11"	3'-1"	2'-6"	2'-7"	1'-10"	2'-0"	1'-5"	1'-6"

\* EXCLUDING CONDUIT WEB \*\* TOP DIMENSION

ES-8B

Return to Table of Contents

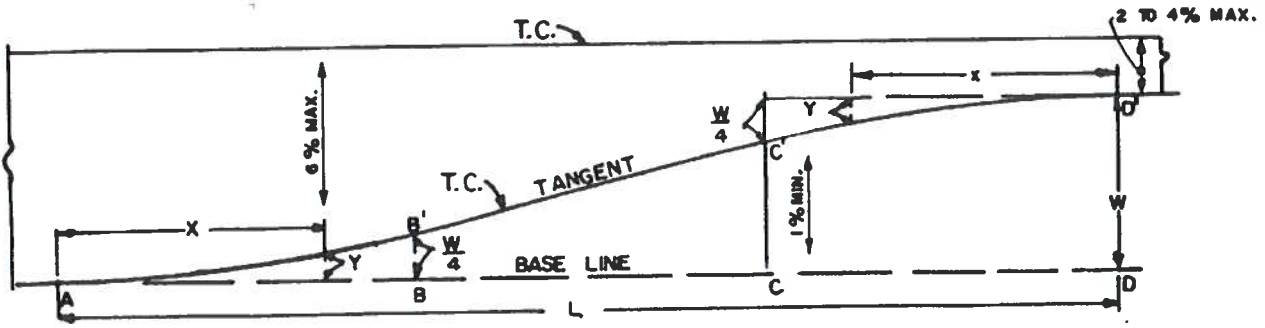
**Figure 3B-102 (CA). Examples of Fire Hydrant Location Pavement Markers**



**LEGEND**

-  Fire Hydrant
-  Blue Retroreflective Raised Pavement Marker

NOT TO SCALE



W = Width of left turn pocket  
 L = Length of taper  
 $AB = BC = CD = \frac{L}{3}$   
 AB' and CD' are parabolic curves except on curved alignments  
 X = Distance from point "A" along base line  
 Y = Offset from base line =  $2.25W X^2 / L^2$

SINGLE LEFT TURN POCKET  
 $L=90'$   $W=10'$

X	0'	10'	20'	30'	40'	50'	60'	70'	80'	90'
Y	0.00'	0.28'	1.11'	2.50'	4.17'	5.83'	7.50'	8.89'	9.72'	10.00'

$L=60'$   $W=10'$

X	0'	10'	20'	30'	40'	50'	60'
Y	0.00'	0.62'	2.50'	5.00'	7.50'	9.38'	10.00'

DOUBLE LEFT TURN POCKET  
 $L=150'$   $W=20'$

X	0'	10'	20'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	130'	140'	150'
Y	0.00'	0.20'	0.80'	1.80'	3.20'	5.00'	7.00'	9.00'	11.00'	13.00'	15.00'	16.80'	18.20'	19.20'	19.80'	20.00'

NOTE:

In the case when the base line is curved the offsets are calculated by assuming the base line to be a tangent they are then applied to the curved base line. AB' and CD' are no longer parabolic and BC is no longer a tangent.

\* Use 60' transition when insufficient distance is available for 90' transition or where approved by the Engineer.

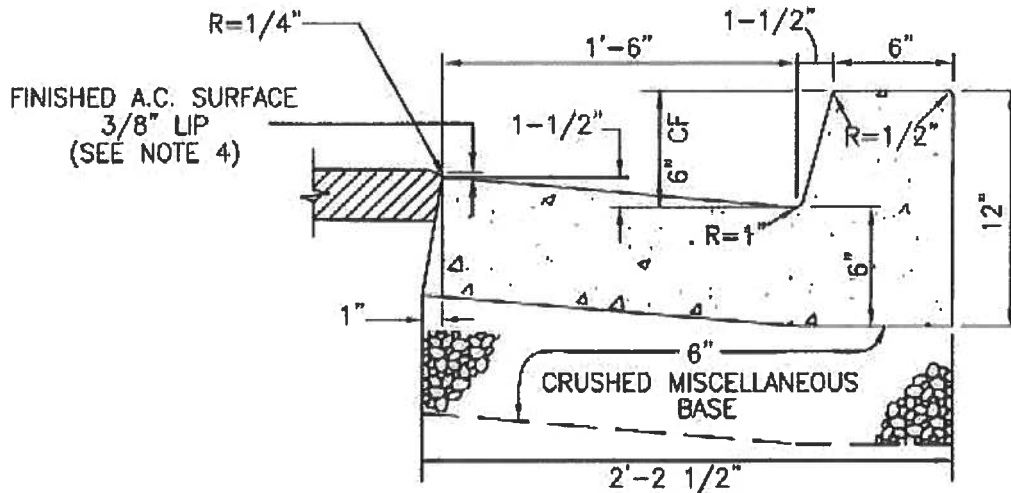
CITY OF COSTA MESA  
 CALIFORNIA  
 PUBLIC SERVICES DEPARTMENT

PARABOLIC MEDIAN  
 CURB TRANSITION

APPROVED: *BDMatterm* DATE: *12/13/85*  
 BRUCE Q MATTERN R.C.E. 19388

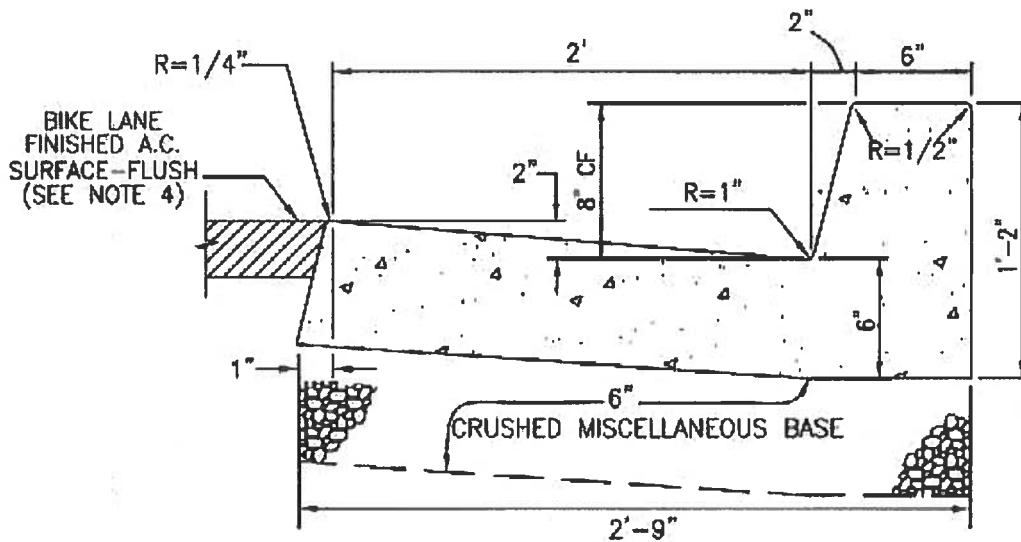
DRAWN: C.P.R.  
 SCALE: NONE  
 STD. DWG. NO.  
 116

REV.:



CONCRETE=0.05054 CUBIC  
YARDS PER  
LINEAR FT  
1 CY=19.7863 LINEAR FT.

TYPE "C-6" CURB & GUTTER  
N.T.S.



CONCRETE=0.0645 CUBIC  
YARDS PER  
LINEAR FT  
1 CY=15.50 LINEAR FT.

TYPE "C-8" CURB & GUTTER  
N.T.S.

**NOTES:**

1. 1/4" EXPANSION JOINTS SHALL BE PLACED AT 40' INTERVALS AND AT ALL BCR'S AND ECR'S. 1/8" x 2" WEAKENED PLANE JOINTS SHALL BE PLACED AT 10' INTERVALS. FOR JOINT DETAILS, SEE STD DWG NO 314.
2. CONCRETE SHALL BE CLASS 560-C-3250 (330-C-23) PER LATEST EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION SEC. 201-1.
3. SUBGRADE RELATIVE COMPACTION SHALL NOT BE LESS THAN 90%.
4. ALL AC FINISHED SURFACES SHALL HAVE A 3/8" LIP, EXCEPT AREAS WITH BIKE LANES AND MAJOR ARTERIALS, WHERE FINISHED AC SURFACE SHALL BE FLUSH WITH EDGE OF GUTTER.

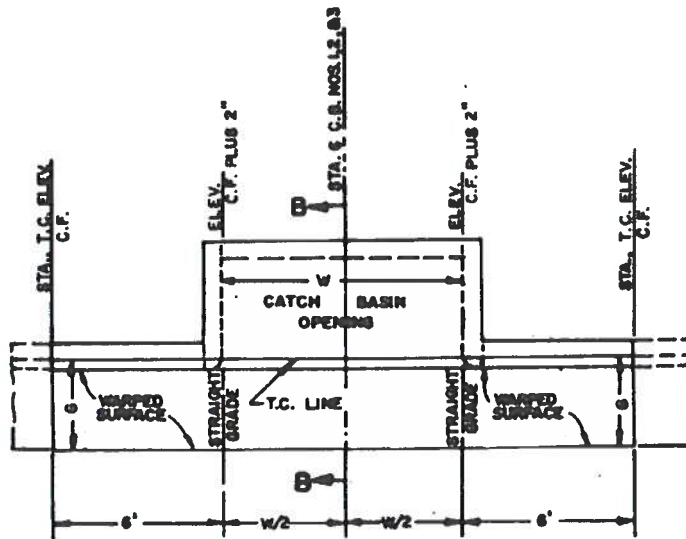
**CITY OF COSTA MESA**  
PUBLIC SERVICES DEPARTMENT

**TYPE "C"**  
**CURB & GUTTER**

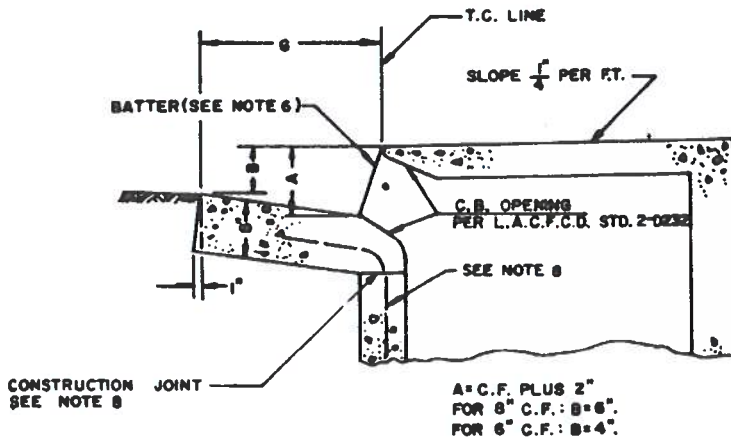


RECOMMENDED  ERNESTO MUNOZ CITY ENGINEER

STD. DWG. NO.  
312



PLAN



SECTION B-B

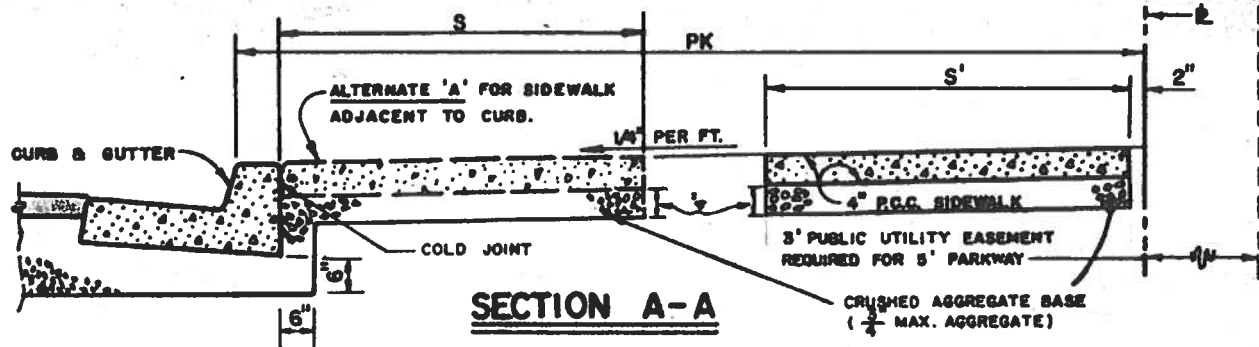
L.A.C.F.C.D. CATCH BASIN NOS 1, 2, & 3

**NOTE:**

1. STATIONS, ELEVATIONS, CURB FACE, "W", AND CATCH BASIN LOCATION ARE AS SHOWN ON IMPROVEMENT PLAN.
2. ALL L.A.C.F.C.D. CATCH BASINS SHALL BE CONSTRUCTED WITH MODIFICATIONS AS SHOWN HEREON UNLESS OTHERWISE INDICATED. BATTER OF ADJOINING CURB SHALL GOVERN OVER THIS STANDARD.
3. COST OF MODIFICATIONS AS SHOWN HEREON SHALL BE INCLUDED IN THE CONTRACT PRICE PAID FOR THE RESPECTIVE CATCH BASIN.
4. CONCRETE SHALL BE CLASS 560 C 3250.
5. "G" SHALL BE THE WIDTH OF THE JOINED EXISTING IMPROVEMENTS OR AS PER PLAN.
6. BATTER SHALL CONFORM TO EXISTING ADJOINING CURB. SEE STD. DWG. NO. 311
7. ELEVATIONS AT OUTER CORNERS AND OUTER EDGE SHALL CONFORM TO FINISHED STREET SURFACE UNLESS OTHERWISE SHOWN ON PLAN.
8. FORM CONSTRUCTION JOINT AND PLACE NO. 4 BARS 24" ON CENTER WITH 12" MINIMUM EMBEDMENT AND BEND ON 4" MINIMUM RADIUS, OR CONSTRUCT LOCAL DEPRESSION AND CATCH BASIN WALL MONOLITHICALLY.

<b>CITY OF COSTA MESA</b> CALIFORNIA PUBLIC SERVICES DEPARTMENT	<b>LOCAL DEPRESSION</b>	DRAWN <u>E.K.S.</u> SCALE <u>NONE</u>
	APPROVED <i>B.D. Mattern</i> DATE <u>11/20/85</u> <small>BRUCE D. MATTERN R.C.E. 18588</small>	STD. DWG. NO. <b>315</b>

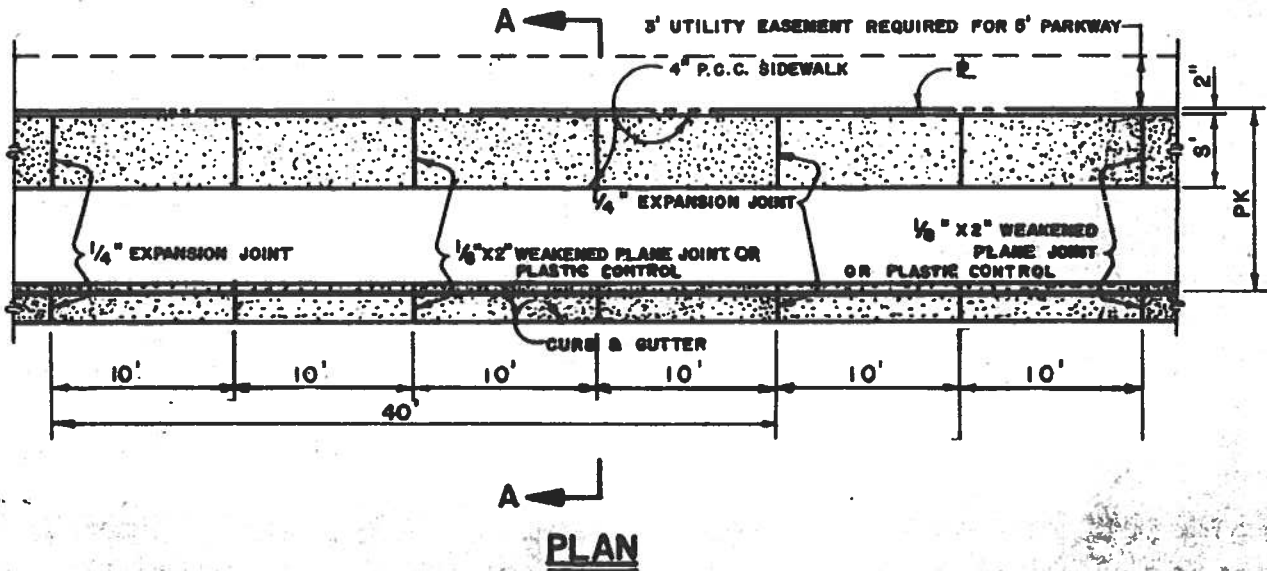
REV. 1



**DIMENSIONS:**

PK = PARKWAY WIDTH	
S = SIDEWALK WIDTH	
50' R/W -- PK = 8'	S = 4'-4"
60' R/W -- PK = 10'	S = 4'-4"
84' R/W -- PK = 7'	S = 4'-4"
106' R/W -- PK = 7'	S = 4'-4"
120' R/W -- PK = 8'	S = 4'-4"
S' = 4'-0"	

RESIDENTIAL, 6'-4" COMMERCIAL & INDUSTRIAL  
 RESIDENTIAL, 6'-4" COMMERCIAL & INDUSTRIAL  
 RESIDENTIAL, 7'-4" COMMERCIAL & INDUSTRIAL

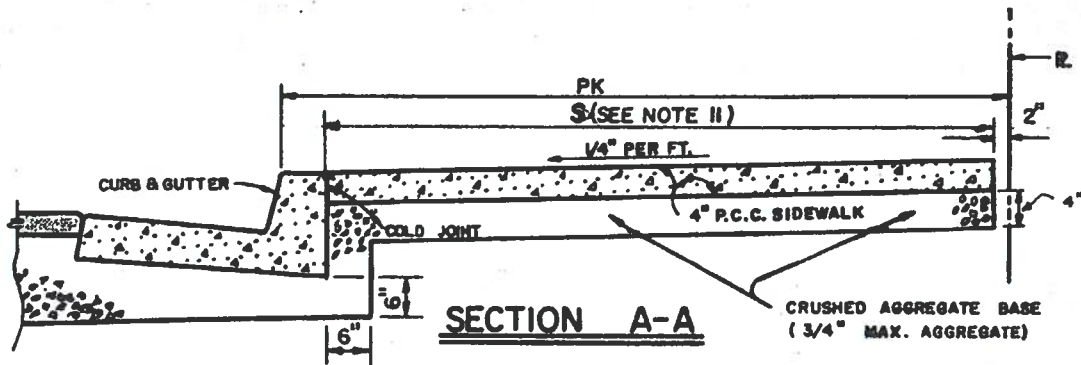


**NOTES:**

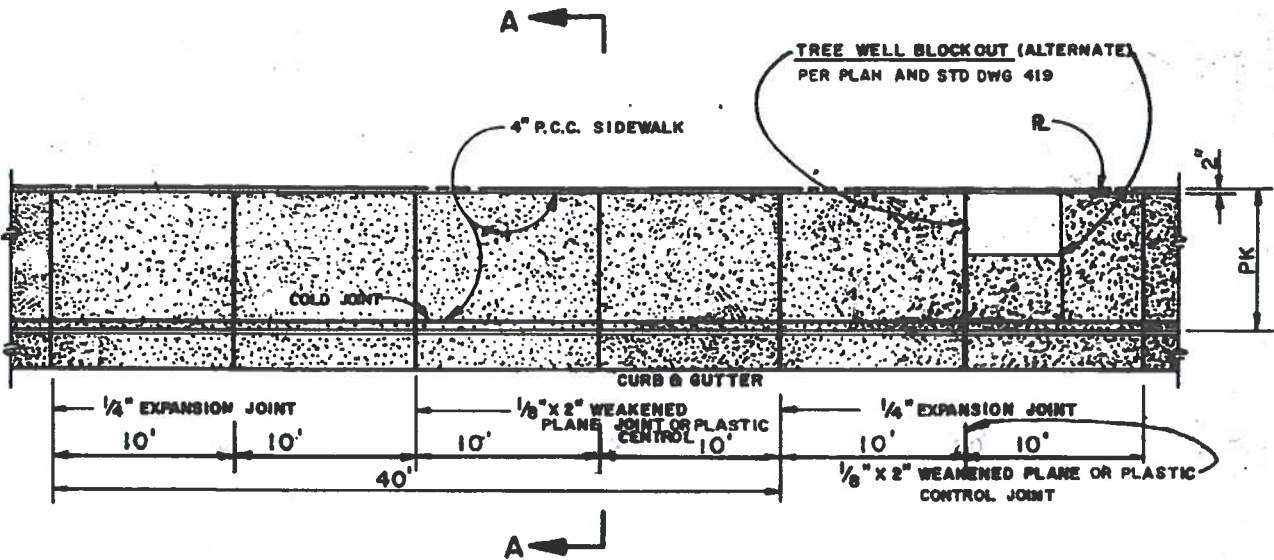
1. 1/4" EXPANSION JOINTS SHALL BE PLACED AT 40' INTERVALS AND AT THE END OF ALL CURB RETURNS.
2. 1/2" X 2" PLASTIC CONTROL OR WEAKENED PLANE JOINTS SHALL BE PLACED AT 10' INTERVALS
3. EXPANSION JOINTS AND WEAKENED PLANE JOINTS FOR SIDEWALK SHALL BE PLACED TO COINCIDE WITH JOINTS OF THE CURB.
4. FOR EXPANSION JOINT AND WEAKENED PLANE JOINT DETAILS, SEE STD. DWG. NO. 314.
5. SIDEWALK THICKNESS IS 4" EXCEPT AT DRIVEWAYS WHERE IT SHALL BE 6" THICK.
6. CONCRETE SHALL BE 520-C-2500 PER CURRENT EDITION OF STANDARD SPECIFICATIONS SEC. 201-1.1.2.
7. 10' INTERVAL BETWEEN TRANSVERSE JOINTS MAY BE VARIED, IF JOINING EXISTING IMPROVEMENTS AND APPROVED BY CITY ENGINEER.
8. WIDEN SIDEWALK TO PROVIDE MIN. CLEAR DISTANCE PER STD. DWG. NO. 413.
9. ALL EXPOSED CORNERS ON SIDEWALK SHALL BE ROUNDED OFF WITH 1/2" RADIUS, EXCEPT AS OTHERWISE SHOWN ON STD. DWG. NO. 314.

<b>CITY OF COSTA MESA</b> CALIFORNIA PUBLIC SERVICES DEPARTMENT	<b>STANDARD SIDEWALK DETAILS</b>	DRAWN <u>W.A.B.</u> SCALE <u>NONE</u> STD. DWG. NO. <u>411</u>
	APPROVED <i>B.D. Mattern</i> DATE <u>4/14/05</u> <small>BRUCE D. MATTERN R.C.E. 19389</small>	

REV.



**DIMENSIONS:**  
 PK = PARKWAY WIDTH  
 60' R/W -- PK = 10'  
 84' R/W -- PK = 7'  
 106' R/W -- PK = 7'  
 120' R/W -- PK = 8'



**PLAN**

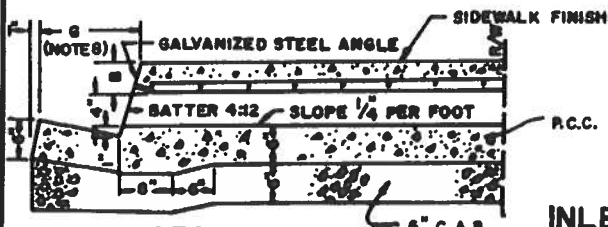
- NOTES:**
- 1/4" EXPANSION JOINTS SHALL BE PLACED AT 40' INTERVALS AND AT THE END OF ALL CURB RETURNS.
  - 1/8" X 2" WEAKENED PLANE OR PLASTIC CONTROL JOINTS SHALL BE PLACED AT 10' INTERVALS.
  - EXPANSION JOINTS AND WEAKENED PLANE JOINTS FOR SIDEWALK SHALL BE PLACED TO COINCIDE WITH JOINTS OF THE CURB.
  - FOR EXPANSION JOINT AND WEAKENED PLANE JOINT DETAILS, SEE STD. DWG. NO. 314.
  - SIDEWALK THICKNESS IS 4" EXCEPT AT DRIVEWAYS WHERE IT SHALL BE 6" THICK.
  - CONCRETE SHALL BE 520 C 2500 PER CURRENT EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION SEC. 201-1.1.2.
  - TREE WELL BLOCKOUTS TO BE CONSTRUCTED W/ LOCATION & SPACING PER PLAN.
  - 30' INTERVAL BETWEEN TRANSVERSE JOINTS MAY BE VARIED IF JOINING EXISTING IMPROVEMENTS.
  - ALL EXPOSED CORNERS ON SIDEWALK SHALL BE ROUNDED WITH 1/2" RADIUS, EXCEPT AS OTHERWISE SHOWN ON STD. DWG. NO. 314.
  - WHEN SIDEWALK TO PROVIDE MIN. CLEAR DISTANCE PER STD. DWG. NO. 412.
  - SIDEWALK WIDTH SHALL BE PER STD. DWG. NO. 411.

REV. 6-25-66 M.R.  
 REV. 2-2-70 C.M.  
 REV. 5-12-74  
 REV. 12-23-75

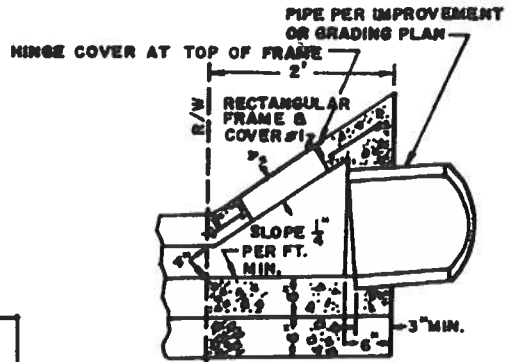
CITY OF COSTA MESA CALIFORNIA PUBLIC SERVICE DEPARTMENT	COMMERCIAL SIDEWALK DETAILS	DRAWN <u>W.A.B.</u> SCALE <u>NONE</u>
	APPROVED <u>[Signature]</u> DATE <u>[Date]</u> BRUCE A. HAYTER R.C.E. 19388	STD. DWG. NO. <b>412</b>

REV.

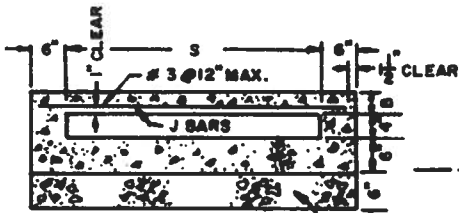




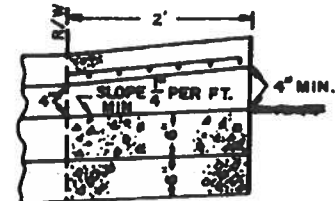
SECTION A-A



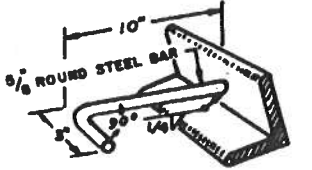
SECTION-INLET TYPE I



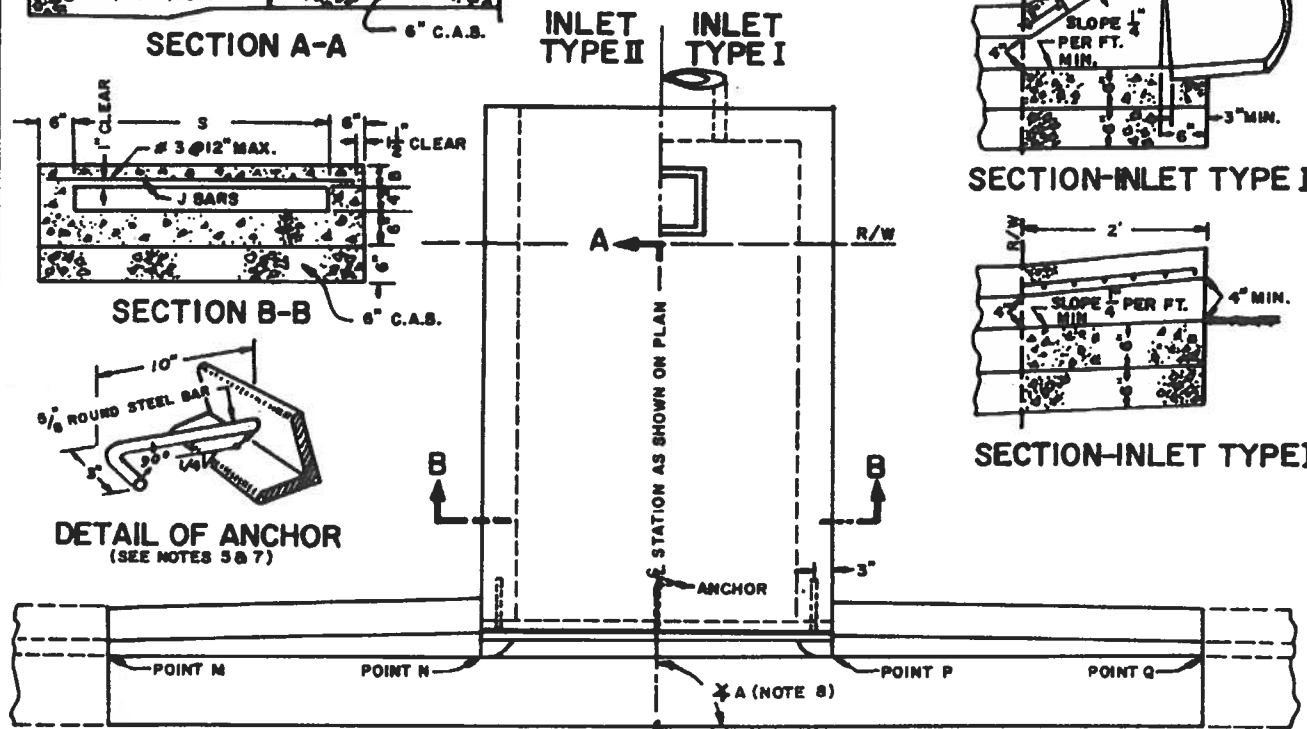
SECTION B-B



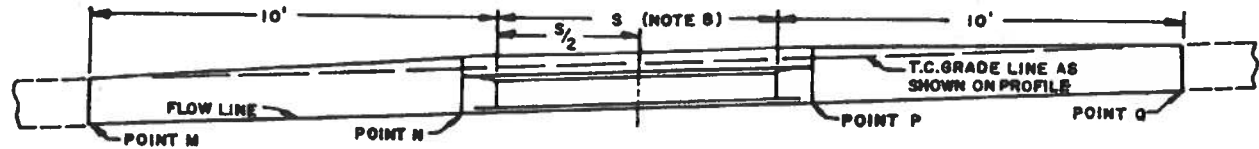
SECTION-INLET TYPE II



DETAIL OF ANCHOR (SEE NOTES 5 & 7)



PLAN



PROFILE

NOTES:

- FLOOR OF BOX TO BE TROWELED SMOOTH.
- WHEN THE TOE OF SLOPE IS WITHIN THE R/W, INLET TYPE I BEGINS AT THE TOE RATHER THAN AT THE R/W LINE.
- FOR OPEN DITCH APPROACH (TYPE II) THE 2' EXTENSION IS NOT REQUIRED WHEN THE BACK OF WALK IS 2' OR MORE FROM THE R/W LINE.
- TOP OF INLET STRUCTURE (TYPE I & II) TO BE FLUSH WITH ADJACENT SURFACE WHERE PRACTICABLE.
- A HEADED STEEL STUD  $\frac{3}{4} \times 6$  WITH HEAD  $D=1$  ATTACHED BY A FULL PENETRATION BUTT WELD MAY BE USED AS AN ALTERNATE ANCHOR.
- NORMAL CURB FACE AT POINT M AND Q,  $B=5$  AT POINT N AND P.
- THE 3" LEG OF THE INTERIOR ANCHORS SHALL BE PARALLEL TO THE TOP OF SIDEWALK.
- G, S, AND  $\frac{3}{4}A$  SHALL BE PER IMPROVEMENT PLANS.
- CURB BATTER SHALL CONFORM TO EXISTING ADJOINING CURB. SEE STD. DWG. NO. 311.
- CONCRETE SHALL BE CLASS 560 C 3250.

STEEL LIST

S	B	GALVANIZED STEEL ANGLE	ANCHOR	J BAR FOR SPACING	LENGTH
1'-0"	3"	2" x 2" x 1/4"	2	5/8"	7"
1'-6"	"	"	"	"	2'-3"
2'-0"	"	"	"	"	2'-0"
2'-6"	"	"	"	"	2'-3"
3'-0"	"	"	2	"	3'-0"
3'-6"	"	"	"	"	4'-3"
4'-0"	"	"	"	"	4'-0"
4'-6"	4"	3" x 3" x 1/4"	"	"	6'-3"
5'-0"	"	"	"	"	6'-0"
5'-6"	"	"	"	4"	6'-3"
6'-0"	"	"	"	3/4"	6'-0"

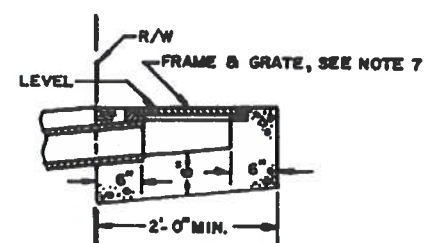
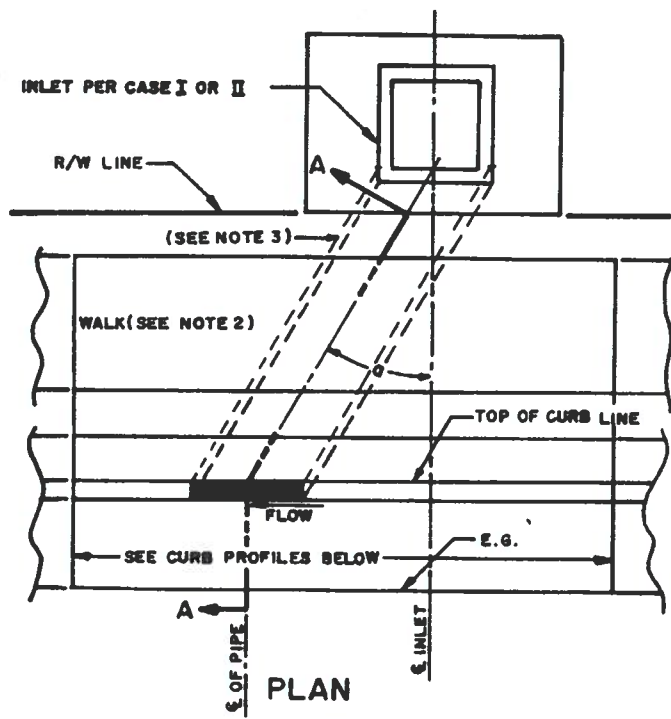
CITY OF COSTA MESA  
CALIFORNIA  
PUBLIC SERVICES DEPARTMENT

PARKWAY DRAIN NO. I

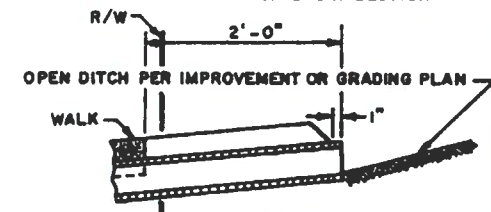
DRAWN E.K.S.  
SCALE NONE  
STD. DWG. NO. 417

APPROVED *B.D. Matten* DATE 12/3/55  
BRUCE D. MATTEON R.C.E. 1939

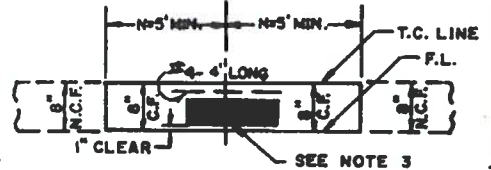
REV



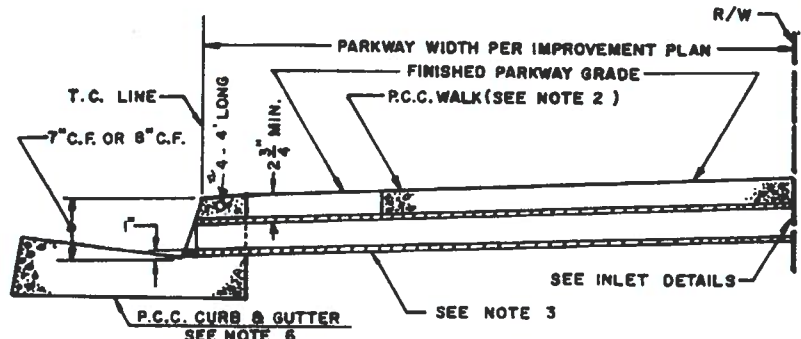
**CASE I INLET**  
DROP INLET CATCH BASIN SECTION



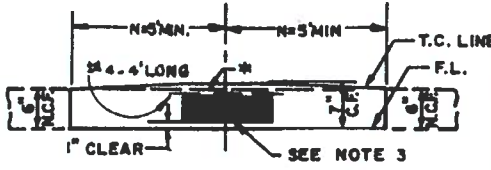
**CASE II INLET**  
GRADED DITCH SECTION



**CURB PROFILE**  
6" NORMAL CURB FACE



**SECTION A-A**



**CURB PROFILE**  
6" NORMAL CURB FACE

**NOTE:**

1. TOP OF INLET STRUCTURE(CASE I) TO BE FLUSH WITH ADJACENT SURFACE.
2. CONSTRUCT P.C.C. WALK AND CURB AND GUTTER AS SPECIFIED ON PLAN. MINIMUM REPLACEMENT OF WALK AND CURB AND GUTTER SHALL BE FROM JOINT TO JOINT OR AS DIRECTED BY THE CITY ENGINEER. SEE STD. DWG. NO. 314, THE CONTRACT PRICE PAID FOR P.C.C. WALK ITEM SHALL INCLUDE WALK CONSTRUCTED IN CONJUNCTION WITH PARKWAY CULVERT.
3. ONE CIRCULAR PIPE SHALL BE PLACED AT A LOCATION OTHERWISE, THE PIPE SHALL BE ALHAMBRA FOUNDRY A470 OR EQUAL WITH THE SIZE AS SPECIFIED ON PLAN, FOR SIZES OTHER THAN 3" X 5, 9, 12" N SHALL BE 10" AND C.F. OVER PIPE SHALL BE INCREASED 1" FOR 1".
4. INLET CASE TO BE SPECIFIED ON IMPROVEMENT OR GRADING PLAN.
5. ANGLE "O" EQUALS 0° UNLESS OTHERWISE SPECIFIED.
6. TYPE, DIMENSIONS, AND ELEVATIONS OF P.C.C. CURB AND GUTTER PER IMPROVEMENT PLAN.
7. UNLESS OTHERWISE SPECIFIED, FRAME AND GRATE FOR INLET CASE I SHALL BE ALHAMBRA FOUNDRY 14" X 24" TYPE A-2422 (GALVANIZED) OR EQUAL, PLACED LEVEL.
8. CONCRETE SHALL BE CLASS 520C 2500.

**CITY OF COSTA MESA**  
CALIFORNIA  
PUBLIC SERVICES DEPARTMENT

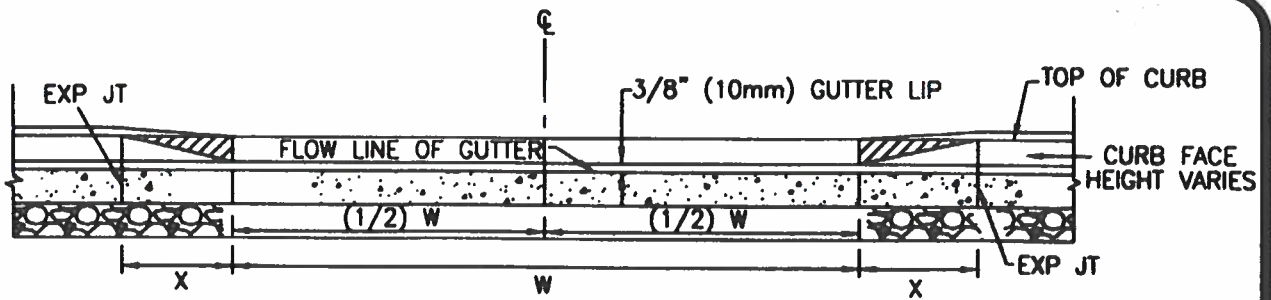
**PARKWAY DRAIN NO.2**

DRAWN E.K.S.  
SCALE NONE  
STD. DWG. NO. 418

APPROVED *BD Mattern* DATE 12/13/85  
BRUCE D. MATTERN R.C.R. 10300

REV





## SECTION B-B

N.T.S.

### DIMENSIONS

W=10' (3.05m) MIN - 16' (4.88m) MAX FOR RESIDENTIAL DRIVEWAYS.

X= 4' (1.22m) FOR 6" (153mm) CURB FACE.

X= 5' (1.52m) FOR 8" (204mm) CURB FACE.

### NOTES:

1. ALL DRIVEWAY LOCATIONS AND DIMENSIONS SHALL BE APPROVED BY THE TRANSPORTATION SERVICES DIVISION.
2. THERE SHALL BE ONE DRIVEWAY PER PROPERTY.
3. CONCRETE SHALL BE CLASS 560-C-3250 PER LATEST EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION SEC. 201-1.
4. DEPRESSED CURB IS STRAIGHT GRADED WITH 3/8" (10mm) GUTTER LIP.
5. BASED UPON EXISTING SOIL CONDITIONS, THE CITY ENGINEER MAY REQUIRE A KEYWAY AT BACK OF CURB.
6. FOR JOINT DETAILS AND KEYWAY DETAIL, SEE STD DWG NO 314.
7. ALL PARTIAL DRIVEWAY RECONSTRUCTION SHALL REQUIRE TIE BARS (#4 x 24") AT 24" ON CENTER.
8. FOR A 5' (1.52m) PARKWAY, A 3' (914mm) PUBLIC SIDEWALK EASEMENT IS REQUIRED AT THE BACK OF RIGHT-OF-WAY/PROPERTY LINE.

CITY OF COSTA MESA  
PUBLIC SERVICES DEPARTMENT

RESIDENTIAL  
DRIVEWAY APPROACH  
TYPE I



APPROVED BY:

*Ernesto Lopez*  
ERNESTO LOPEZ CITY ENGINEER

*William Morrey* 1/10/03  
WILLIAM MORREY DIRECTOR OF PUBLIC SERVICES

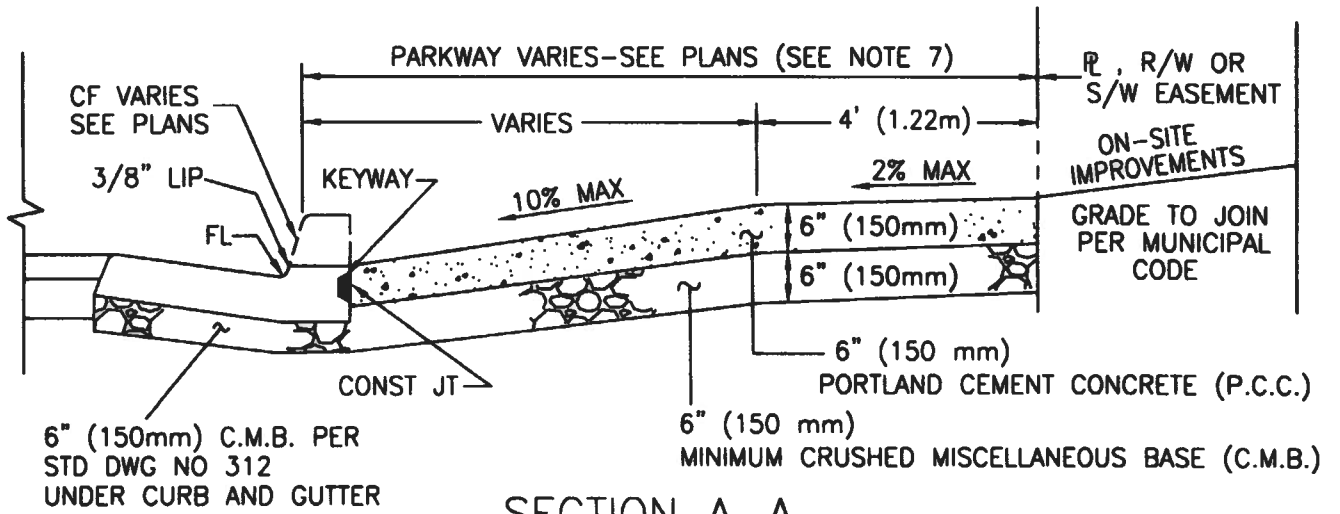
STD. DWG. NO.

513

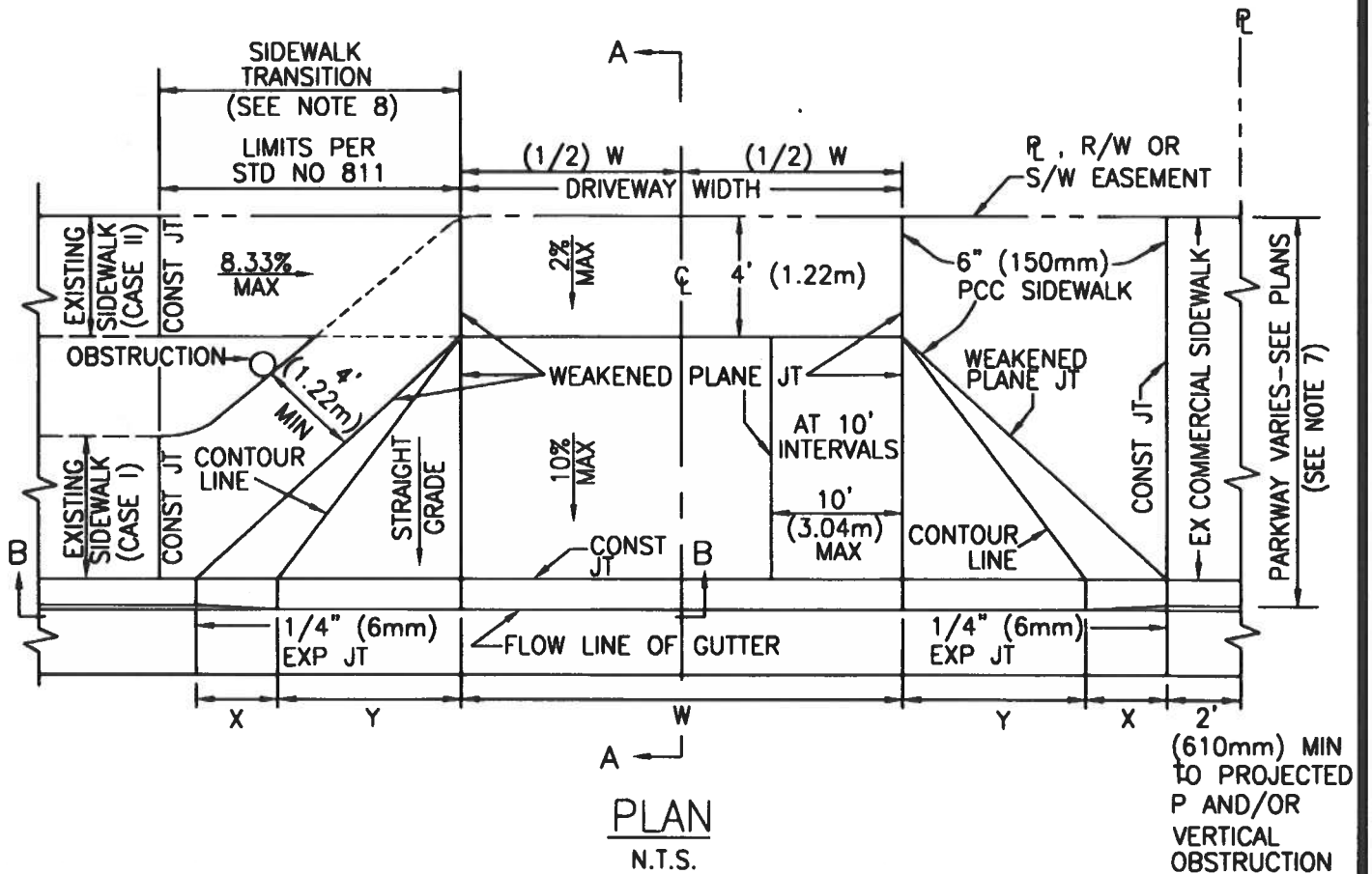
FILE NAME: STD-513.DWG

REVISED:

SHT. 2 OF 2



SECTION A-A  
N.T.S.



CITY OF COSTA MESA  
PUBLIC SERVICES DEPARTMENT

DRIVEWAY APPROACH-TYPE II  
COMMERCIAL AND MULTI-USE



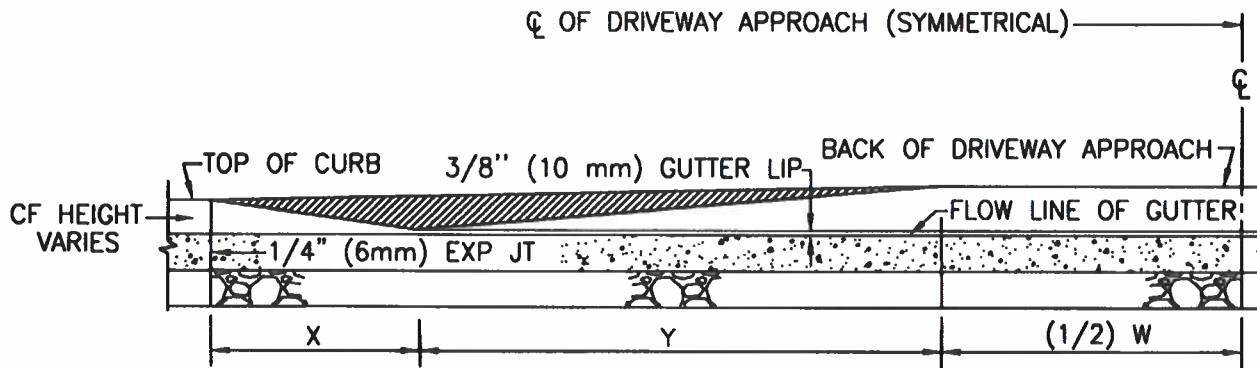
APPROVED:

ERNESTO MUNOZ CITY ENGINEER

WILLIAM MORRIS DIRECTOR OF PUBLIC SERVICES

STD. DWG. NO.

514



## SECTION B-B

N.T.S.

### DIMENSIONS

W = 16' (4.88m) MIN - 26' (7.92m) MAX FOR ALL DRIVEWAYS.

X = 4' (1.22m) FOR 6" (150mm) CURB FACE.

X = 5' (1.52m) FOR 8" (200mm) CURB FACE.

Y = 7' (2.13m) ON MASTER PLAN STREETS

Y = 4' (1.22m) ON RESIDENTIAL, NON-MASTER PLAN STREETS.

### NOTES:

1. ALL DRIVEWAY LOCATIONS AND DIMENSIONS SHALL BE APPROVED BY THE TRANSPORTATION SERVICES DIVISION.
2. CONCRETE SHALL BE CLASS 560-C-3250 PER LATEST EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION SEC. 201-1.
3. DEPRESSED CURB IS STRAIGHT GRADED WITH 3/8" (10mm) GUTTER LIP.
4. BASED UPON EXISTING SOIL CONDITIONS, THE CITY ENGINEER MAY REQUIRE A KEYWAY AT BACK OF CURB.
5. FOR JOINT DETAILS AND KEYWAY DETAIL, SEE STD DWG NO 314.
6. ALL PARTIAL DRIVEWAY RECONSTRUCTION SHALL REQUIRE TIE BARS (#4 x 24") AT 24" ON CENTER.
7. FOR A 5' (1.52m) PARKWAY, A 3' (914mm) PUBLIC SIDEWALK EASEMENT IS REQUIRED AT THE BACK OF PROPERTY/RIGHT-OF-WAY LINE.
8. CASE I - SIDEWALK ADJACENT TO CURB AND GUTTER. NO GREENBELT.  
CASE II - EXISTING GREENBELT BETWEEN SIDEWALK AND CURB AND GUTTER.

CITY OF COSTA MESA  
PUBLIC SERVICES DEPARTMENT

DRIVEWAY APPROACH-TYPE II  
COMMERCIAL AND MULTI-USE

  
Costa Mesa

APPROVED:

  
ERNESTO MUNOZ CITY ENGINEER

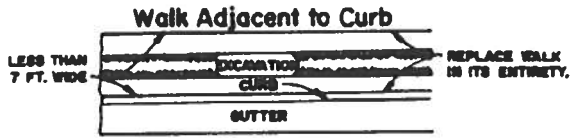
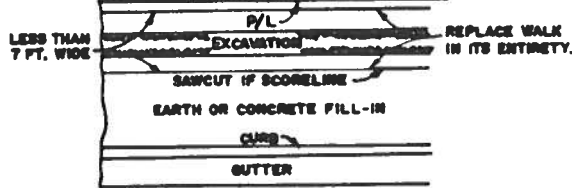
  
WILLIAM MORRIS DIRECTOR OF PUBLIC SERVICES

STD. DWG. NO.

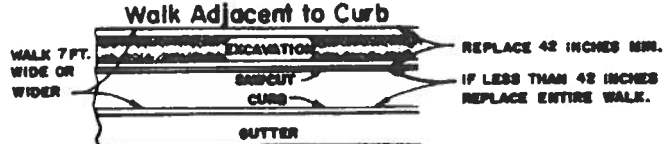
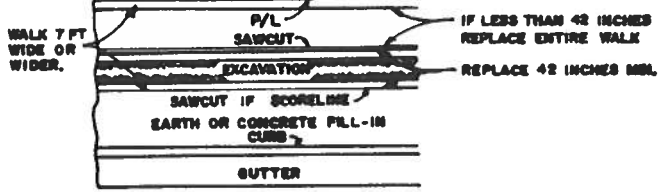
514

# WALK OR FILL-IN REPLACEMENT FOR EXCAVATIONS MADE PARALLEL TO CURB OR PROPERTY LINE.

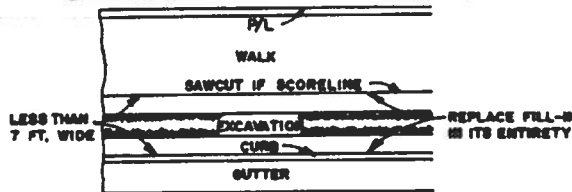
## A. WALK LESS THAN 7 FT. WIDE Walk Adjacent to Property Line



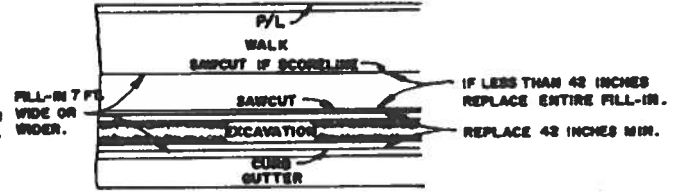
## C. WALK 7 FT. WIDE OR WIDER Walk Adjacent to Property Line



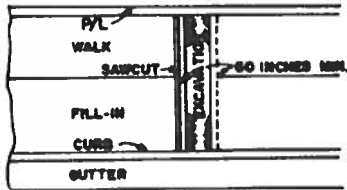
## B. FILL IN LESS THAN 7 FT. WIDE



## D. FILL IN 7 FT. WIDE OR WIDER



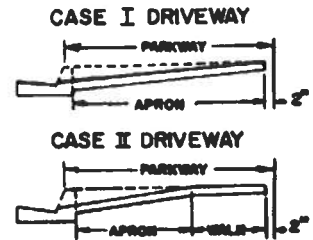
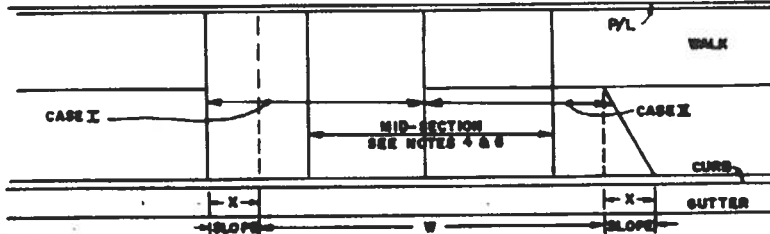
# WALK OR FILL-IN REPLACEMENT FOR EXCAVATIONS MADE NORMAL TO CURB OR PROPERTY LINE. (THESE REQUIREMENTS ALSO APPLY TO ENDS OF PARALLEL EXCAVATIONS)



IF AN EXCAVATION FALLS WITHIN 60 INCHES OF AN EXPANSION JOINT, CONSTRUCTION JOINT, WEAKENED PLANE JOINT, CRACK OR EDGE, THE CONCRETE SHALL BE REMOVED AND REPLACED TO THE JOINT, CRACK OR EDGE.

IF AN EXCAVATION FALLS WITHIN 30 INCHES OF A SCORELINE, THE CONCRETE SHALL BE REMOVED AND REPLACED TO THE SCORELINE. THE SCORELINE SHALL BE SAWCUT PRIOR TO REMOVAL. THE MINIMUM LENGTH OF REPLACEMENT IN BOTH CASES SHALL BE 60 INCHES.

## DRIVEWAY REPLACEMENT



**NOTES:**

1. CONCRETE WALK, FILL-IN AND DRIVEWAYS REMOVED IN CONNECTION WITH CONSTRUCTION SHALL BE REPLACED TO "NEATLY SAWED EDGES." SAWCUTS SHALL BE A MINIMUM OF ONE HALF THE THICKNESS IN CONCRETE OVER 4" THICK AND 2" DEEP IN CONCRETE 4" OR LESS IN THICKNESS. ALL CUTS SHALL BE PARALLEL TO OR PERPENDICULAR TO THE CURB; ON CURVES, THE CUT SHALL BE RADIAL TO THE CURB.
2. A SCORELINE OR MARK IS DEFINED AS A LINE MADE WITH A JOINTER TOOL 1/2" DEEP OR LESS AND NO MORE THAN 1/8" WIDE.
3. DRIVEWAY APRONS IN WHICH THE "W" DISTANCE IS LESS THAN 11' SHALL BE REPLACED IN THEIR ENTIRETY IF CUT IN ANY AREA.
4. DRIVEWAY APRONS IN WHICH THE "W" DISTANCE IS 11' OR MORE MAY BE CUT IN THE MID-SECTION AREA. THE MINIMUM REPLACEMENT SHALL BE 66" IN LENGTH, IF APPROVED BY CITY ENGINEER.
5. DRIVEWAY APRONS IN WHICH THE "W" DISTANCE IS 20' OR MORE MAY BE CUT IN THIRDS IF APPROVED BY THE CITY ENGINEER.
6. DRIVEWAY APRONS SHALL BE REPLACED FROM THE BACK OF THE CURB TO THE BACK EDGE OF THE APRON.
7. WALK PORTIONS OF DRIVEWAYS SHALL BE REPLACED AS SHOWN ABOVE FOR EXCAVATIONS MADE PARALLEL OR NORMAL TO CURB.
8. ALL CONCRETE WORK SHALL CONFORM TO THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND CITY OF COSTA MESA STANDARD DRAWINGS.
9. CONCRETE SHALL BE 320C 2500 PER CURRENT EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION SECTION 201-1.1.2

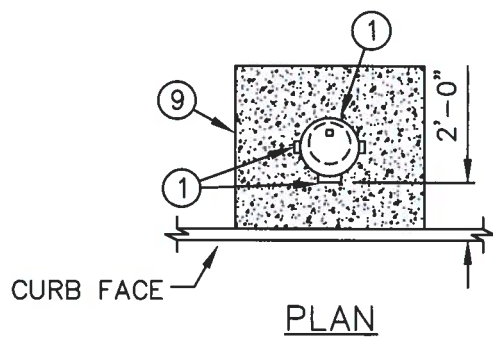
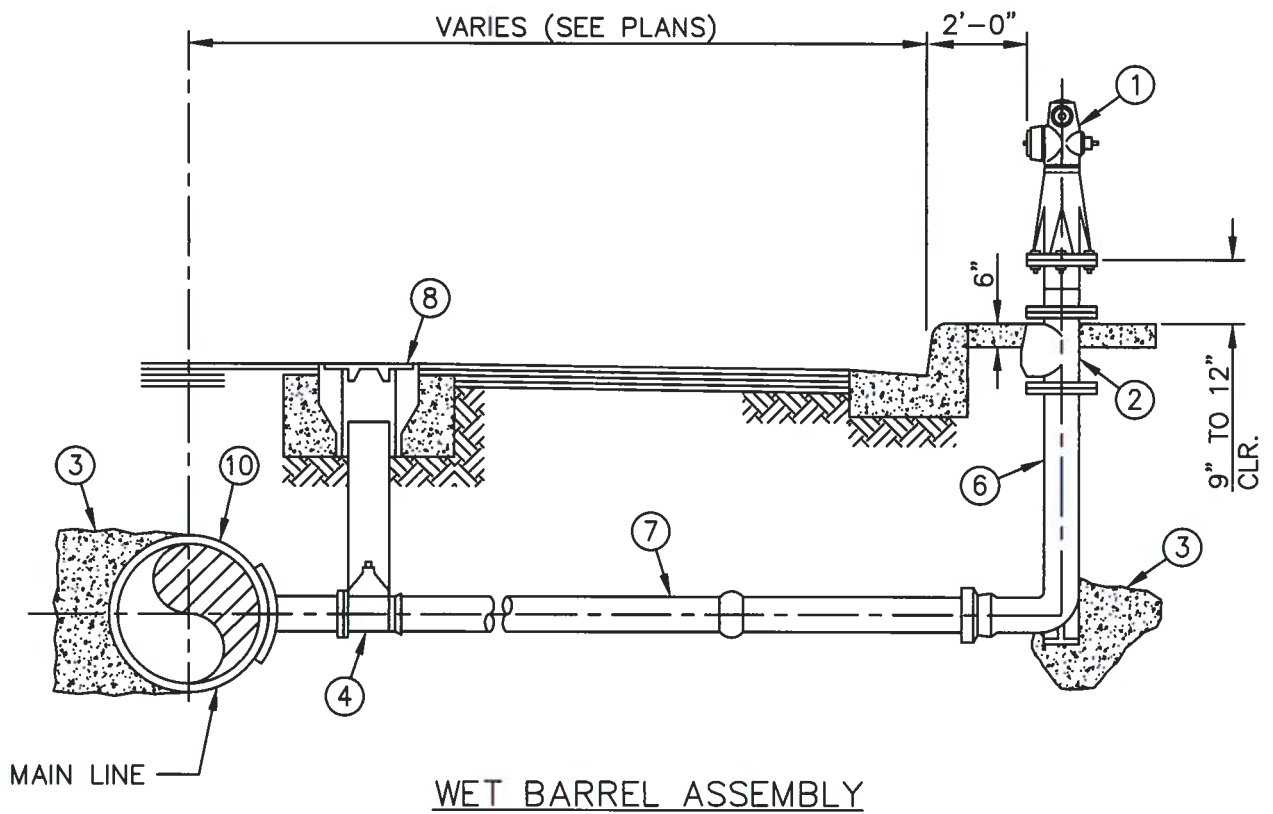
**CITY OF COSTA MESA**  
CALIFORNIA  
PUBLIC SERVICES DEPARTMENT

## SIDEWALK & DRIVEWAY REPLACEMENT

APPROVED: *BDM* DATE: 12/13/85  
BRUCE D. MATTHEW E.C.S. 12/13/85

DRAWN: E.C.S.  
SCALE: NONE  
STD. DWG. NO.: 811

REV.



**GENERAL NOTES:**

1. F.H. SHALL BE PAINTED PER TECHNICAL SPECIFICATION 09900 (PAINTING AND COATING)
2. PROVIDE A MINIMUM OF FOUR (4) FEET OF HORIZONTAL CLEARANCE BETWEEN FIRE HYDRANT AND ALL OTHER ADJACENT ABOVE GROUND FEATURES.
3. LOCATE 4" OUTLET PERPENDICULAR TO THE CURB LINE.

**LEGEND OF MATERIAL:**

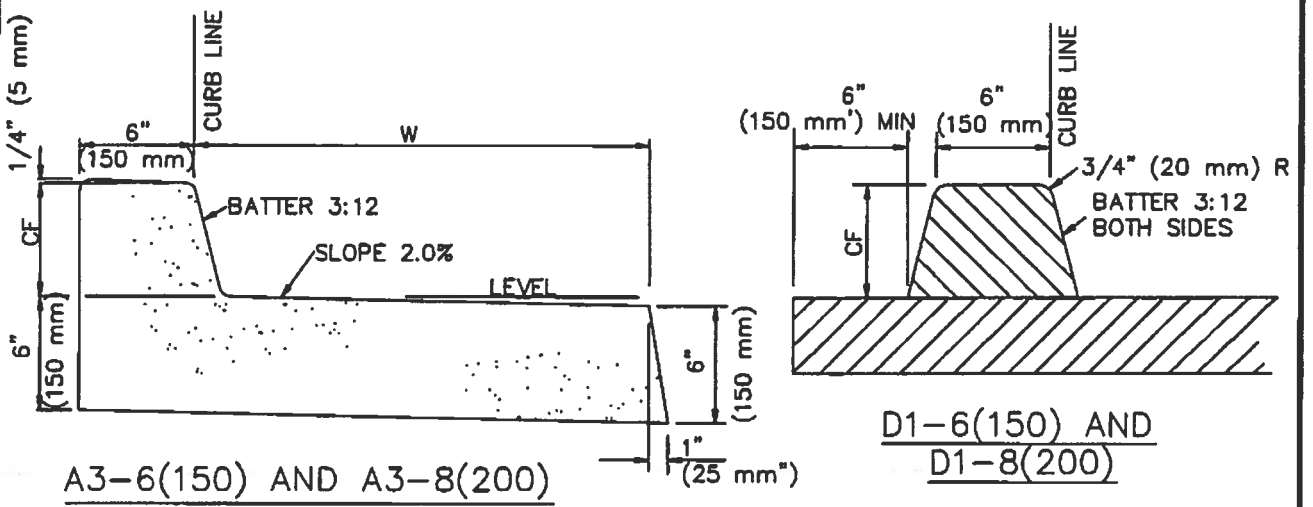
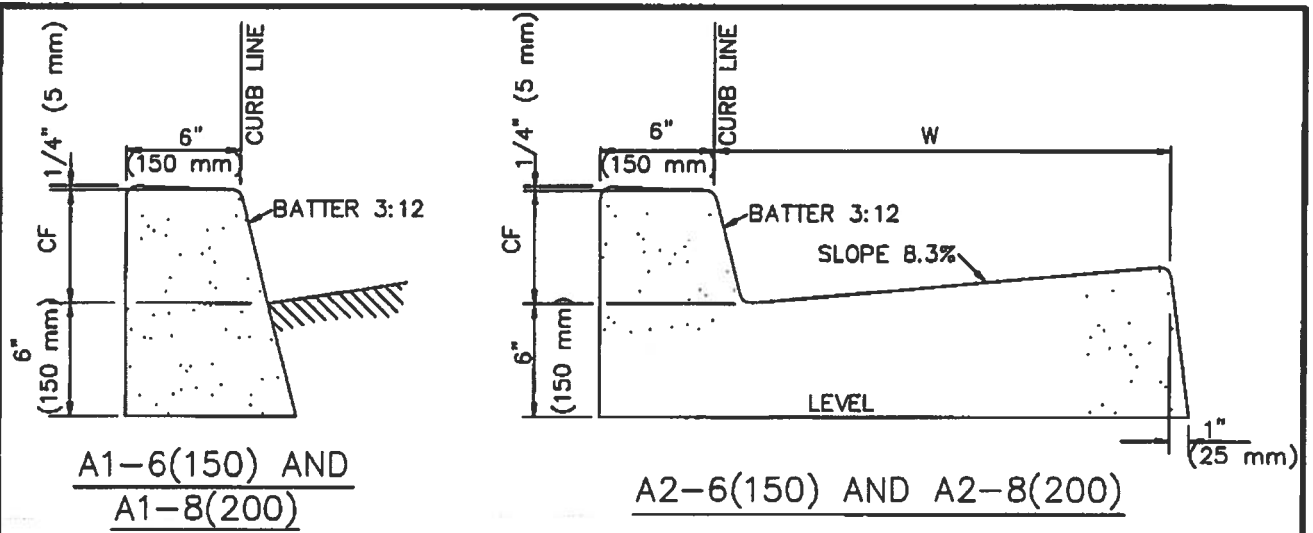
**ITEM NO. SIZE & DESCRIPTION**

- ① WET BARREL FIRE HYDRANT ASSEMBLY BURY W/ONE 4" OUTLET AND TWO 2-1/2" OUTLETS OR ONE 4" OUTLET & ONE 2 1/2" OUTLET (RESIDENTIAL AREAS).
- ② BREAK-OFF CHECK VALVE.
- ③ THRUST BLOCK PER STD DWG NO. 12.
- ④ 6" R.W. GATE VALVE (FLG X PO)
- ⑤ NOT USED
- ⑥ 6" D.I. FLG. x P.O. WET BARREL BURY.
- ⑦ 6" AWWA C-900 PVC, DR-14
- ⑧ TRAFFIC VALVE BOX PER STD DWG NO. 14A
- ⑨ 4'x 4'x 4" CONCRETE PAD OR SIDEWALK.
- ⑩ MAIN LINE SIZE X 6" D.I. TEE (PO X FLG) FOR EXISTING WATER MAIN, SEE STD DWG NO. 6

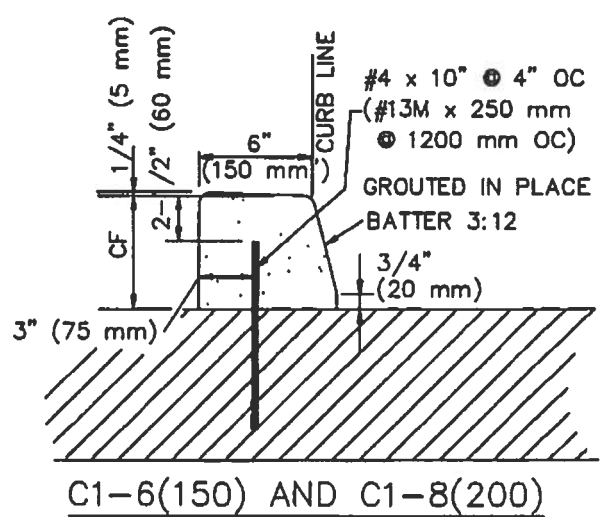
mcwd#4.dwg 04/02/2018

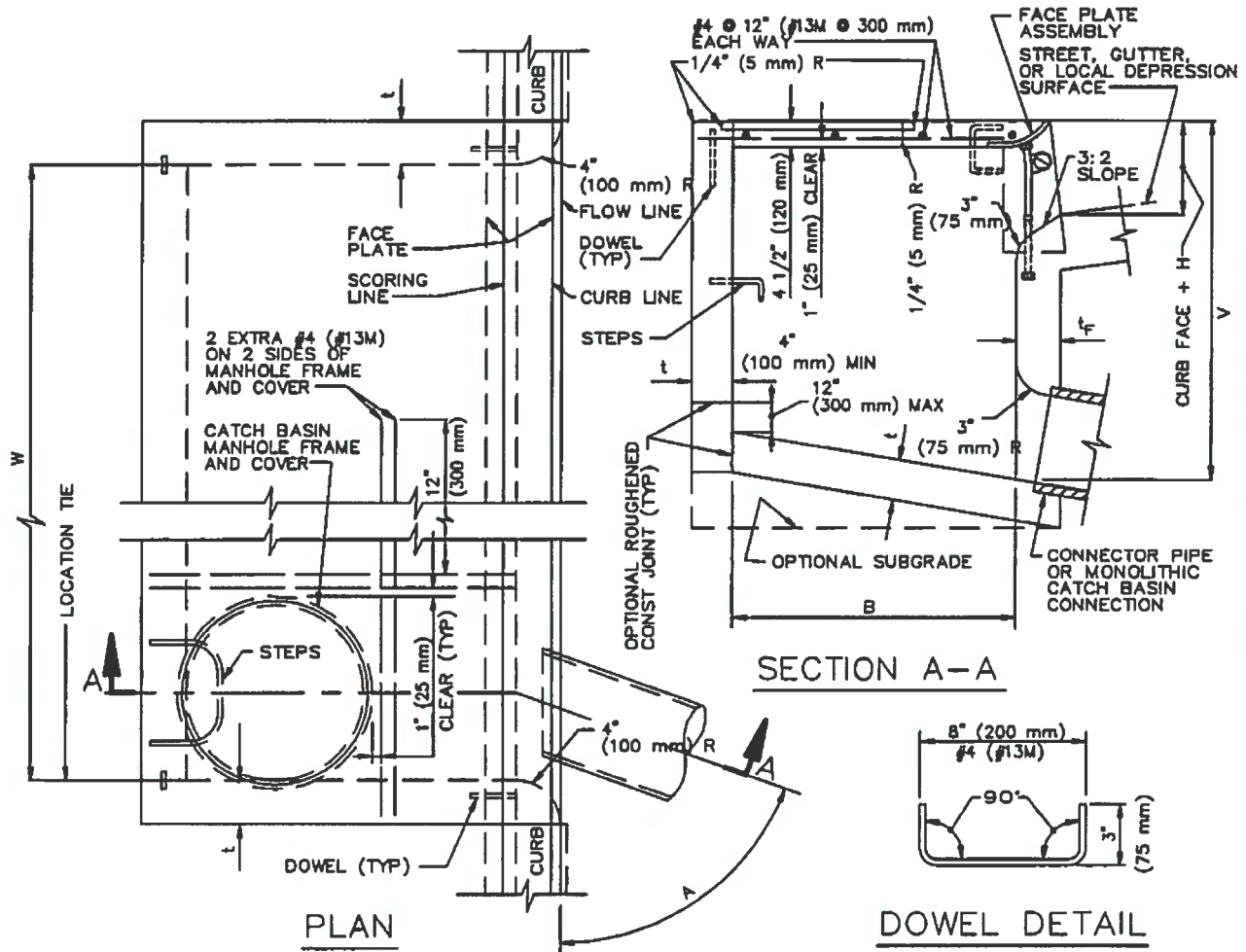
<b>MESA WATER DISTRICT</b>	<b>STANDARD FIRE HYDRANT INSTALLATION</b>	DRAWN BY: RJW	STANDARD DRAWING
		DATE: APR 2018	<b>4</b>





- NOTES:
1. THE LAST NUMBER IN THE DESIGNATION IS THE CURB FACE (CF) HEIGHT, INCHES (mm).
  2. GUTTER WIDTH, W, IS 24" (600 mm) UNLESS OTHERWISE SPECIFIED.
  3. TYPES A1, A2, A3 AND C1 SHALL BE CONSTRUCTED FROM PCC.
  4. TYPE D1 CURB SHALL BE CONSTRUCTED FROM ASPHALT CONCRETE.
  5. TYPE C1 CURB SHALL BE ANCHORED WITH STEEL DOWELS AS SHOWN OR WITH AN EPOXY APPROVED BY THE ENGINEER.
  6. ALL EXPOSED CORNERS ON PCC CURBS AND GUTTERS SHALL BE ROUNDED WITH A 1/2" (15 mm) RADIUS.





STRUCTURAL DATA							
WALL AND SLAB DIMENSIONS AND REINFORCEMENT REQUIREMENTS							
MAX W	MAX V	t	t <sub>F</sub>	REINFORCEMENT REQUIRED IN			
				FRONT WALL	REAR WALL	BOTTOM SLAB	END WALL
3.5' (1.0 m)	8' (2.4 m)	6" (150 mm)	6" (150 mm)	NO REINFORCEMENT REQUIRED			
3.5' (1.0 m)	12' (3.5 m)	8" (200 mm)	8" (200 mm)				
7' (2.0 m)	8' (1.8 m)	6" (150 mm)	6" (150 mm)				
7' (2.0 m)	12' (3.5 m)	8" (200 mm)	8" (200 mm)				
14' (4.0 m)	4' (1.2 m)	6" (150 mm)	6" (150 mm)				
	8' (2.4 m)	6" (150 mm)	8" (200 mm)				
6 m (21') AND 9 m (28')	12' (3.5 m)	8" (200 mm)	10" (250 mm)				
	4' (1.2 m)	6" (150 mm)	6" (150 mm)				
	6' (1.8 m)	6" (150 mm)	8" (200 mm)				
	8' (2.4 m)	8" (200 mm)	8" (200 mm)				
	10' (3.0 m)	8" (200 mm)	10" (250 mm)				
	12' (3.5 m)	8" (200 mm)	10" (250 mm)				

FOR W > 28' (9 m), V > 12' (3.5 m) OR B > 4' (1.2 m) SEE PLANS

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE PUBLIC WORKS STANDARDS, INC., GREENBOOK COMMITTEE 1984 REV. 1992, 1996, 2008

CURB OPENING CATCH BASIN

STANDARD PLAN

300-3

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

SHEET 1 OF 2

**NOTES:**

1. WHERE THE BASIN IS TO BE CONSTRUCTED WITHIN THE LIMITS OF EXISTING OR PROPOSED SIDEWALK OR IS CONTIGUOUS TO SUCH SIDEWALK, THE TOP SLAB OF THE BASIN MAY BE POURED EITHER MONOLITHIC WITH THE SIDEWALK OR SEPARATELY, USING THE SAME CLASS OF CONCRETE AS IN THE BASIN. WHEN POURED MONOLITHICALLY, THE SIDEWALK SHALL BE PROVIDED WITH A WEAKENED PLANE OR A 1" (25 mm) DEEP SAWCUT CONTINUOUSLY AROUND THE EXTERNAL PERIMETER OF THE CATCH BASIN WALLS, INCLUDING ACROSS THE FULL WIDTH OF THE SIDEWALK. SURFACE OF ALL EXPOSED CONCRETE SHALL CONFORM IN SLOPE, GRADE, COLOR, FINISH, AND SCORING TO EXISTING OR PROPOSED CURB AND WALK ADJACENT TO THE BASIN.
2. ALL CURVED CONCRETE SURFACES SHALL BE FORMED BY CURVED FORMS, AND SHALL NOT BE SHAPED BY PLASTERING.
3. FLOOR OF BASIN SHALL BE GIVEN A STEEL TROWEL FINISH AND SHALL HAVE A LONGITUDINAL AND LATERAL SLOPE OF 1:12 MINIMUM AND 1:3 MAXIMUM, EXCEPT WHERE THE GUTTER GRADE EXCEEDS 8%, IN WHICH CASE THE LONGITUDINAL SLOPE OF THE FLOOR SHALL BE THE SAME AS THE GUTTER GRADE. SLOPE FLOOR FROM ALL DIRECTIONS TO THE OUTLET.
4. DIMENSIONS:
  - B = 3'-2" (970 mm)
  - V = THE DIFFERENCE IN ELEVATION BETWEEN THE TOP OF THE CURB AND THE INVERT OF THE CATCH BASIN AT THE OUTLET = 4.5' (1.35 m).
  - V<sub>U</sub> = THE DIFFERENCE IN ELEVATION BETWEEN THE TOP OF THE CURB AND THE INVERT AT THE UPSTREAM END OF THE BASIN, AND SHALL BE DETERMINED BY THE REQUIREMENTS OF NOTE 3, BUT SHALL NOT BE LESS THAN CURB FACE PLUS 12" (300 mm).
  - V<sub>I</sub> = THE DIFFERENCE IN ELEVATION BETWEEN THE TOP OF THE CURB AND THE INVERT OF THE INLET, NOTED ON THE PLANS.
  - H = NOTED ON THE PLANS.
  - W = NOTED ON THE PLANS.
  - A = THE ANGLE, IN DEGREES, INTERCEPTED BY THE CENTERLINE OF THE CONNECTOR PIPE AND THE CATCH BASIN WALL TO WHICH THE CONNECTOR PIPE IS ATTACHED.
5. PLACE CONNECTOR PIPES AS INDICATED ON THE PLANS. UNLESS OTHERWISE SPECIFIED, THE CONNECTOR PIPE SHALL BE LOCATED AT THE DOWNSTREAM END OF THE BASIN. WHERE THE CONNECTOR PIPE IS SHOWN AT A CORNER, THE CENTERLINE OF THE PIPE SHALL INTERSECT THE INSIDE CORNER OF THE BASIN. THE PIPE MAY BE CUT AND TRIMMED AT A SKEW NECESSARY TO INSURE MINIMUM 3" (80 mm) PIPE EMBEDMENT, ALL AROUND, WITHIN THE CATCH BASIN WALL, AND 3" (75 mm) RADIUS OF ROUNDING OF STRUCTURE CONCRETE, ALL AROUND, ADJACENT TO PIPE ENDS. A MONOLITHIC CATCH BASIN CONNECTION SHALL BE USED TO JOIN THE CONNECTOR PIPE TO THE CATCH BASIN WHENEVER ANGLE "A" IS LESS THAN 70° OR GREATER THAN 110°, OR WHENEVER THE CONNECTOR PIPE IS LOCATED IN A CORNER. THE OPTIONAL USE OF A MONOLITHIC CATCH BASIN CONNECTION IN ANY CASE IS PERMITTED. MONOLITHIC CATCH BASIN CONNECTIONS MAY BE CONSTRUCTED TO AVOID CUTTING STANDARD LENGTHS OF PIPE.
6. STEPS SHALL BE LOCATED AS SHOWN. IF THE CONNECTOR PIPE INTERFERES WITH THE STEPS, THEY SHALL BE LOCATED AT THE CENTERLINE OF THE DOWNSTREAM END WALL. STEPS SHALL BE SPACED 12" (300 mm) APART. THE TOP STEP SHALL BE 7" (175 mm) BELOW THE TOP OF THE MANHOLE AND PROJECT 2-1/2" (65 mm). ALL OTHER STEPS SHALL PROJECT 5" (130 mm).
7. DOWELS ARE REQUIRED AT EACH CORNER AND AT 7' (2 m) ON CENTER (MAXIMUM) ALONG THE BACKWALL.
8. THE FOLLOWING SPPWC ARE INCORPORATED HEREIN:
  - 308 MONOLITHIC CATCH BASIN CONNECTION
  - 309 CATCH BASIN REINFORCEMENT
  - 310 CATCH BASIN FACE PLATE ASSEMBLY AND PROTECTION BAR
  - 312 CATCH BASIN MANHOLE FRAME AND COVER
  - 635 STEEL STEP
  - 636 POLYPROPYLENE PLASTIC STEP

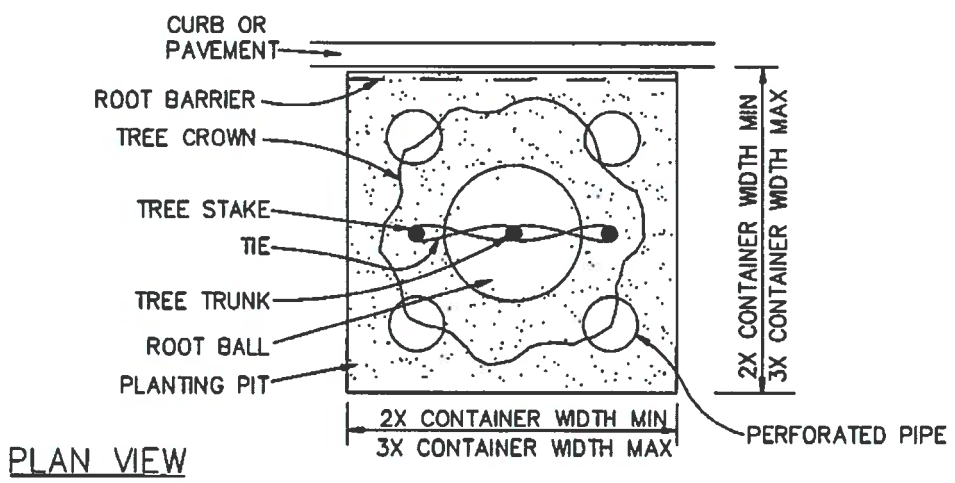
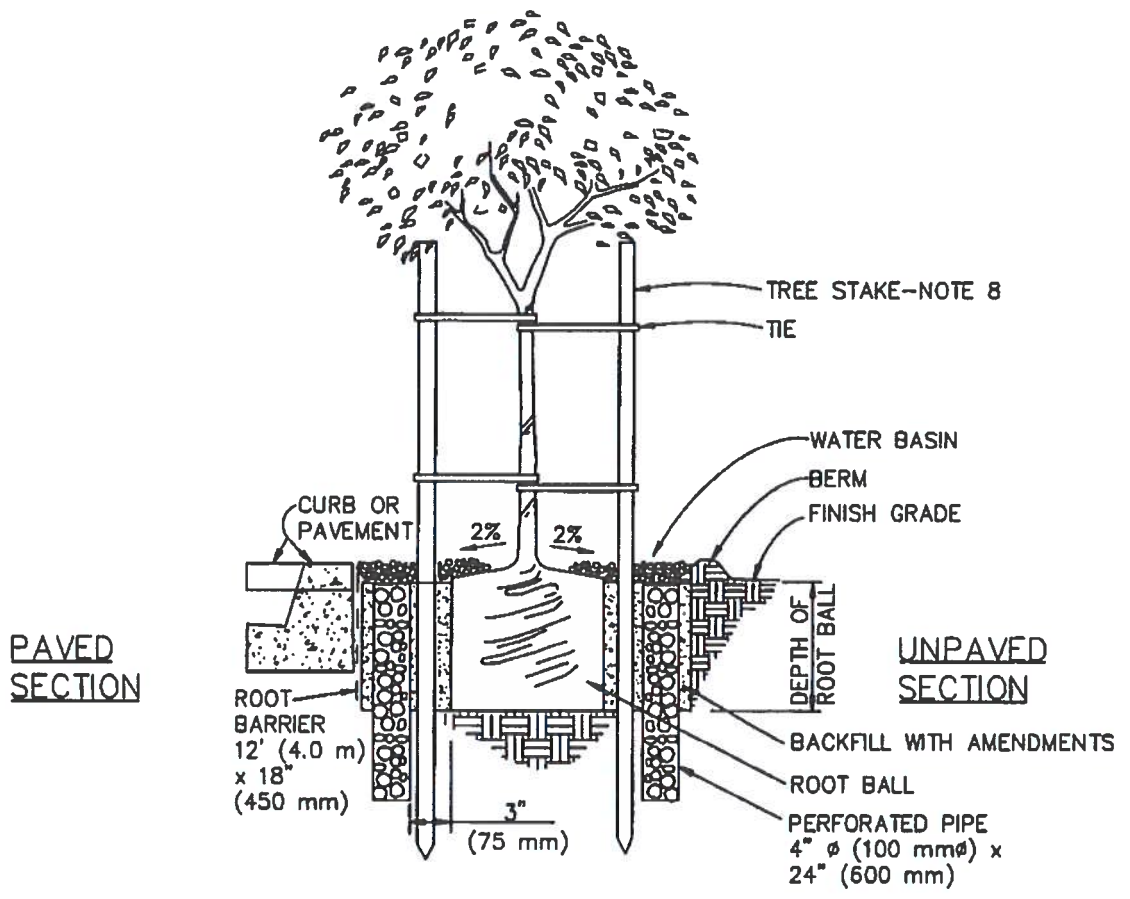
STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

**CURB OPENING CATCH BASIN**

STANDARD PLAN

**300-3**

SHEET 2 OF 2



**UNPAVED PARKWAY**  
**15 GAL (60 LITER) OR 24" (600 mm) BOX**

**STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION**

PROMULGATED BY THE  
 PUBLIC WORKS STANDARDS INC.  
 GREENBOOK COMMITTEE  
 1985  
 REV. 1993, 1996, 2005, 2009

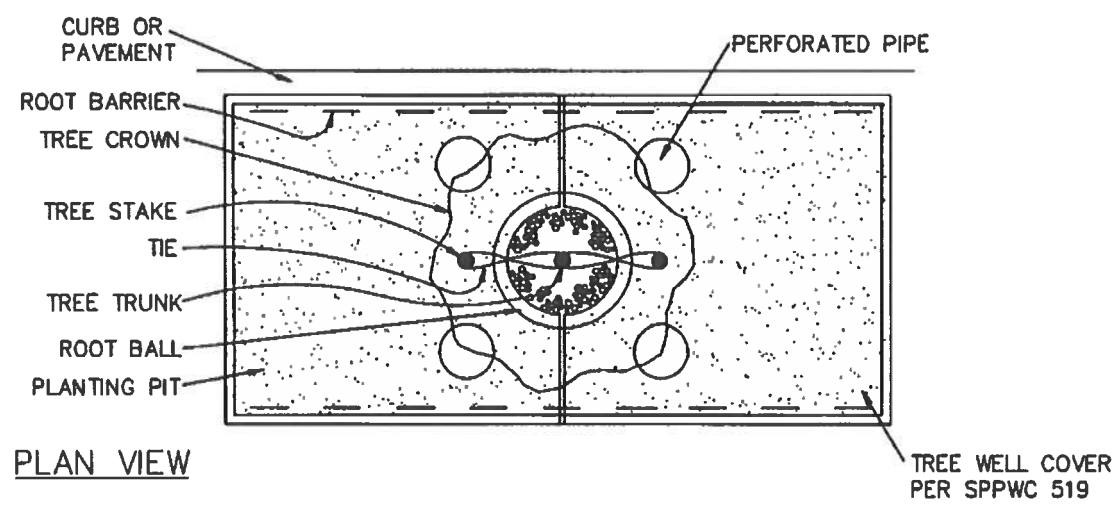
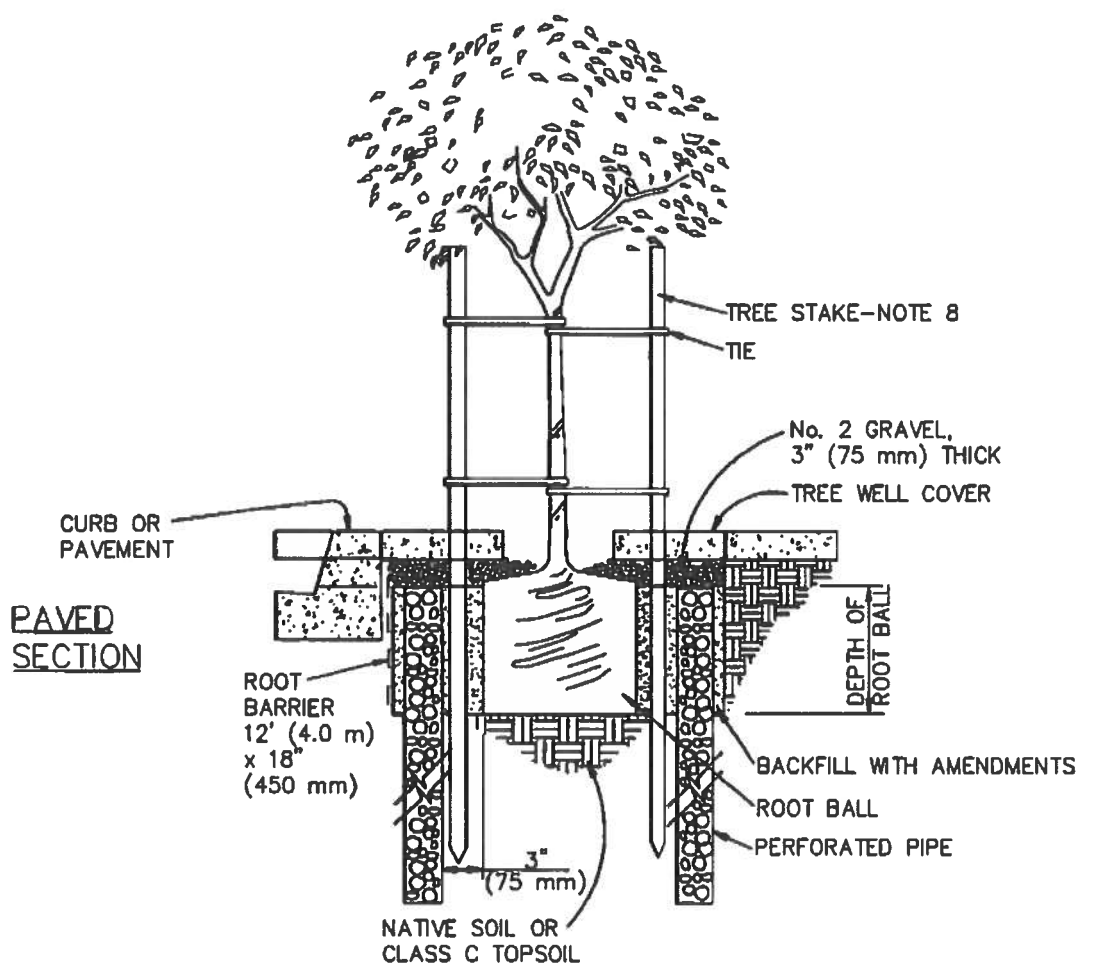
**TREE PLANTING**

STANDARD PLAN

**520-4**

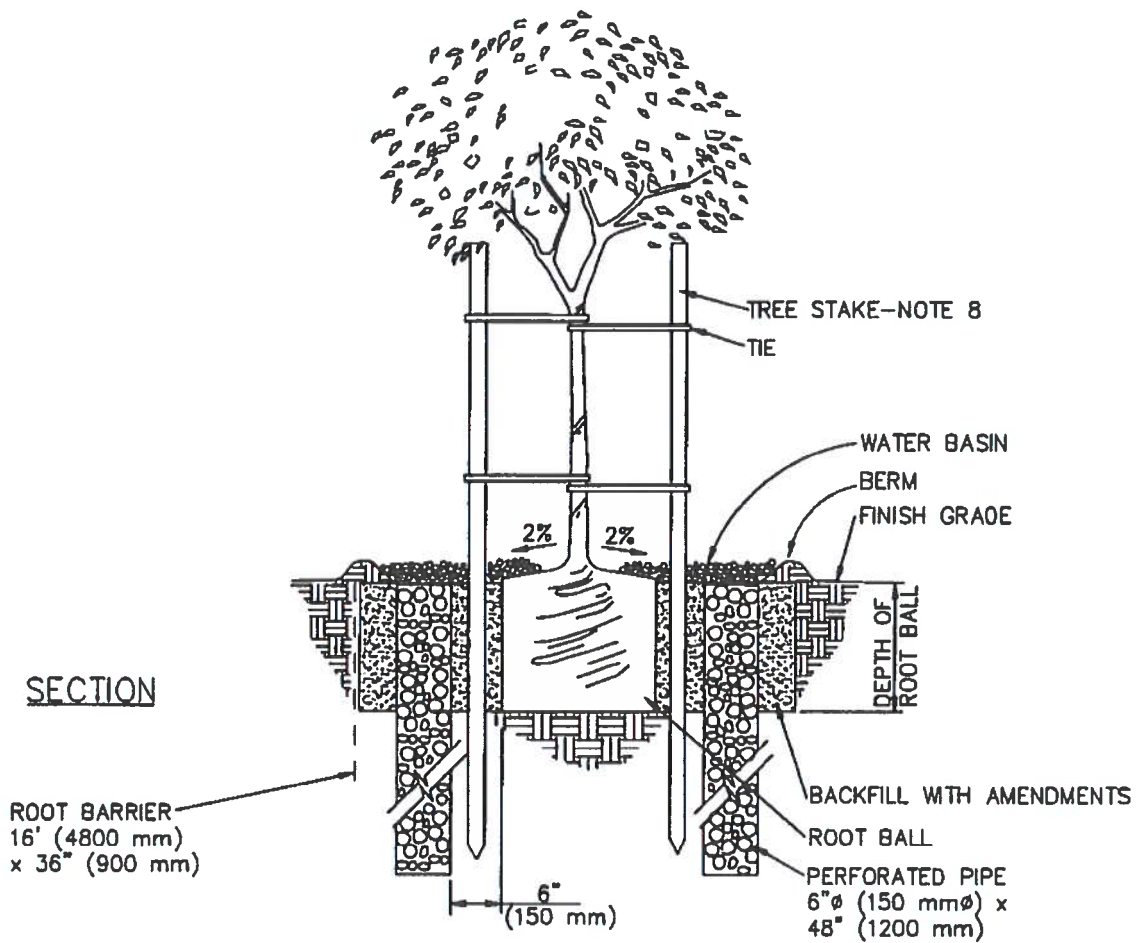
USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

SHEET 1 OF 4

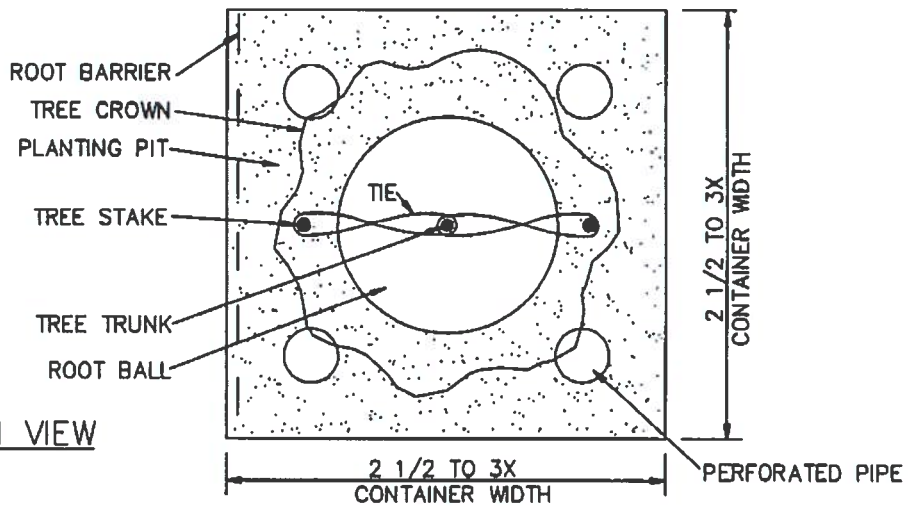


**SIDEWALK TREE WELL**  
**15 GAL (60 LITER) OR 24" (600 mm) BOX**

**SECTION**



**PLAN VIEW**



30" (750 mm) TO 48" (1200 mm) BOX

**NOTES:**

1. SET TOP OF ROOT BALL 1" (25 mm) ABOVE FINISH GRADE.
2. FOR 24" (600 mm) BOX TREES OR SMALLER, INSTALL ROOT BARRIERS IF TRUNK IS WITHIN 5' (1.5 m) OF CURB OR WALK.  
FOR 30" TO 48" (750 mm TO 1200 mm) BOX TREES, INSTALL ROOT BARRIERS IF TRUNK IS WITHIN 10' (3.0 m) OF CURB OR WALK.
3. AMEND BACKFILL MIX PER SPECIFICATIONS. LEAVE TRUNK AND ROOT FLARE VISIBLE.
4. SET PERFORATED PIPE FLUSH WITH TOP OF BACKFILL. FILL PIPE WITH No. 2 GRAVEL PER SSPWC TABLE 200-1.4.(B) AND COVER WITH FILTER FABRIC. WRAP FABRIC 6" (150 mm) DOWN SIDES OF PIPE.
5. FORM 3 1/2" (90 mm) HIGH BERM AROUND BACKFILL AS A WATER BASIN.
6. TOP WATER BASIN WITH 3 1/2" (90 mm) OF No. 2 GRAVEL OR TYPE 1 MULCH PER THE SPECIAL PROVISIONS. KEEP GRAVEL OR MULCH 3 1/2"(90 mm) CLEAR OF TRUNK. LEAVE TRUNK AND ROOT FLARE VISIBLE.
7. REMOVE ALL NURSERY STAKES.
8. INSTALL NEW TREE STAKES PER SPPWC 518.
9. FASTEN TREE TO STAKES PER 308-4.6, TWO TIES PER STAKE.
10. AFTER PLANTING, PRUNE THE TREE AS APPROVED BY THE ENGINEER.
11. ROOT BARRIER, WHERE SHOWN, SHALL BE 80 MIL (2.0 mm) THICK.

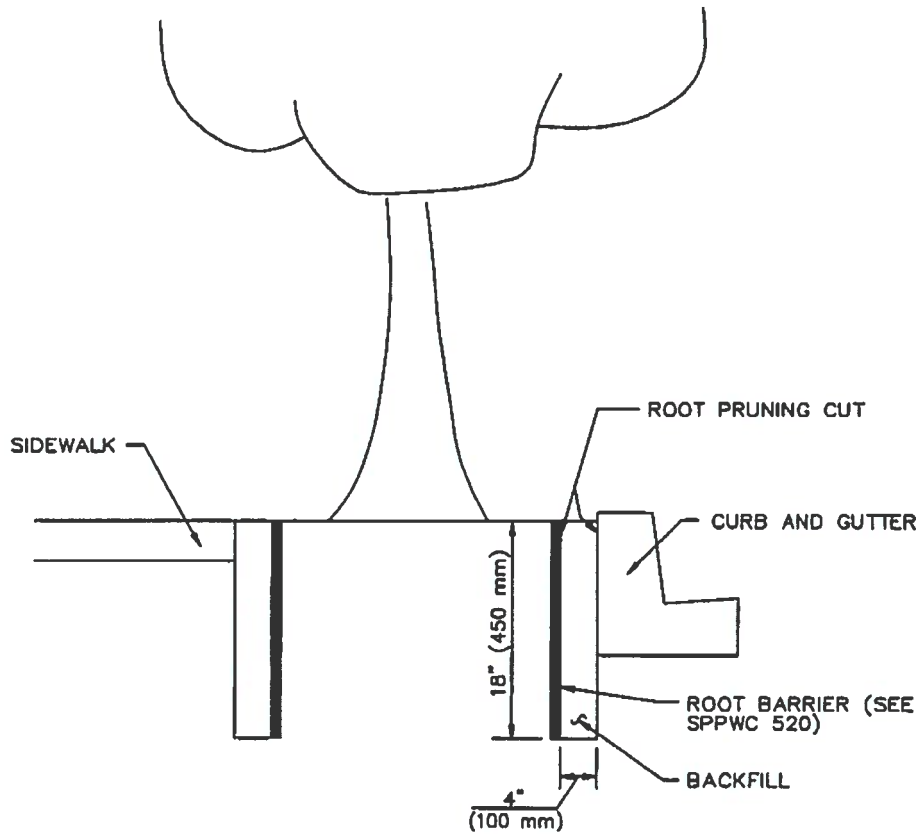
STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

**TREE PLANTING**

STANDARD PLAN

**520-4**

SHEET 4 OF 4



**NOTES:**

1. WHERE EXISTING PARKWAY TREES HAVE BEEN ROOT PRUNED, INSTALL CONTINUOUS, LINEAL ROOT BARRIER ADJACENT TO THE CURB AND/OR SIDEWALK.
2. LENGTH AND LOCATION OF ROOT BARRIER SHALL BE DETERMINED BY ENGINEER.
3. ROOT SEALER SHALL BE APPROVED BY THE ENGINEER AT LEAST 48 HOURS IN ADVANCE OF THE PRUNING OPERATION. IT SHALL BE APPLIED TO ALL CUT ROOT AREAS WHICH ARE LARGER THAN 2" (50 mm) IN DIAMETER. THE SEALER SHALL BE APPLIED AS SOON AS PRACTICAL AFTER THE CUTS HAVE BEEN MADE.
4. ROOT BARRIERS SHALL BE FABRICATED FROM A HIGH DENSITY, HIGH IMPACT PLASTIC AND BE EXPRESSLY DESIGNED FOR THE PURPOSE OF ROOT DEFLECTION.

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE  
PUBLIC WORKS STANDARD, INC.  
GREENBOOK COMMITTEE  
1984  
REV. 1996, 2008

**ROOT PRUNING**

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN

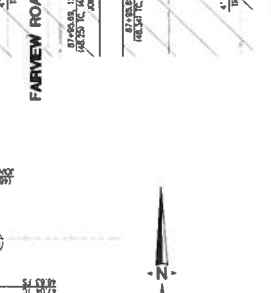
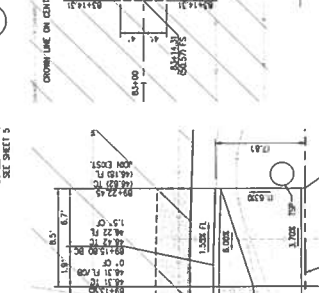
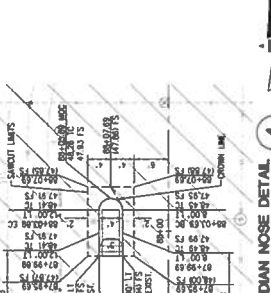
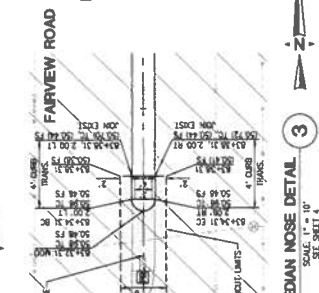
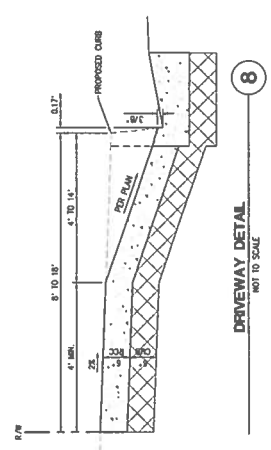
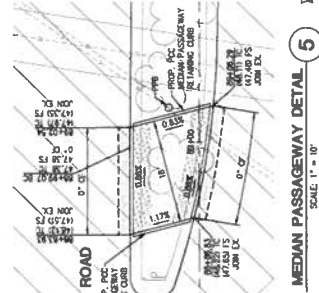
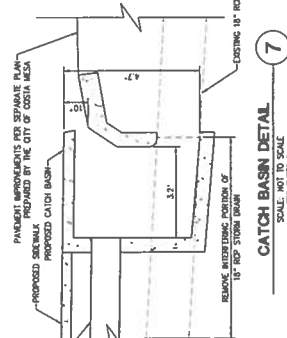
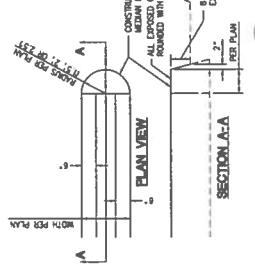
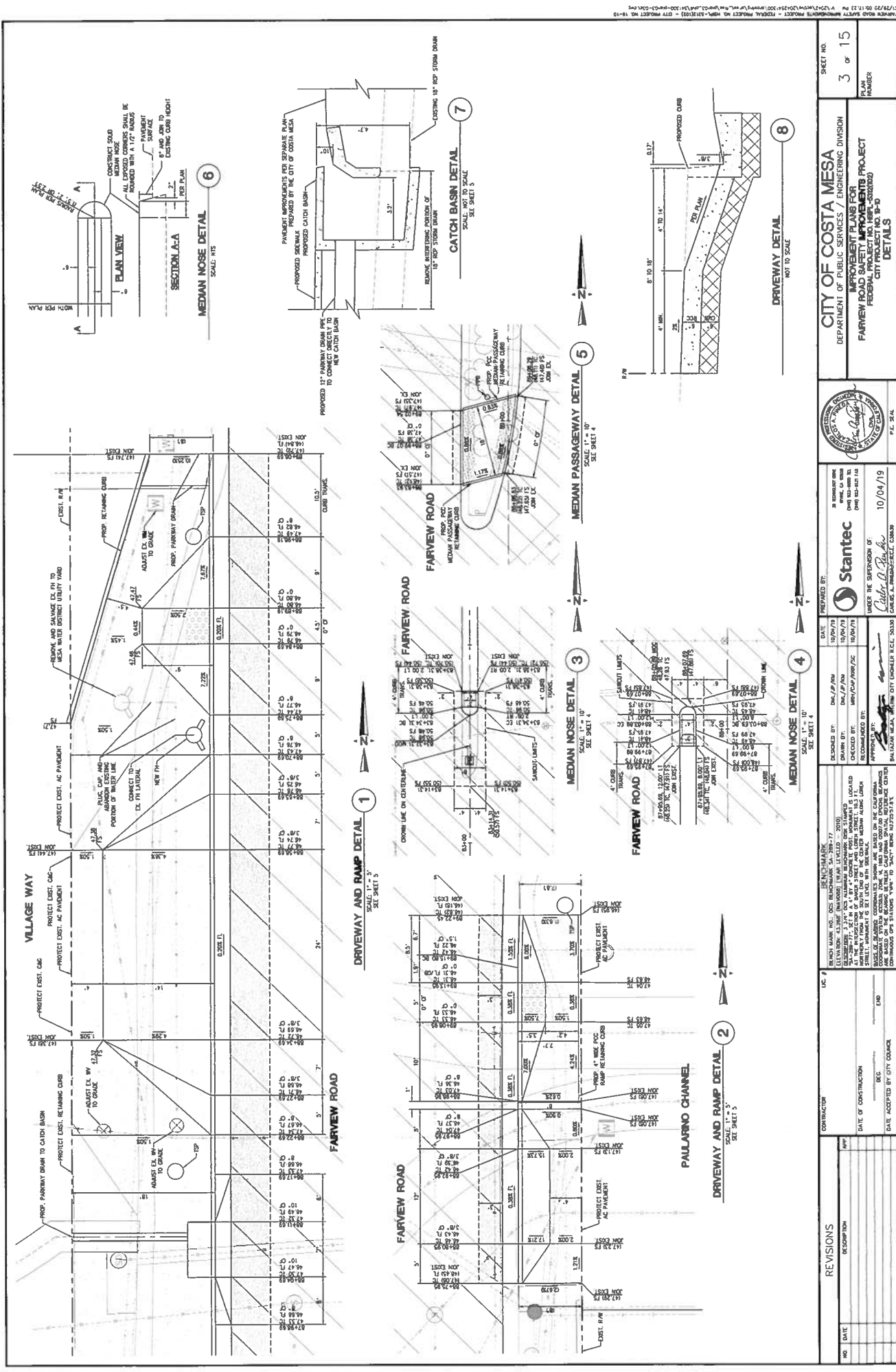
**523-2**

SHEET 1 OF 1







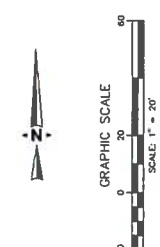


<b>REVISIONS</b> NO. DATE DESCRIPTION _____ _____ _____		CONTRACTOR _____ DATE OF CONSTRUCTION _____ DATE ACCEPTED BY CITY COUNCIL _____		PREPARED BY: <i>Stantec</i> DATE: 10/09/19 CHECKED BY: <i>Stantec</i> DATE: 10/09/19 APPROVED BY: <i>Stantec</i> DATE: 10/04/19 UNDER THE SUPERVISION OF <i>Chad A. Packer</i> CIVIL ENGINEER, P.E. 10/04/19 IN EXISTENCE AND (PWP) 100-10111A (PWP) 100-10111A		CITY OF COSTA MESA DEPARTMENT OF PUBLIC SERVICES / ENGINEERING DIVISION IMPROVEMENT PLAN FOR FARVIEW ROAD SAFETY IMPROVEMENTS PROJECT FEDERAL PROJECT NO. 18R1-032020 CITY PROJECT NO. 8-19 DETAILS		SHEET NO. <b>3 of 15</b> PLAN NUMBER	
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FEDERAL PROJECT NO. 18R1-032020 - CITY PROJECT NO. 8-19  
 IMPROVEMENT PLAN FOR FARVIEW ROAD SAFETY IMPROVEMENTS PROJECT  
 FEDERAL PROJECT NO. 18R1-032020 - CITY PROJECT NO. 8-19

- CONSTRUCTION NOTES**
- CONSTRUCT 10" HOT MIX ASPHALT PAVEMENT FINISH BASE COURSE PER SHEET 4 FOR PAVEMENT CONSTRUCTION ADJACENT TO MEDIAN. SET PAVEMENT REHABILITATION PLANS FOR SURFACE COURSE.
  - CONSTRUCT 10" HOT MIX ASPHALT PAVEMENT FINISH BASE COURSE PER SHEET 4 FOR PAVEMENT CONSTRUCTION ADJACENT TO MEDIAN. SET PAVEMENT REHABILITATION PLANS FOR SURFACE COURSE.
  - CONSTRUCT SOLID PCC MEDIAN WIDE CURB OVER 8" CRUSHED MIDDLELANDS BASE SAND PER DETAIL 6 ON SHEET 1.
  - CONSTRUCT PCC SIDEWALK PER CITY OF COSTA MESA STD. DIM. 4" MIN. THICKNESS PER AND INSTALL 200# BARRER PER SPRING STD. PLAIN CONC. 3000 - 4" MIN. 3000 - 5" CONCRETE SHALL BE PLACED ON 10" HMA BASE COURSE. ROOT PROTECTIVE TANKS PLACE OR ROOT BARRERS ARE INSTALLED.
  - CONSTRUCT 4" THICK DECOMPOSITIVE MEDIUM PCC PAVEMENT OVER 10" HMA BASE COURSE. PAVEMENT SHALL BE PLACED ON 10" HMA BASE COURSE. PAVEMENT SHALL BE PLACED ON 10" HMA BASE COURSE. PAVEMENT SHALL BE PLACED ON 10" HMA BASE COURSE. PAVEMENT SHALL BE PLACED ON 10" HMA BASE COURSE.
  - REMOVE EXISTING PAVEMENT AND INSTALL 10" HMA WITH DEBRIS GRADED PULL BOX PER CHAIRING STD. PLAN LS-18C.
  - CONSTRUCT TRANSITION PCC CURB 8" TO EXISTING MEDIAN OVER 6" MIDDLELANDS BASE SAND PER SPRING STD. PLAN NO. 179-7.
  - INSTALL YELLOW SURFACE MOUNTED DETECTABLE WARNING SURFACE. CONSTRUCT TYPE "A" PCC CURB OVER 8" CRUSHED MIDDLELANDS BASE SAND PER SPRING STD. PLAN NO. 120-2.
  - CONSTRUCT 10" HOT MIX ASPHALT PAVEMENT FINISH BASE COURSE PER SHEET 4 FOR PAVEMENT CONSTRUCTION ADJACENT TO MEDIAN. SET PAVEMENT REHABILITATION PLANS FOR SURFACE COURSE.

- DISPOSITION NOTES**
- PROTECT IN PLACE PER PLAN.
  - REMOVE AND DEPOSE OF EXISTING AC PAVEMENT SECTION TO A MAX. 12" DEPTH. SET PAVEMENT REHABILITATION PLANS FOR COMPLETE PAVEMENT REPAIRMENT TRENCHES AND PAVEMENT.
  - REMOVE AND DEPOSE OF EXISTING CURB AND GUTTER.
  - REMOVE AND DEPOSE OF EXISTING CURB.
  - REMOVE AND DEPOSE OF EXISTING SIDEWALK.
  - REMOVE AND DEPOSE OF EXISTING MEDIAN HARDWAPE.
  - REMOVE AND DEPOSE OF EXISTING SURFACE MOUNTED DETECTABLE WARNING SURFACE.



**CITY OF COSTA MESA**  
 DEPARTMENT OF PUBLIC SERVICES / ENGINEERING DIVISION  
**IMPROVEMENT PLANS FOR**  
**FAIRVIEW ROAD SAFETY IMPROVEMENTS PROJECT**  
 FEDERAL PROJECT NO. 48H-13(2)(2)  
 CITY PROJECT NO. 9-D  
**ADAMS AVENUE TO STATION 85+60.00**

SHEET NO. **4** OF **15**  
 PLAN NUMBER



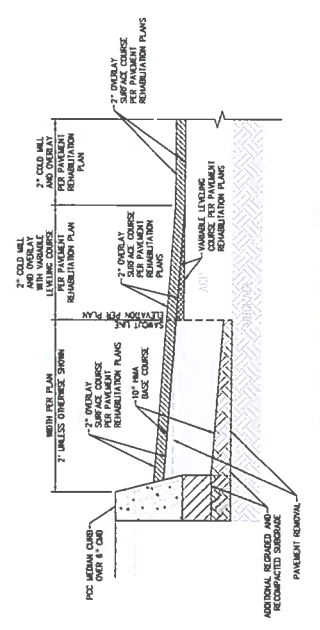
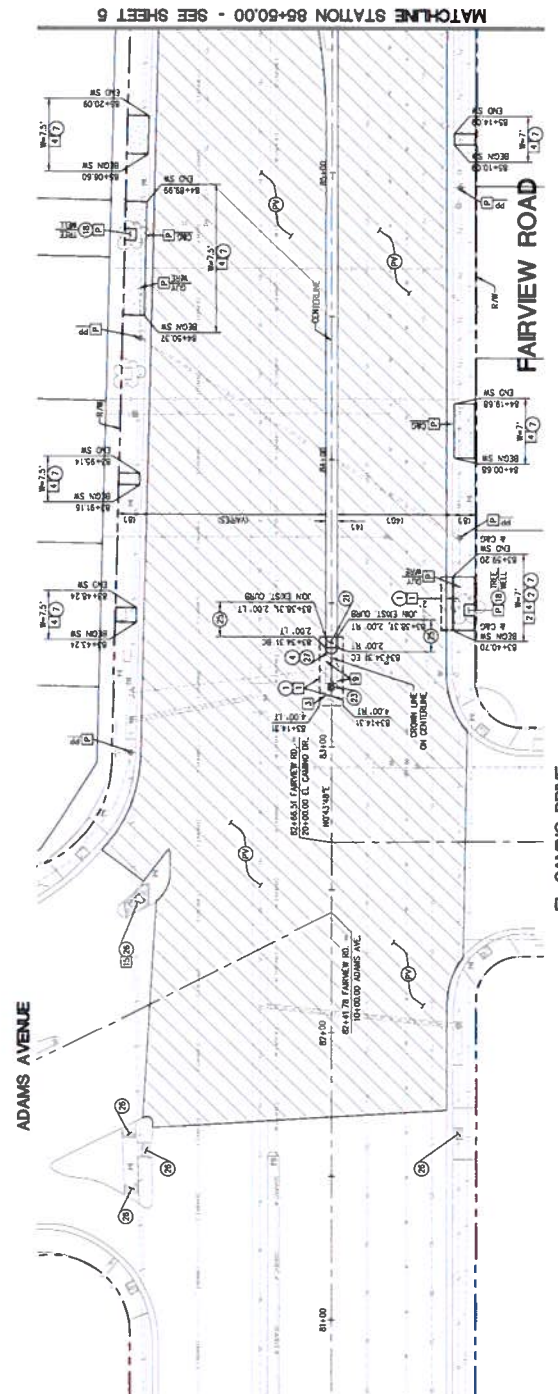
PREPARED BY: **Stantec**  
 UNDER THE SUPERVISION OF  
*Carlos A. Garcia*  
 CARLOS A. GARCIA - P.E., CIVIL ENGINEER

DATE: 10/04/19  
 DESIGNED BY: [Signature]  
 CHECKED BY: [Signature]  
 APPROVAL: [Signature]

REVISIONS

NO.	DATE	DESCRIPTION

CONTRACTOR: [Blank]  
 DATE ACCEPTED BY CITY COUNCIL: [Blank]



**MEDIAN PAVEMENT DETAIL**  
 SCALE: 1" = 12"

DATE ACCEPTED BY CITY COUNCIL: [Blank]



**CONSTRUCTION NOTES**

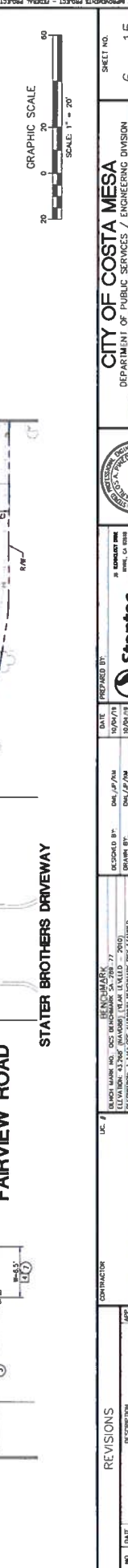
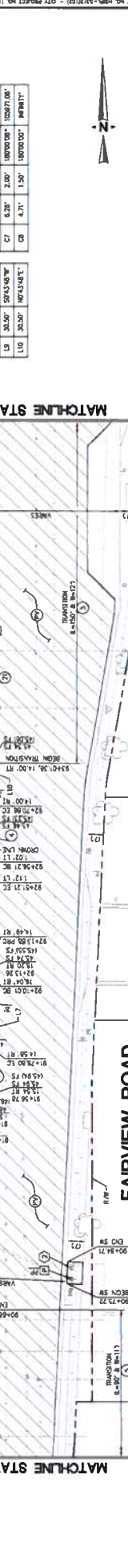
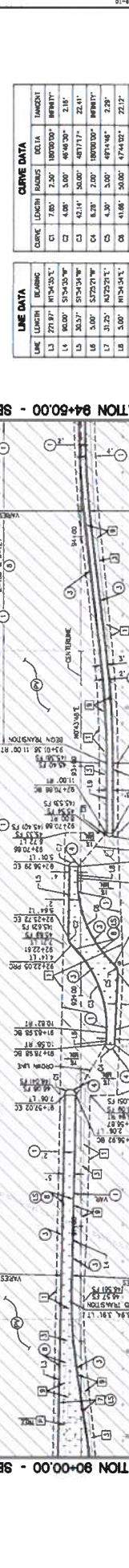
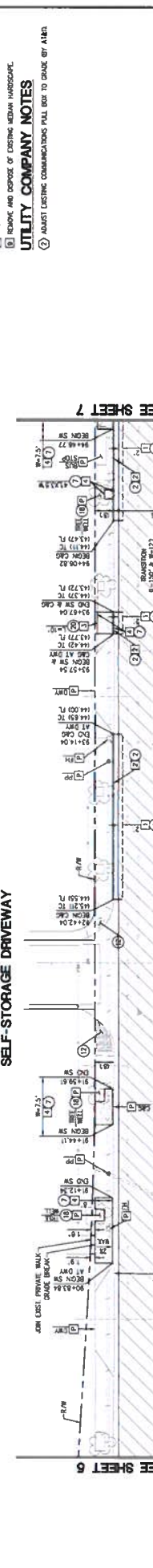
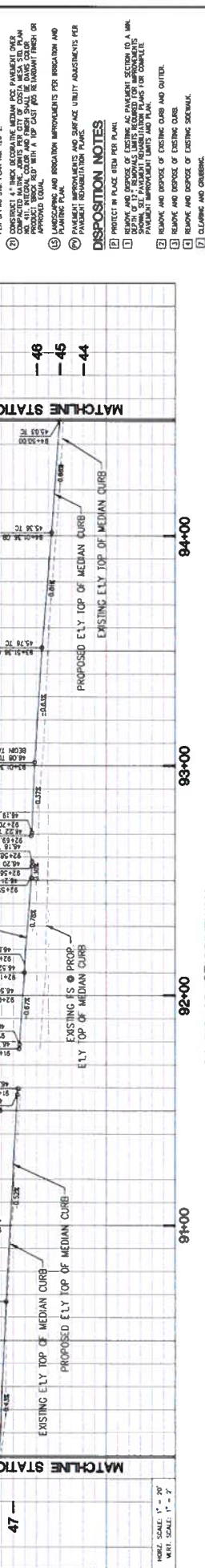
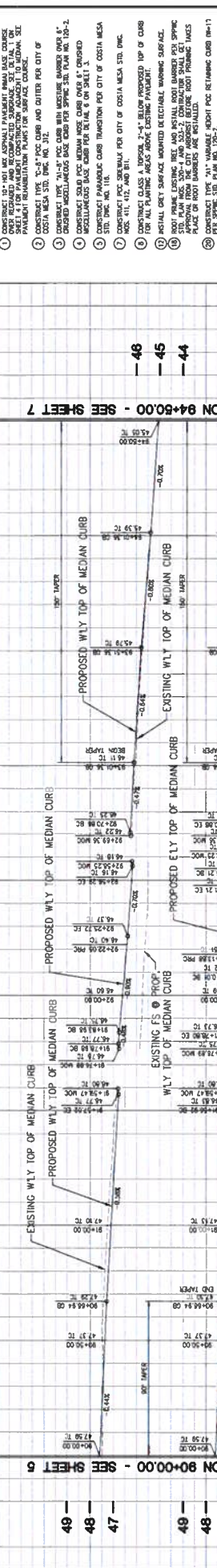
1. ALL WORK SHALL BE ACCORDING TO THE CITY STANDARD SPECIFICATIONS FOR PUBLIC WORKS, LATEST EDITION, UNLESS OTHERWISE SPECIFIED.
2. ALL MATERIALS SHALL BE OF THE BEST QUALITY AVAILABLE AND SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE CITY ENGINEER.
3. CONSTRUCT TYPE "A" PCC CURB AND GUTTER PER CITY OF COSTA MESA STD. SPEC. NO. 312.
4. CONSTRUCT TYPE "A" PCC CURB WITH SLOPED BANNER OVER 4" DESIGNED TO ALLOW BASE CURB TO BE REMOVED FOR TRUCK TRAILERS.
5. CONSTRUCT TYPE "A" PCC CURB WITH SLOPED BANNER OVER 4" DESIGNED TO ALLOW BASE CURB TO BE REMOVED FOR TRUCK TRAILERS.
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**DISPOSITION NOTES**

1. PROTECT IN PLACE PER PER PLAN.
2. REMOVE AND DEPOSE OF EXISTING AC PAVEMENT SECTION TO A MIN. DEPTH OF 7" REMAINS. MATERIALS TO BE REUSED FOR IMPROVEMENTS.
3. REMOVE AND DEPOSE OF EXISTING CURB AND GUTTER.
4. REMOVE AND DEPOSE OF EXISTING CURB.
5. REMOVE AND DEPOSE OF EXISTING SIDEWALK.
6. CLEARING AND GRUBBING.
7. CLEARING AND GRUBBING.
8. REMOVE AND DEPOSE OF EXISTING SIDEWALK.
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44. REMOVE AND DEPOSE OF EXISTING SIDEWALK.
45. REMOVE AND DEPOSE OF EXISTING SIDEWALK.
46. REMOVE AND DEPOSE OF EXISTING SIDEWALK.

**UTILITY COMPANY NOTES**

1. ADJUST EXISTING COMMUNICATIONS SHALL NOT TO CHANGE BY AREA.



**LINE DATA**

LINE	LENGTH	BEARING
L1	271.97'	N73°15'31"E
L2	86.00'	S75°23'57"W
L3	263.17'	S75°23'57"W
L4	31.25'	N73°25'21"E
L5	30.50'	S75°23'57"W
L6	30.50'	N73°25'21"E

**CURVE DATA**

CURVE	LENGTH	RADIUS	DELTA	TANGENT	PIVOT
C1	7.00'	3.00'	100°00'00"	10.00'	10.00'
C2	4.00'	3.00'	48°30'00"	2.16'	2.16'
C3	42.14'	30.00'	49°17'17"	22.41'	22.41'
C4	8.28'	2.00'	100°00'00"	10.00'	10.00'
C5	4.30'	3.00'	100°00'00"	10.00'	10.00'
C6	41.08'	30.00'	47°44'02"	22.17'	22.17'
C7	8.28'	2.00'	100°00'00"	10.00'	10.00'
C8	4.71'	1.50'	100°00'00"	10.00'	10.00'



**CITY OF COSTA MESA**  
 DEPARTMENT OF PUBLIC SERVICES / ENGINEERING DIVISION  
**FARVIEW ROAD SAFETY IMPROVEMENTS PROJECT**  
 FEDERAL PROJECT NO. 98H-10(1)(2)  
 CITY PROJECT NO. 18-12  
**STATION 90+00.00 TO STATION 94+50.00**

PREPARED BY: **Stantec**  
 DATE: 10/07/18  
 DRAWN BY: *[Signature]*  
 CHECKED BY: *[Signature]*  
 UNDER THE SUPERVISION OF: *[Signature]*  
 DATE: 10/04/19

REVISIONS

NO.	DATE	DESCRIPTION

CONTRACTOR: *[Signature]*  
 DATE ACCEPTED BY CITY COUNCIL: *[Signature]*

CONTRACT NO. 18-12  
 DATE OF CONSTRUCTION: *[Signature]*  
 DATE ACCEPTED BY CITY COUNCIL: *[Signature]*







**TRAFFIC SIGNAL GENERAL NOTES:**

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION MATERIALS AND METHODS MANUAL (M&M) AND THE SPECIFICATIONS FOR THIS PROJECT.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES AND SERVICES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES AND SERVICES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES AND SERVICES.
3. ALL VEHICLE INDICATORS SHALL BE METAL WITH 17' LED UNLESS AS SHOWN. CENTERED IN THE TRAVELING LANE WITH 10 FEET SPACING BETWEEN LAMPS IN THE SAME LANE.
4. ALL VEHICLE INDICATORS SHALL BE 3" ROUND "A" TYPE WITH INTERNATIONAL SYMBOL PLATE SIGN WITH LED AND VIBRATION. PHOTOELECTRIC CONTROLS FOR SAFETY LIGHTS SHALL BE TYPE "V".
5. ALL NEW CONDUITS SHALL BE 3" ROUND "A" TYPE WITH INTERNATIONAL SYMBOL PLATE SIGN WITH LED AND VIBRATION. PHOTOELECTRIC CONTROLS FOR SAFETY LIGHTS SHALL BE TYPE "V".
6. ALL EXCAVATIONS, TRENCHING AND BORING SHALL CONFORM TO CITY STANDARD DRAWING NO. 813. NO TRENCHING ALLOWED.
7. SAFE PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES WITHOUT EXCEPTION.
8. ALL PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES WITHOUT EXCEPTION.
9. ALL PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES WITHOUT EXCEPTION.
10. NEW PULL BOXES SHALL BE LIGHTWEIGHT FIBER MATERIAL NO. 3 UNLESS OTHERWISE SPECIFIED OTHERWISE ON PLAN. ALL NEW PULL BOX LIDS SHALL BE INGRESS "NOTICE SIGN".
11. ALL SALVAGED MATERIAL SHALL BE REMOVED FROM THE JOB SITE THE SAME DAY AS WORK PERFORMED.

**SIGN LEGEND:**



**SIGNAL PHASE DIAGRAM**

1	2	3	4
←	→	←	→
↑	↓	↑	↓
←	→	←	→
↑	↓	↑	↓

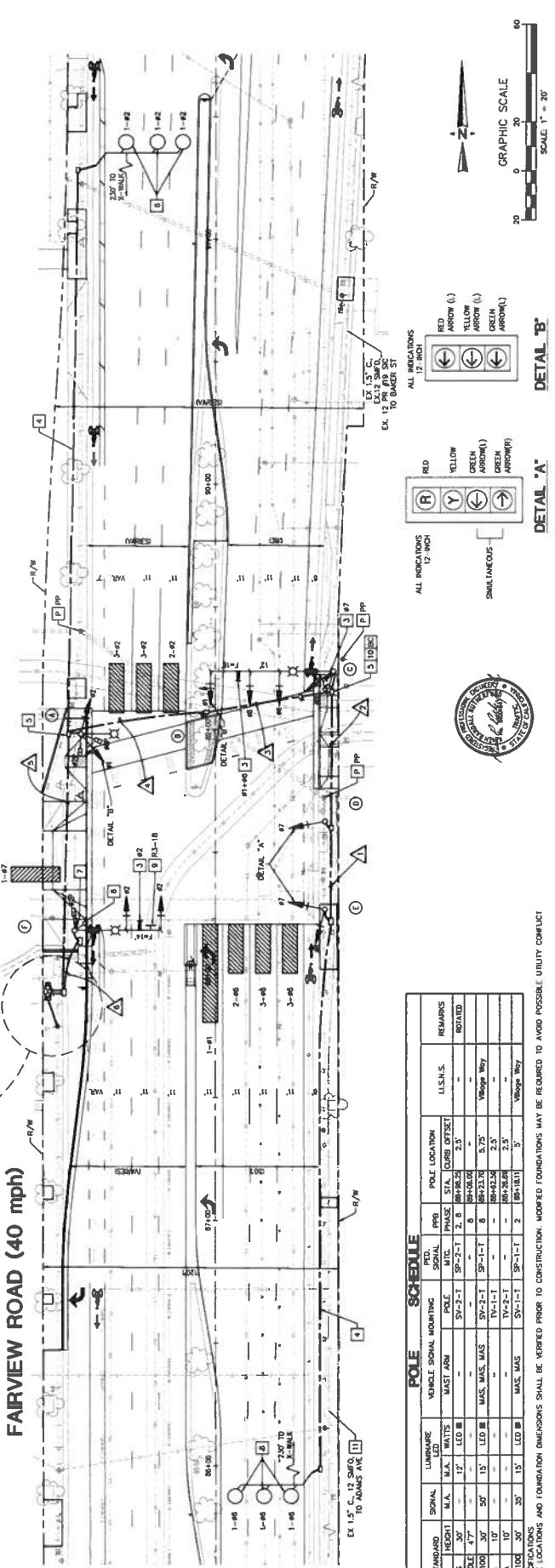
**CONDUCTOR SCHEDULE**

NO.	TYPE	SIZE	LENGTH	WEIGHT	RESISTANCE	INDUCTIVE REACTANCE	IMPEDANCE	ADDITIONAL DATA
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2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10	10
11	11	11	11	11	11	11	11	11
12	12	12	12	12	12	12	12	12
13	13	13	13	13	13	13	13	13
14	14	14	14	14	14	14	14	14
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99	99	99	99	99	99	99	99	99
100	100	100	100	100	100	100	100	100

**CONSTRUCTION NOTES:**

1. PROTECT IN PLACE (RIP) PER PLAN.
2. FURNISH AND INSTALL TYPE "B" STAINLESS STEEL CABINET COMPLETE, BATTERY BACKUP SYSTEM UNIT, ECONOMIC CIRCUIT CONTROLLER, DETECTOR BACK, CONTACT MONITOR AND MISCELLANEOUS PROVISIONS TO PROVIDE WITHIN SPECIFIED OPERATIONAL INSTALL HEIGHT. SEE SPECIAL PROVISIONS.
3. INSTALL TYPE "A" STAINLESS STEEL TYPE "E" STRAKE. FURNISH AND INSTALL 50-AMP SIGNAL 15-AMP SIGNAL, 15-AMP SIGNAL, 15-AMP SIGNAL DETECTOR CIRCUITS ON METERS SIZE AND 30-AMP SAFETY LIGHT CIRCUIT ON UNLIMITED SIZE.
4. FURNISH AND INSTALL AUTOSCOPE, VIDEO MISC DETECTION CAMERA ON SIGNAL MAST WITH EXTENSION MODULES IN CABINET IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS INCLUDING ALL NECESSARY WIRING AND CONNECTIONS TO THE DETECTOR. PROVIDE AND AS APPROVED BY THE ENGINEER.
5. FURNISH AND INSTALL 2" HOPE CONDUIT WITH 1 NEW D/C.
6. FURNISH AND INSTALL NO. 8 PULL BOX UNLESS SPECIFIED OTHERWISE ON PLAN.
7. FURNISH AND INSTALL CITY CAMERA EQUIPMENT INCLUDING CONDUIT, WIRING, CAMERA AND CONDUIT CASING TO SUPPORT CITY OPERATION. SEE SPECIAL PROVISIONS.
8. FURNISH AND INSTALL CITY OPS OPTION PRECISION DETECTOR.
9. FURNISH AND INSTALL SIGNAL MAST PER CITY OF COSTA MESA STANDARD NO. 902A AND 902B.
10. SPACE NEW SWAY CABLE FROM CONTROLLER CABINET AT VILLAGE WAY TO EXISTING 12 SWAY CABLE. DISCONNECT AND PULL BACK EXISTING 12 PAIR #10 AT ADAMS AVENUE AND CONNECT IN NEW IN NEW IN PULL BOX PER DIRECTION OF THE ENGINEER.
11. DISCONNECT AND PULL BACK EXISTING 12 PAIR #10 AT ADAMS AVENUE AND CONNECT IN NEW CONTROLLER CABINET AT VILLAGE WAY. FURNISH AND INSTALL NEW 12 PAIR #10 IN EXISTING CONDUIT AND CONNECT IN VILLAGE SIGNAL CABINET.

**FARVIEW ROAD (40 mph)**



**POLE SCHEDULE**

NO.	TYPE	HEIGHT	M.A.	WANTS	MAST ARM	VEHICLE SIGNAL MOUNTING	PHASE	M.T.C.	SP-2-T	2.5	PHASE STA.	CURB OFFSET	REMARKS
1	1	30'	17'	LED	12"	SP-2-T	2.5	SP-2-T	2.5	SP-2-T	2.5	2.5	ROTATED
2	2	30'	15'	LED	12"	SP-2-T	2.5	SP-2-T	2.5	SP-2-T	2.5	2.5	Village Way
3	3	30'	15'	LED	12"	SP-2-T	2.5	SP-2-T	2.5	SP-2-T	2.5	2.5	Village Way
4	4	30'	15'	LED	12"	SP-2-T	2.5	SP-2-T	2.5	SP-2-T	2.5	2.5	Village Way
5	5	30'	15'	LED	12"	SP-2-T	2.5	SP-2-T	2.5	SP-2-T	2.5	2.5	Village Way

**REVISIONS**

NO.	DATE	DESCRIPTION

**CONTRACTOR** \_\_\_\_\_

**DATE ACCEPTED BY CITY COUNCIL** \_\_\_\_\_

**DATE** \_\_\_\_\_

**DESIGNED BY** \_\_\_\_\_

**CHECKED BY** \_\_\_\_\_

**DATE** \_\_\_\_\_

**APPROVED BY** \_\_\_\_\_

**DATE** \_\_\_\_\_

**UNDER THE SUPERVISION OF** \_\_\_\_\_

**DATE** \_\_\_\_\_

**PREPARED BY** \_\_\_\_\_

**DATE** \_\_\_\_\_

**IN REMOVAL AND** \_\_\_\_\_

**DATE** \_\_\_\_\_

**STANTEC**

**CITY OF COSTA MESA**

**DEPARTMENT OF PUBLIC SERVICES / ENGINEERING DIVISION**

**TRAFFIC SIGNAL INSTALLATION PLAN - FARVIEW ROAD AND VILLAGE WAY**

**FEDERAL PROJECT NO. 158P-03(202)**

**CITY PROJECT NO. 19-10**

**PROJECT NUMBER** 9 of 15

**SHEET NO.** 9 of 15



**MAXIMUM APPLIED WATER ALLOWANCE**  
 MAWA = (ET<sub>0</sub>) x (0.45) x (0.45 x LA) + (0.55 x SLA)

ET <sub>0</sub>	48.20 Etc (inches/year)
Enter total project Landscaped Area	1,700.00 LA (square feet)
Enter Special Landscaped Area	0.00 SLA (square feet)
<b>RESULTS:</b>	
MAWA	22.861 MAWA (gallons/year)
	30.56 MAWA (100 CF/year)

**ESTIMATED TOTAL WATER USE**  
 ETWU = (ET<sub>0</sub>) x (0.62) x [(PF x HAVIE) + SLA]

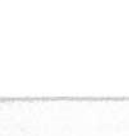
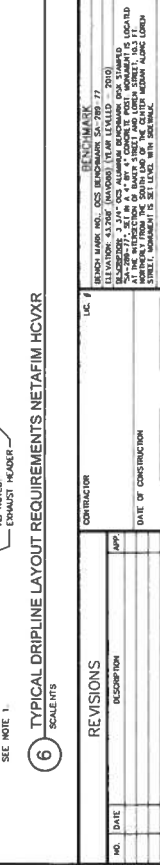
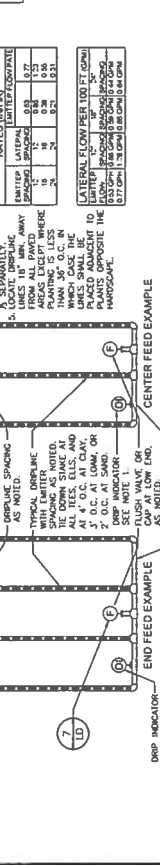
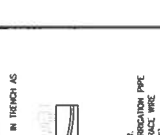
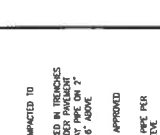
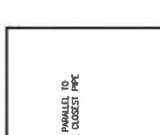
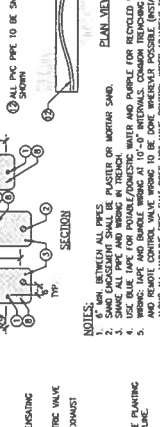
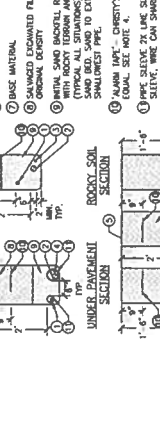
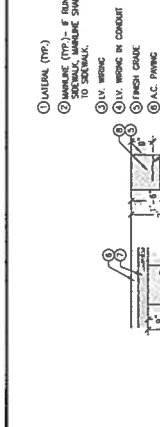
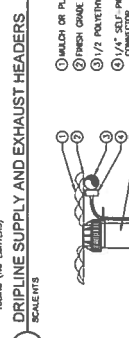
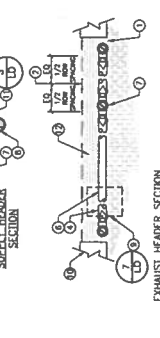
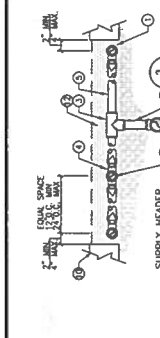
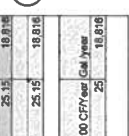
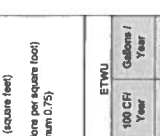
ETWU	22.861
ETWU	25.15
ETWU	25.15
ETWU	19.816
ETWU	25.15
ETWU	19.816

**HYDROZONE TABLE**

Plant Water Use Type(s) (low, moderate, high)	Plant Factor (PF)	Hydrozone Area (HA) (sq ft)	ETWU (100 CF/year)	ETWU (Gallons/year)
Low	0.30	1,700	510	19,816
High	0.75	1,700	510	19,816
SLA	1.00		0	0
<b>Sum</b>			<b>510</b>	<b>19,816</b>

**RESULTS**  
 MAWA = 22.861  
 ETWU = 25.15  
 ETWU = 25.15  
 ETWU = 19.816  
 ETWU = 25.15  
 ETWU = 19.816

ETWU must be less than or equal to MAWA. ETWU complies with MAWA.



**CONSTRUCTION NOTES**

(1) EXISTING ASPHALT CONCRETE (A/C) PAVEMENT SHALL BE COLD REPAIRED TO MATCH EXISTING PAVEMENT SURFACE FINISH FROM EDGE OF CUTTER AND SHALL BE HARDED OUT AT A DEPTH OF 7-INCHES BELOW EXISTING PAVEMENT, RANGING FROM THE EDGE OF CUTTER TO 7-FOOT WIDE ALONG BOTH SIDES OF THE ROAD FROM THE FIELD OF THE CITY ENGINEER TO HIS MARKERS.

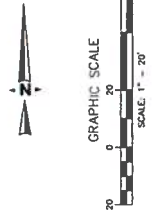
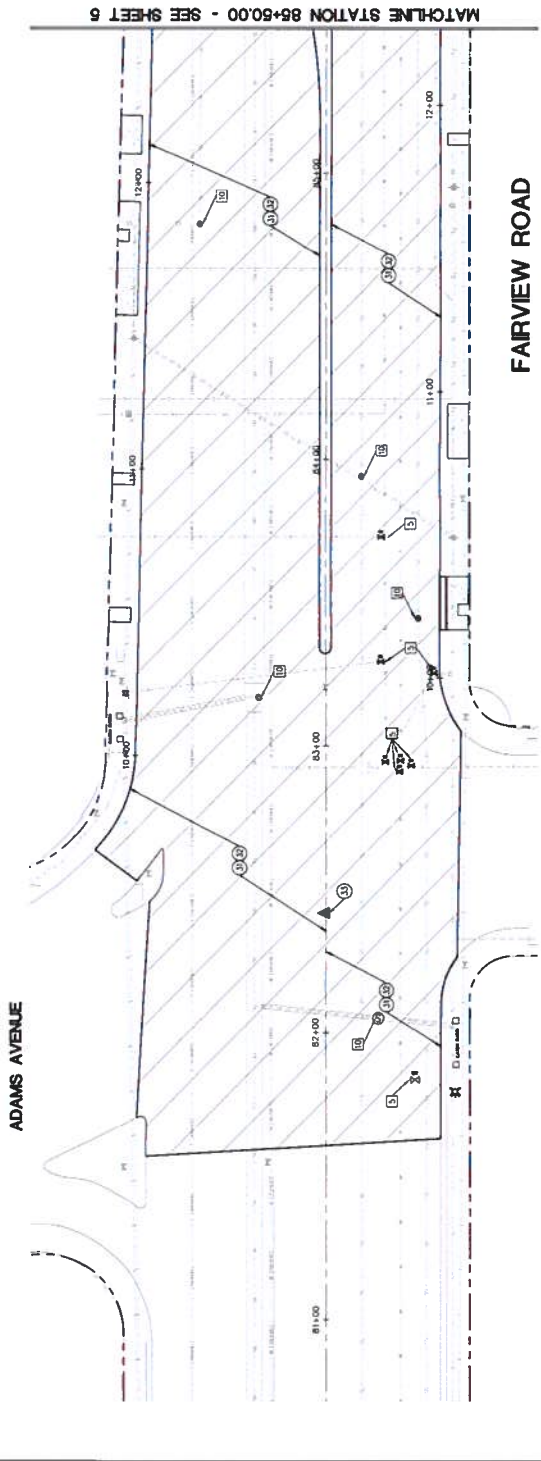
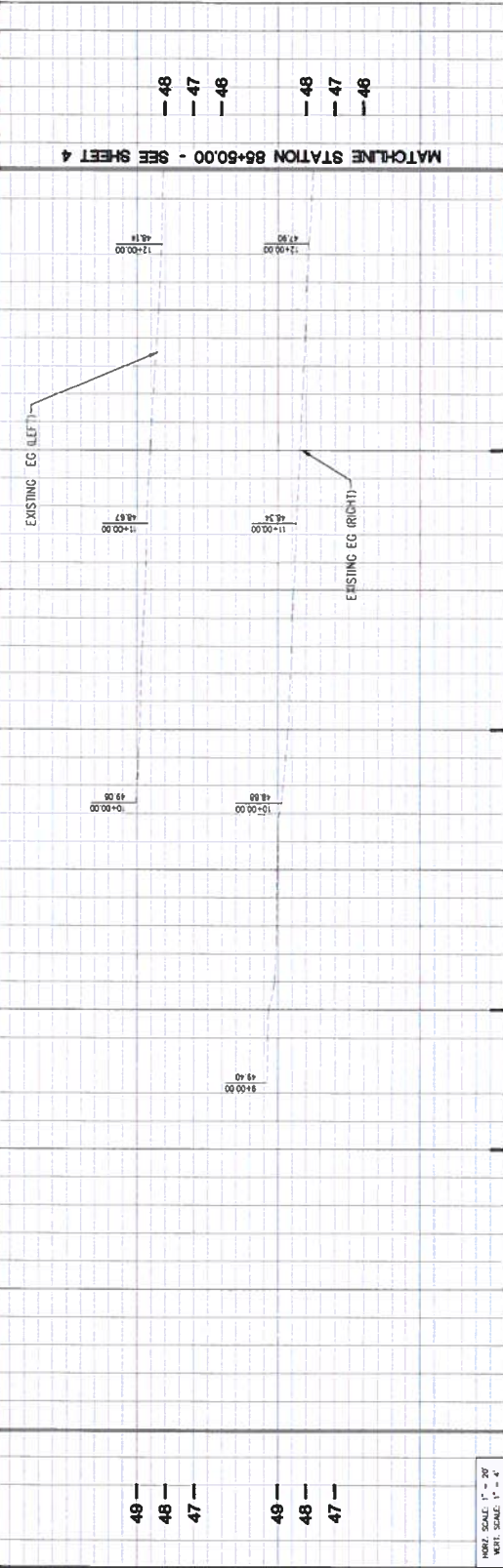
(2) REPLACE OR RESET SURVEY MONUMENT.

**DISPOSITION NOTES**

(1) PLOT TO PLACE ITEM FOR FORM.

(2) ADJUST EXISTING UTILITY W/AVE COVER TO GRADE.

(3) ADJUST MARKER TO GRADE.



<p>FAIRVIEW ROAD SAFETY IMPROVEMENTS PROJECT - FEDERAL PROJECT NO. HSRL-5312(02)</p> <p>DATE: 03/20/2019</p> <p>PROJECT NO. 12 OF 15</p> <p>PLAN NUMBER</p>							
<p><b>CITY OF COSTA MESA</b></p> <p>DEPARTMENT OF PUBLIC SERVICES / ENGINEERING DIVISION</p> <p><b>IMPROVEMENT PLANS FOR FAIRVIEW ROAD SAFETY IMPROVEMENTS PROJECT</b></p> <p>FEDERAL PROJECT NO. HSRL-5312(02)</p> <p>PAVEMENT REHABILITATION - ADAMS AVENUE TO STATION 86+00.00</p>							
<p>NON-PARTICIPATING</p>							
<p>DATE PREPARED BY: [Signature]</p> <p>DATE: 03/20/2019</p> <p>UNDER THE SUPERVISION OF: [Signature]</p> <p>REGISTERED PROFESSIONAL ENGINEER: [Signature]</p>							
<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		NO.	DATE	DESCRIPTION			
NO.	DATE	DESCRIPTION					
<p>CONTRACTOR: [Blank]</p> <p>DATE ACCEPTED BY CITY COUNCIL: [Blank]</p>							
<p>REVISIONS</p>							

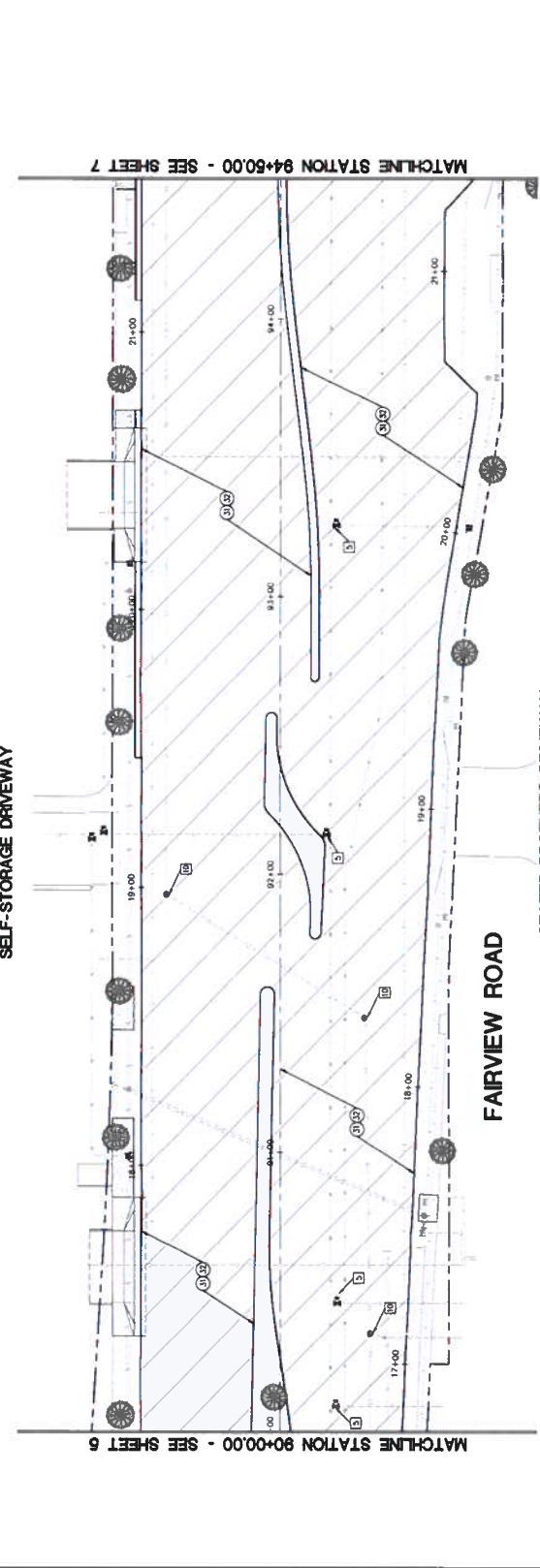


**CONSTRUCTION NOTES**

- 1) EXISTING ASPHALT DRIVEWAYS AND PAVEMENT SHALL BE GOOD TO GO.
- 2) ALL NEW ASPHALT SHALL BE PLACED AT A MINIMUM 2 INCHES FROM EDGE OF GUTTER AND SHALL BE HEAVED CUT AT A DEPTH OF 2 INCHES BELOW EXISTING PAVEMENT FINISHING FROM THE EDGE OF GUTTER TO 7 FOOT WIDE, ALONG BOTH SIDES OF THE DRIVEWAY OR SIDEWALK.
- 3) REPAIR OR RESET SURVEY MONUMENT

**DISPOSITION NOTES**

- 1) PAVEMENT TO BE PLACED FOR PARK
- 2) ADJUST EXISTING UTILITY WAVE COVER TO GRADE.
- 3) ADJUST MANHOLE TO GRADE.



NON-PARTICIPATING

<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		NO.	DATE	DESCRIPTION				<p>CONTRACTOR</p> <p>DATE OF CONSTRUCTION</p> <p>DATE ACCEPTED BY CITY COUNCIL</p>	<p>ISS #</p> <p>BENCHMARK</p> <p>DATE OF SURVEY</p> <p>DATE OF CONSTRUCTION</p> <p>DATE ACCEPTED BY CITY COUNCIL</p>	<p>DESIGNED BY</p> <p>DRAWN BY</p> <p>CHECKED BY</p> <p>RECOMMENDED BY</p>	<p>DATE</p> <p>PREPARED BY</p> <p>CITY OF COSTA MESA</p> <p>UNDER THE SUPERVISION OF</p> <p>03/20/2019</p>	<p>PREPARED BY</p> <p>CITY OF COSTA MESA</p> <p>03/20/2019</p>	<p>NON-PARTICIPATING</p> <p>CITY OF COSTA MESA</p> <p>DEPARTMENT OF PUBLIC SERVICES - ENGINEERING DIVISION</p> <p>IMPROVEMENT PLANS FOR</p> <p>FAIRVIEW ROAD SAFETY IMPROVEMENTS PROJECT</p> <p>FEDERAL PROJECT NO. HSRIPL-53124(02)</p> <p>PAVEMENT REHABILITATION STATION 88+00.00 TO STATION 94+00.00</p>	<p>SHEET NO</p> <p>14 of 15</p> <p>PLAN NUMBER</p>
NO.	DATE	DESCRIPTION												



CITY OF COSTA MESA

DEPARTMENT OF PUBLIC SERVICES - ENGINEERING DIVISION

IMPROVEMENT PLANS FOR

FAIRVIEW ROAD SAFETY IMPROVEMENTS PROJECT

FEDERAL PROJECT NO. HSRIPL-53124(02)

PAVEMENT REHABILITATION STATION 88+00.00 TO STATION 94+00.00

CITY OF COSTA MESA

UNDER THE SUPERVISION OF

03/20/2019

DESIGNED BY

DRAWN BY

CHECKED BY

RECOMMENDED BY

DATE

PREPARED BY

CITY OF COSTA MESA

03/20/2019

NON-PARTICIPATING

CITY OF COSTA MESA

DEPARTMENT OF PUBLIC SERVICES - ENGINEERING DIVISION

IMPROVEMENT PLANS FOR

FAIRVIEW ROAD SAFETY IMPROVEMENTS PROJECT

FEDERAL PROJECT NO. HSRIPL-53124(02)

PAVEMENT REHABILITATION STATION 88+00.00 TO STATION 94+00.00

SHEET NO

14 of 15

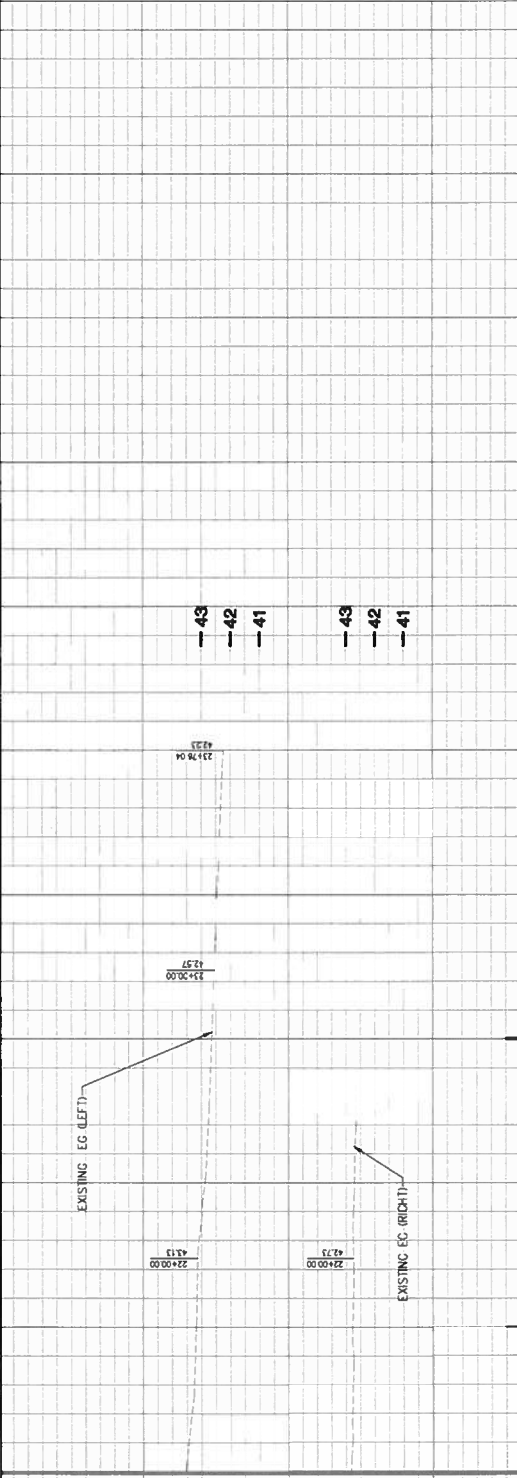
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**CONSTRUCTION NOTES**

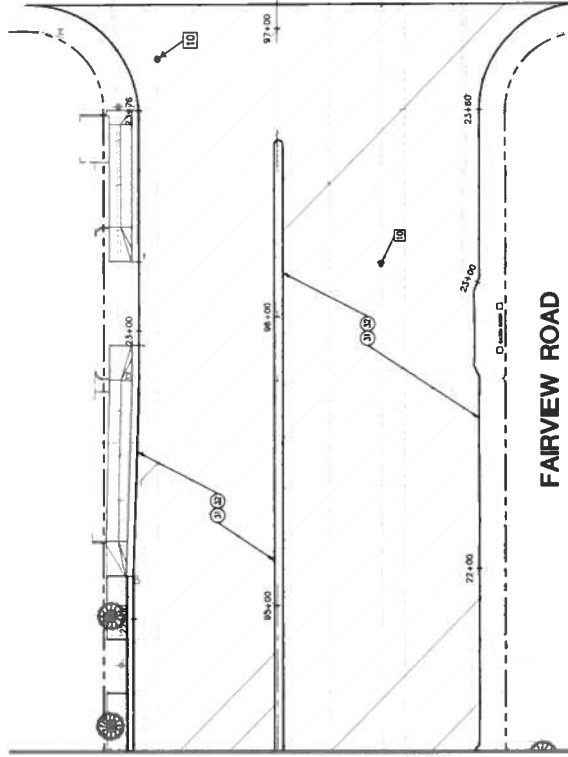
- (1) (2) EXISTING ASPHALT CONCRETE (A/C) PAVEMENT SHALL BE COLD MILLED FROM THE FINISHED SURFACE TO A DEPTH OF 3 INCHES FROM EDGE OF CUTTER AND SHALL BE REBUILT AT A DEPTH OF 3 INCHES TO 7-FEET TO 7-FEET WORK, ALONG BOTH SIDES OF THE STREET. LIMITS WILL BE MARKED IN THE FIELD BY THE CITY ENGINEER OR DESIGNER.
- (1) REPLACE OR RESET SURVEY MONUMENT

**DISPOSITION NOTES**

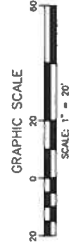
- (2) PROJECT IN PLACE BEH PER PLAN
- (3) ADJUST EXISTING UTILITY VALVE COVER TO GRADE
- (4) ADJUST MANHOLE TO GRADE



BAKER STREET



FAIRVIEW ROAD



NON-PARTICIPATING

<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		NO.	DATE	DESCRIPTION				<p>CONTRACTOR</p> <p>DATE ACCEPTED BY CITY COUNCIL</p>		<p>DATE OF CONSTRUCTION</p> <p>DATE</p>		<p>PREPARED BY</p> <p>DATE</p>		<p>CITY OF COSTA MESA</p> <p>03/20/2019</p>		<p>CITY OF COSTA MESA</p> <p>15 of 15</p>	
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CITY OF COSTA MESA  
 DEPARTMENT OF PUBLIC SERVICES ENGINEERING DIVISION  
 IMPROVEMENT PLANS FOR  
 FAIRVIEW ROAD SAFETY IMPROVEMENTS PROJECT  
 FEDERAL PROJECT NO. HSRP-5302(102)  
 PAVEMENT REHABILITATION STATION 84+60.00 TO BAKER STREET



PREPARED BY  
 DATE  
 CITY OF COSTA MESA  
 UNDER THE SUPERVISION OF  
 03/20/2019

REVISIONS

CONTRACTOR

DATE

DATE OF CONSTRUCTION

DATE

PREPARED BY

DATE

CITY OF COSTA MESA

15 of 15

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**EXHIBIT C**

**ADDENDA**

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# CITY OF COSTA MESA

P.O. BOX 12000 77 FAIR DRIVE CALIFORNIA 92628-1200

FROM THE DEPARTMENT OF PUBLIC SERVICES/ENGINEERING DIVISION

**DATE: July 30, 2020**

**TO: ALL PROSPECTIVE BIDDERS**

**SUBJECT: BID ADDENDUM NO.1 –  
FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT (ADAMS AVE. TO BAKER ST.)  
FEDERAL PROJECT NO. HSIPL-5312(102)  
CITY PROJECT NO. 19-10**

Please forward this addendum to the appropriate individual as soon as possible. To assist our office in confirming the delivery of this addendum, please sign acknowledging receipt herein and e-mail a copy of this sheet to [seung.yang@costamesaca.gov](mailto:seung.yang@costamesaca.gov). **A COPY WILL NOT BE SENT BY MAIL.**

Received by: \_\_\_\_\_

Company: \_\_\_\_\_

All bidders shall register with CIPList.com in order to retrieve addenda. It is the responsibility of each prospective bidder to check CIPList.com on a DAILY basis through the close of bids for any applicable addenda or updates.

This addendum, effective on this date, addresses the following items:

The following **SHALL** be replaced in its complete entirety:

- The complete 32-page document consisting of the most current Davis-Bacon federal prevailing wages, updated as of July 24, 2020.
- Entire Sheet 8 of 15 of the engineering design plan set entitled "CITY OF COSTA MESA IMPROVEMENT PLANS FOR FAIRVIEW ROAD, SAFETY IMPROVEMENTS PROJECT, FEDERAL PROJECT NO. HSIPL-5312(102), CITY PROJECT NO. 19-10."

Both of the above are to be downloaded by each prospective bidder through CIPList.com and acknowledged by signing on page "P-4" of the NOTICE TO BIDDERS, PROPOSAL, CONTRACT, AND SPECIAL PROVISIONS FOR FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT (ADAMS AVE. TO BAKER ST.), FEDERAL PROJECT NO. HSIPL-5312(102), CITY PROJECT NO. 19-10 or otherwise known as the contract bid documents and specifications.

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Bid Addendum No. 1  
Project and Specifications No. 19-10

The contents of this bid addendum shall have precedence over all related provisions within the contract documents. It is the intent of the City of Costa Mesa to clarify the above-referenced items to all bidders. Should it be necessary to request clarification on these matters, please send your request via e-mail at [seung.yang@costamesaca.gov](mailto:seung.yang@costamesaca.gov).

Please acknowledge receipt of all addenda by signing on page "P-4" of the proposal within the bid contract documents.

Sincerely,



**Seung Yang**  
Principal Civil Engineer

SY: Attachments

"General Decision Number: CA20200024 07/24/2020

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](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0	01/03/2020
1	01/10/2020
2	01/31/2020
3	03/06/2020
4	05/08/2020
5	05/15/2020
6	05/29/2020

7 07/03/2020  
 8 07/17/2020  
 9 07/24/2020

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

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 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

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 \* BRCA0004-010 05/01/2020

	Rates	Fringes
BRICKLAYER; MARBLE SETTER.....	\$ 41.39	18.95

\*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

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 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

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BRCA0018-010 09/01/2018

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

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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.

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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

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 CARP0409-008 08/01/2010

	Rates	Fringes
Modular Furniture Installer.....\$	17.00	7.41

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 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.

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 ELEC0441-001 02/24/2020

	Rates	Fringes
CABLE SPLICER.....\$	48.28	21.90



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.

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 ELEC0441-004 02/24/2020

	Rates	Fringes
ELECTRICIAN (TRANSPORTATION SYSTEMS, TRAFFIC SIGNALS & STREET LIGHTING)		
Cable Splicer/Fiber Optic		
Splicer.....	\$ 46.76	21.86
Electrician.....	\$ 46.16	21.83
Technician.....	\$ 34.62	21.49

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



drainage as well as pouring of a concrete envelope if needed.

JOURNEYMAN TRANSPORTATION ELECTRICIAN shall perform all tasks necessary to install 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, detector loop, fiber optic cable and video/data.

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 \* ELEC1245-001 06/01/2020

	Rates	Fringes
LINE CONSTRUCTION		
(1) Lineman; Cable splicer..	\$ 59.14	20.78
(2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), overhead & underground distribution line equipment).....	\$ 47.24	19.59
(3) Groundman.....	\$ 36.12	19.19
(4) Powderman.....	\$ 51.87	18.79

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

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 ELEV0018-001 01/01/2020

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 57.40	34.765+a+b

FOOTNOTE:

- a. PAID VACATION: Employer contributes 8% of regular hourly rate as vacation pay credit for employees with more than 5 years of service, and 6% for 6 months to 5 years of service.
- b. PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

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 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

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 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

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 IRON0433-006 07/01/2020

	Rates	Fringes
IRONWORKER		
Fence Erector.....	\$ 34.58	24.81

Ornamental, Reinforcing  
and Structural.....\$ 41.00                      33.45

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

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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.

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LAB00345-001 07/01/2020

	Rates	Fringes
LABORER (GUNITE)		
GROUP 1.....	\$ 45.05	19.62
GROUP 2.....	\$ 44.10	19.62
GROUP 3.....	\$ 40.56	19.62

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

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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

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LAB00652-003 07/01/2018

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

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LAB01184-001 07/01/2020

	Rates	Fringes
Laborers: (HORIZONTAL DIRECTIONAL DRILLING)		
(1) Drilling Crew Laborer...	\$ 37.85	15.99
(2) Vehicle Operator/Hauler.	\$ 38.02	15.99
(3) Horizontal Directional Drill Operator.....	\$ 39.87	15.99
(4) Electronic Tracking Locator.....	\$ 41.87	15.99
Laborers: (STRIPING/SLURRY SEAL)		
GROUP 1.....	\$ 39.06	19.01
GROUP 2.....	\$ 40.36	19.01
GROUP 3.....	\$ 42.37	19.01
GROUP 4.....	\$ 44.11	19.01

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

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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.

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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.

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PAIN0036-008 10/01/2019

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

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PAIN0036-015 01/01/2020

	Rates	Fringes
GLAZIER.....	\$ 43.45	23.39

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

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 PAIN1247-002 01/01/2020

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 37.55	13.78

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 PLAS0200-009 08/07/2019

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

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 PLAS0500-002 07/01/2020

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 38.50	25.91

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 PLUM0016-001 09/01/2019

	Rates	Fringes
PLUMBER/PIPEFITTER		
Work ONLY on new additions and remodeling of bars, restaurant, stores and commercial buildings not to exceed 5,000 sq. ft. of floor space.....	\$ 49.83	22.68
Work ONLY on strip malls, light commercial, tenant improvement and remodel work.....	\$ 38.05	21.01
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		



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 aritechatural sheet metal work, excluding A-C, heating, ventilating systems for human comfort....	\$ 45.78	28.96
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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

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

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

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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.

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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.

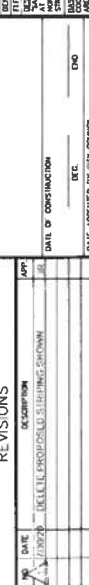
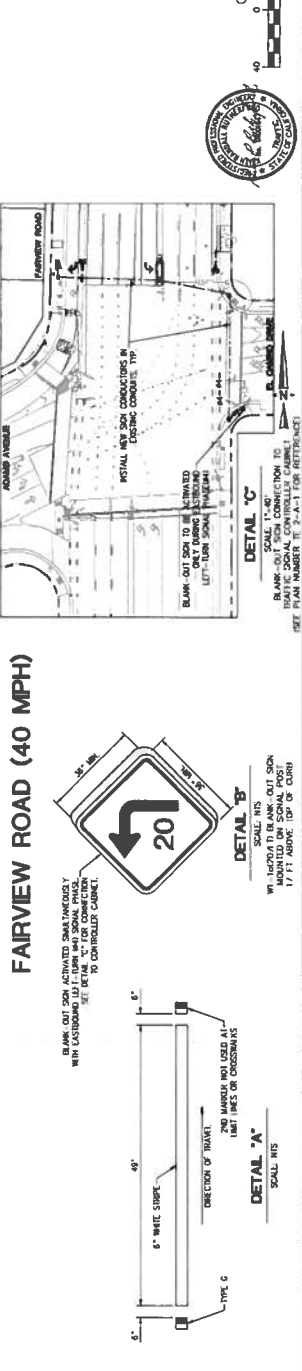
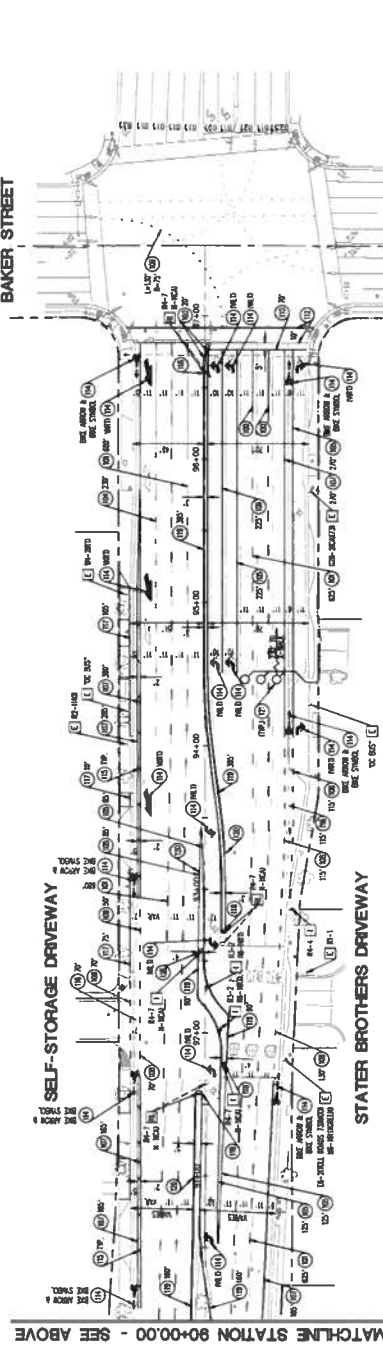
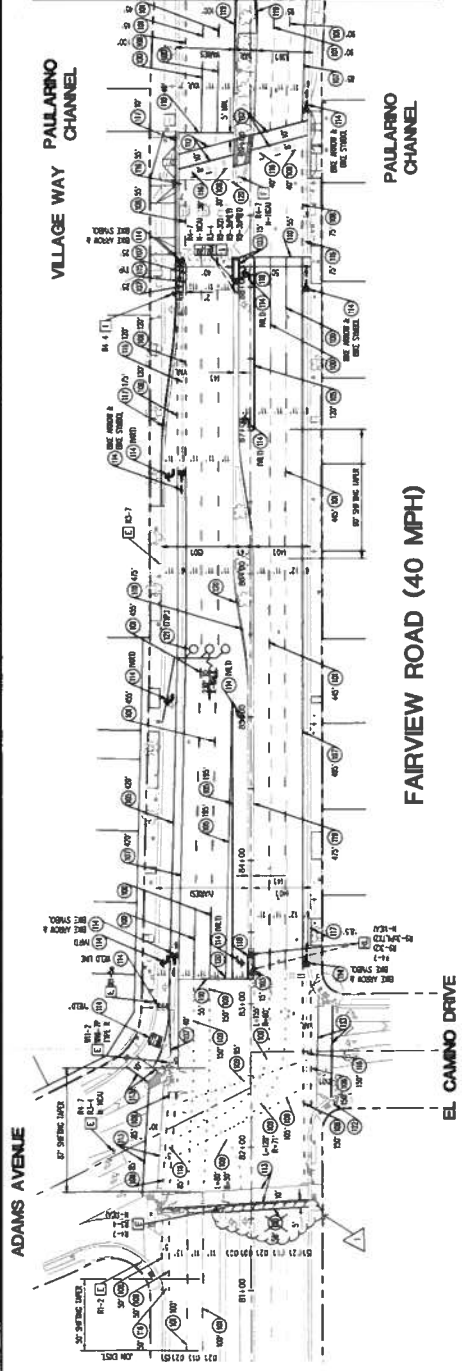
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END OF GENERAL DECISION"

**SIGNING AND STRIPING GENERAL NOTES:**

1. SIGNING AND STRIPING SHALL CONFORM TO THE LATEST EDITION OF THE CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND STANDARD PRACTICES AND SPECIFICATIONS LATEST EDITION, THESE PLANS, AND SPECIAL PROVISIONS.
2. ALL PAINTED MARKINGS AND CROSSSECTIONS SHALL BE SPRAYABLE RETROREFLECTIVE THERMOPLASTIC FOR THE SPECIFICATIONS ALL ADDITIONAL STRIPING SHALL BE DETECTORIZED AND APPLIED IN TWO COATS. A MINIMUM OF SIX DAY DRY SHALL BE PROVIDED.
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MATCHLINE STATION 90+00.00 - SEE BELOW



**CONSTRUCTION NOTES**

1. PAINT 1" SOLID WHITE LINE PER CALTRANS STANDARD PLAN SHEET 1.
2. PAINT 1" SOLID WHITE LINE PER CALTRANS STANDARD PLAN SHEET 1.
3. PAINT 1" SOLID WHITE LINE PER CALTRANS STANDARD PLAN SHEET 1.
4. PAINT 1" SOLID WHITE LINE PER CALTRANS STANDARD PLAN SHEET 1.
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14. PAINT 1" SOLID WHITE LINE PER CALTRANS STANDARD PLAN SHEET 1.
15. PAINT 1" SOLID WHITE LINE PER CALTRANS STANDARD PLAN SHEET 1.



<p><b>CITY OF COSTA MESA</b> DEPARTMENT OF PUBLIC SERVICES / ENGINEERING DIVISION FAIRVIEW ROAD SAFETY IMPROVEMENTS PROJECT CITY PROJECT NO. 18-10 SIGNING AND STRIPING PLAN</p>		<p>SHEET NO. 8 of 15</p>						
<p>DATE: 10/04/19 DRAWN BY: [Name] CHECKED BY: [Name] APPROVED BY: [Name]</p>		<p>SCALE: 1" = 40'</p>						
<p>PREPARED BY: Stantec UNDER THE SUPERVISION OF: [Name]</p>		<p>DATE: 10/04/19</p>						
<p>CONTRACTOR: [Name]</p>		<p>DATE: 10/04/19</p>						
<p>REVISIONS:</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> <td></td> </tr> </tbody> </table>		NO.	DATE	DESCRIPTION	1			<p>DATE: 10/04/19</p>
NO.	DATE	DESCRIPTION						
1								



# CITY OF COSTA MESA

P.O. BOX 12000 77 FAIR DRIVE CALIFORNIA 92628-1200

FROM THE DEPARTMENT OF PUBLIC SERVICES/ENGINEERING DIVISION

**DATE:** July 31, 2020  
**TO:** ALL PROSPECTIVE BIDDERS  
**SUBJECT:** BID ADDENDUM NO.2 –  
FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT (ADAMS AVE. TO BAKER ST.)  
FEDERAL PROJECT NO. HSIPL-5312(102)  
CITY PROJECT NO. 19-10

Please forward this addendum to the appropriate individual as soon as possible. To assist our office in confirming the delivery of this addendum, please sign acknowledging receipt herein and e-mail a copy of this sheet to [seung.yang@costamesaca.gov](mailto:seung.yang@costamesaca.gov). **A COPY WILL NOT BE SENT BY MAIL.**

Received by: \_\_\_\_\_

Company: \_\_\_\_\_

All bidders shall register with CIPList.com in order to retrieve addenda. It is the responsibility of each prospective bidder to check CIPList.com on a DAILY basis through the close of bids for any applicable addenda or updates.

This addendum, effective on this date, addresses the following items:

The following **SHALL** be **replaced** in its complete entirety in the NOTICE TO BIDDERS, PROPOSAL, CONTRACT, AND SPECIAL PROVISIONS FOR FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT (ADAMS AVE. TO BAKER ST.), FEDERAL PROJECT NO. HSIPL-5312(102), CITY PROJECT NO. 19-10 or otherwise known as the contract bid documents and specifications:

- Sheet "P-1" of the PROPSAL to be replaced with the revised Sheet "P-1" attached herewith.
- Sheet "1" of PART I – GENERAL PROVISIONS to be replaced with the revised Sheet "1" attached herewith.
- Sheet "SP-27" of Part 2 – SPECIAL PROVISIONS to be replaced with the revised Sheet "SP-27" attached herewith.

The following **SHALL** be **added** in its complete entirety:

- The 201-page revision addendums to the State of California Department of Transportation (Caltrans) Standard Specifications dated April 17, 2020 as attached herewith. These attached revisions to the Standard Specifications shall supersede or replace any conflict from previous Standard Specifications editions.

Bid Addendum No. 2  
Project and Specifications No. 19-10

All of the documents described in the previous page are to be downloaded by each prospective bidder through CIPList.com and acknowledged by signing on page "P-4" of the NOTICE TO BIDDERS, PROPOSAL, CONTRACT, AND SPECIAL PROVISIONS FOR FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT (ADAMS AVE. TO BAKER ST.), FEDERAL PROJECT NO. HSIPL-5312(102), CITY PROJECT NO. 19-10 or otherwise known as the contract bid documents and specifications.

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The contents of this bid addendum shall have precedence over all related provisions within the contract documents. It is the intent of the City of Costa Mesa to clarify the above-referenced items to all bidders. Should it be necessary to request clarification on these matters, please send your request via e-mail at [seung.yang@costamesaca.gov](mailto:seung.yang@costamesaca.gov).

Please acknowledge receipt of all addenda by signing on page "P-4" of the proposal within the bid contract documents.

Sincerely,



**Seung Yang**  
Principal Civil Engineer

SY: Attachments

**PROPOSAL  
FOR THE  
FAIRVIEW ROAD HSIPL IMPROVEMENT PROJECT (ADAMS AVE. TO BAKER ST.)  
FEDERAL PROJECT NO. HSIPL-5312(102)  
CITY PROJECT NO. 19-10**

The Honorable City Council  
City of Costa Mesa  
77 Fair Drive  
Costa Mesa, CA 92626

Dear Council Members:

In compliance with the NOTICE INVITING BIDS FOR THE **FAIRVIEW ROAD HSIP IMPROVEMENT PROJECT, FEDERAL PROJECT NO. HSIPL-5312(102), CITY PROJECT NO. 19-10**, a copy which is hereto attached, the undersigned has carefully examined the location of the proposed Work, the Plans, Specifications and other Contract Documents and is therefore satisfied as to the conditions to be encountered, as to the character, quality and quantity of work to be performed and materials to be furnished and as to the requirements of the specifications and the Contract. It is mutually agreed that the submission of a proposal shall be considered prima facie evidence that the BIDDER has made such examination.

If awarded the Contract, the undersigned agrees to commence the Work under the Contract **WITHIN TWENTY (20) WEEKS AFTER DATE OF CONTRACT, AND COMPLETE SAID WORK WITHIN SIXTY (60) WORKING DAYS**, from the first day of commencement of such work unless legal extension is granted in accordance with the terms set forth in the specifications, and to perform and complete the Work as shown on the Plans and in accordance with the Specifications and other Contract Documents, and to furnish all labor, materials, tools and equipment necessary to complete the Work in-place therefor, in the manner and time herein prescribed at the following prices, to wit:

**CITY OF COSTA MESA**

**DEPARTMENT OF PUBLIC SERVICES**

**PART I - GENERAL PROVISIONS**

The work embraced herein shall be done in accordance with the **latest Edition of the Standard Specifications and the Standard Plans, of the California Department of Transportation (CALTRANS)** insofar as the same may apply and these special provisions.

In case of conflict between the CALTRANS Standard Specifications and these special provisions, the special provisions shall take precedence over and be used in lieu of the conflicting portions.

Amendments to the Standard Specifications set forth in these special provisions shall be considered as part of the Standard Specifications. In case of conflict between such amendments and the Standard Specifications, the amendments shall take precedence over and be used in lieu of the conflicting portions.

The referenced sections of the latest Edition of the Standard Specifications for Public Works Construction (GREENBOOK); the applicable City of Costa Mesa Standard Details and Specifications shall be considered as a part of these specifications.

**BEGINNING OF WORK, TIME OF COMPLETION AND LIQUIDATED DAMAGES:**

The Contractor shall begin work with ten (10) calendar days after the contract has been approved by the City of Costa Mesa.

The work shall be diligently prosecuted to the completion before the expiration of **SIXTY (60) WORKING DAYS**, beginning on the **TWENTY (20) WEEKS** after the contract has been approved by the City of Costa Mesa.

The Contractor shall pay to the City of Costa Mesa the sum of **\$3,600 per day**, for each and every calendar day's delay in finishing the work in excess of the number of working days prescribed above.

**WORK TO BE DONE:**

The work to be performed consists of saw cutting and removal of A.C. pavement and base materials, providing, constructing and/or installation: Class A topsoil, PCC curb, PCC curb and gutter, relocation of a catch basin and lateral, construction of parkway way drains, AC pavement, utility adjustments, sign and striping improvements, and landscaping and irrigation; one new Traffic Signal and other work noted on the plans.

**LABOR SURCHARGE:**

The following shall have precedence over the mark-ups set forth in the Caltrans Labor Surcharge and Equipment Rental Rates. All other rates set forth in the equipment rental rates shall apply. The compensation for employer's payments of payroll taxes; workers compensation insurance; liability insurance; health and welfare; pension; vacation; apprenticeship funds; other direct costs resulting from Federal, State, or local laws; and for assessments or benefits required by lawful collective bargaining agreements to be applied to the actual cost for wages shall be 23 percent for regular time and overtime.

**MARKUP:**

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No markups will be allowed for second tier or higher subcontractors.

### **Section 5-1 Utility Location**

Attention is directed to the possibility of utility mains or laterals within the project limits. The Contractor shall have the locations of the various utility facilities within reconstruction areas marked on the surface prior to construction and protect them during the removal and reconstruction procedures. The Contractor shall contact the City Transportation Services Department to locate traffic signal conduit within the reconstruction areas.

Prior to commencing any work, the Contractor shall carefully excavate and determine precise locations and depths of all utility service lines, utility mainlines, irrigation systems and electrical systems, within the project site which may affect or be affected by the Contractor's operations. The Contractor shall not be compensated for any delays or extra work brought about by his failure to perform the above-mentioned work. The Contractor shall remove any abandoned underground utility lines encountered during construction. The Contractor shall be responsible for any damage to existing utilities.

### **Section 6-1 Construction Schedule and Commencement of Work**

The Contractor shall prepare and submit to the Engineer a written schedule of his work operations for the proposed project. The schedule shall be submitted for approval at the pre-construction conference. The Contractor's designated project superintendent shall be present at the pre-construction meeting.

### **Section 6-7 - Time of Completion**

The Contractor shall begin work on the project within ten (10) calendar days after the contract has been awarded by the City Council. Said work shall be diligently prosecuted to completion before the expiration of **SIXTY (60) WORKING DAYS** beginning on the **TWENTY (20) WEEKS** after the award of the contract or the first day of commencement of the work, whichever occurs first.

### **Section 6-9 – Liquidated Damages**

The Contractor shall pay to the City of Costa Mesa the sum of **\$3,600 per day**, for each and every calendar day delay in finishing the work in excess of the number of calendar days prescribed above.

### **Section 7-8 – Water Pollution Control**

Discharge of storm water from construction sites that disturb land equal to or greater than one (1) acre must be in compliance with the state General Construction Activity Permit (Construction Permit). The latest permit provisions of the Construction Permit shall apply. The Contractor is required to contact the Santa Ana Regional Water Quality Control Board (Regional Board) for all information contained in the Construction Permit. In the event project construction occurs during the transition of revised Construction Permits, the Contractor shall incorporate the necessary



**RSS. Use in all projects. Do not add. Inserted by boilerplate merge.**

**REVISED STANDARD SPECIFICATIONS DATED  
04-17-20**

**ORGANIZATION**

Revised standard specifications are under headings that correspond with the main-section headings of the *Standard Specifications*. A main-section heading is a heading shown in the table of contents of the *Standard Specifications*. A date under a main-section heading is the date of the latest revision to the section.

Each revision to the *Standard Specifications* begins with a revision clause that describes or introduces a revision to the *Standard Specifications*. For a revision clause that describes a revision, the date on the right above the clause is the publication date of the revision. For a revision clause that introduces a revision, the date on the right above a revised term, phrase, clause, paragraph, or section is the publication date of the revised term, phrase, clause, paragraph, or section. For a multiple-paragraph or multiple-section revision, the date on the right above a paragraph or section is the publication date of the paragraphs or sections that follow.

Any paragraph added or deleted by a revision clause does not change the paragraph numbering of the *Standard Specifications* for any other reference to a paragraph of the *Standard Specifications*.

AA

**DIVISION I GENERAL PROVISIONS**

**1 GENERAL**

04-17-20

**Add between the 1st and 2nd paragraphs of section 1-1.01:**

10-19-18

Global revisions are changes to contract documents not specific to a section of the Standard Specifications. In each contract document at each occurrence, interpret the following terms as shown:

Term	Interpretation	Conditions
Fed-Std-595	AMS Std 595	--
Grade SS1	Grade SS-1	--
Grade SS1h	Grade SS-1h	--
Grade CSS1	Grade CSS-1	--
Grade CSS1h	Grade CSS-1h	--
Grade QS1h	Grade QS-1h	--
Grade CQS1h	Grade CQS-1h	--

04-17-20

Add to the table in the 1st paragraph of section 1-1.06:

CSC	conductor signal cable	04-19-19
NDS	National Design Specification for Wood Construction	04-17-20
BWC	Bonded wearing course	

Replace the row for 12 in the table in the 1st paragraph of section 1-1.08 with:

12	Orange (Ora)	1750 E 4TH ST STE 100 SANTA ANA CA	1750 E 4TH ST STE 100 SANTA ANA CA 92705-3909	04-17-20
----	--------------	--	---	----------

Replace the 9th row in the table of section 1-1.11 with:

Department of Conservation, Division of Mine Reclamation	<a href="http://www.conservation.ca.gov/dmr">http://www.conservation.ca.gov/dmr</a>	--	--	04-19-19
--	---	----	----	----------

Add to the table in section 1-1.11:

Data Interchange for Materials Engineering	<a href="https://dime.dot.ca.gov">https://dime.dot.ca.gov</a>	MATERIALS ENGINEERING AND TESTING SERVICES DEPARTMENT OF TRANSPORTATION 5900 FOLSOM BLVD SACRAMENTO CA 95819-4612	(916) 227-5238	04-19-19
SWRCB, Land Disposal Program	<a href="https://www.waterboards.ca.gov/water_issues/programs/land_disposal/walist.html">https://www.waterboards.ca.gov/water_issues/programs/land_disposal/walist.html</a>	--	--	

AA

## 2 BIDDING

10-19-18

Replace the 5th paragraph of section 2-1.12B(1) with:

10-19-18

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 most specific available NAICS codes or work codes applicable to the type of work the firm will perform on the Contract.

**Replace section 2-1.12B(2) with:**

10-19-18

**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 no later than 4 p.m. on the 5th day after bid opening. If the last day for submitting the quote falls on a Saturday or holiday, it may be submitted on the next business day with the same effect as if it had been submitted on the 5th day.

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.

Failure to submit a completed DBE Confirmation form and a copy of the quote from each DBE will result in disallowance of the DBE's participation.

**Add between the 4th and 5th paragraphs of section 2-1.15B:**

10-19-18

Submit a copy of the quote from each DVBE listed on the Certified DVBE Summary form that describes the type and dollar amount of work shown on the form no later than 4 p.m. on the 4th business day after bid opening.

**Add between the 3rd and 4th paragraphs of section 2-1.15C(1):**

10-19-18

Submit a copy of the quote from each DVBE listed on the Certified DVBE Summary form that describes the type and dollar amount of work shown on the form no later than 4 p.m. on the 4th business day after bid opening.

**Add between the 1st and 2nd paragraphs of section 2-1.18C:**

10-19-18

Failure to submit a completed Certified Small Business Listing for the Non-Small Business Preference form by 4 p.m. on the 2nd business day after bid opening will result in a nonresponsive bid.

**Replace section 2-1.33B with:**

10-19-18

**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) Bid Form Submittal**

Submit the bid forms according to the schedule shown in the following table:

**Bid Form Submittal Schedule for a  
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 <sup>a</sup>	Time of bid
DBE Commitment	No later than 4 p.m. on the 5th day after bid opening <sup>b</sup>
DBE Confirmation	No later than 4 p.m. on the 5th day after bid opening <sup>b</sup>
DBE Good Faith Efforts Documentation	No later than 4 p.m. on the 5th day after bid opening <sup>b</sup>

<sup>a</sup>Submit only if you choose the option.

<sup>b</sup>If the last day for submitting the bid form falls on a Saturday or holiday, it may be submitted on the next business day with the same effect as if it had been submitted on the day specified.

**2-1.33B(2)(b)(iii) Reserved**

**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) Bid Form Schedule**

Submit the bid forms according to the schedule shown in the following table:

**Bid Form Submittal Schedule for a  
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 <sup>a</sup>	Time of bid

<sup>a</sup>Submit only if you choose the option.

**2-1.33B(2)(c)(iii) Reserved**

**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) Bid Form Submittal**

Submit the bid forms according to the schedule shown in the following table:

**Bid Form Submittal Schedule for a  
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 <sup>a</sup>	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 <sup>a</sup>	Time of bid
Certified Small Business Listing for the Non-Small Business Preference <sup>a</sup>	No later than 4 p.m. on the 2nd business day after bid opening

<sup>a</sup>Submit only if you choose the option or preference.



#### 4 SCOPE OF WORK

10-18-19

**Replace the 7th and 8th paragraphs of section 4-1.07B with:**

10-18-19

The Department decides whether to accept a VECP and the estimated net construction-cost savings from adopting the VECP or parts of it. The Department may require you to accept a share of the investigation cost as a condition of reviewing a VECP. In determining the estimated net construction-cost savings, the Department excludes your VECP preparation cost and the Department's VECP investigation costs, including parts paid by you. After written acceptance, the Department considers the VECP and deducts the agreed cost of the investigation.

**Replace item 4 in the list in the 9th paragraph of section 4-1.07B with:**

10-18-19

4. Adjusts the payment so that the Change Order results in a credit to the Department of 50 percent of the estimated net construction-cost savings, except if the VECP provides a reduction in traffic congestion or avoids traffic congestion

**Replace the 10th paragraph of section 4-1.07B with:**

10-18-19

If a VECP providing for a reduction in traffic congestion or avoiding traffic congestion is accepted by the Department, the Department adjusts the payment that results in a credit to the Department of 40 percent of the estimated net construction-cost savings attributable to the VECP. Submit detailed traffic handling comparisons between the existing Contract and the proposed change, including estimates of the traffic volumes and congestion.

10-18-19

**Delete the 12th paragraph of section 4-1.07B**

AA

#### 5 CONTROL OF WORK

04-17-20

**Replace the 6th paragraph of section 5-1.13B(2) with:**

10-19-18

If the Department authorizes the termination or substitution of a listed DBE, make good faith efforts to find another DBE. The substitute DBE must (1) perform at least the same dollar amount of work as the original DBE under the Contract to the extent needed to meet the DBE goal and (2) be certified as a DBE with the most specific available NAICS or work code applicable to the type of work the DBE will perform on the Contract at the time of your request for substitution. Submit your documentation of good faith efforts within 7 days of your request for authorization of the substitution. The Department may authorize a 7-day extension of this submittal period at your request. Refer to 49 CFR 26 app A for guidance regarding evaluation of good faith efforts to meet the DBE goal.

**Replace the 2nd sentence in the 2nd paragraph of section 5-1.13C with:**

10-19-18

The substitute must be another DVBE, unless DVBEs are not available. The substitute must perform the work originally stated.

**Replace the 6th paragraph of section 5-1.13C with:**

10-19-18

If a DVBE substitute is not available, requests for substitutions of a listed DVBE must include:

1. Contact with the DVBE advocate from the Department and the Department of Veteran Affairs
2. Search results from the Department of General Services' website of available DVBEs
3. Communication with a DVBE community organization nearest the job site, if applicable
4. Documented communication with DVBEs describing the work to be performed, the percentage of the total bid, the corresponding dollar amount, and the responses to the communication

**Replace section 5-1.24 with:**

10-19-18

**5-1.24 CONSTRUCTION SURVEYS**

**5-1.24A General**

The Department places stakes and marks under chapter 12, "Construction Surveys," of the Department's *Surveys Manual*.

Submit your request for Department-furnished stakes:

1. Once staking area is ready for stakes
2. On a Request for Construction Staking form

After your submittal, the Department starts staking within 2 business days.

Preserve stakes and marks placed by the Department. If the stakes or marks are destroyed, the Department replaces them at the Department's earliest convenience and deducts the cost.

**Replace section 5-1.26 with:**

10-19-18

**5-1.26 RESERVED**

**Replace the 2nd and 3rd paragraphs of section 5-1.43A with:**

10-18-19

Submit potential claim records using the Department's Internet potential claim system. For information on submittal of potential claim records using the Internet potential claim system, go to the Department's Division of Construction website.

A potential claim record that you submit using the Internet potential claim system is the same as the originator of the claim and you signing the potential claim record.

For the Internet potential claim system, potential claim records are:

1. Initial Potential Claim Record form
2. Supplemental Potential Claim Record form
3. Full and Final Potential Claim Record form
4. Closed Potential Claim Record form

Submit a Closed Potential Claim Record form if you choose not to pursue an Initial Potential Claim Record that has been submitted.

**Replace item 3.3.4 in the list in the 2nd paragraph of section 5-1.43D with:**

04-17-20

- 3.3.4. Equipment rates at the rental rates listed in Labor Surcharge and Equipment Rental Rates in effect when the affected work related to the potential claim was performed



**Add between the 2nd and 3rd paragraphs of section 5-1.43D:**

04-17-20

If the total potential claim cost exceeds \$500,000, include an independent CPA cost audit report. Submit the audit report within 70 days of the completion of the potentially claimed work. The CPA's cost audit must be performed as an examination-level engagement under the attestation engagements in the *Government Auditing Standards* published by the Comptroller General of the United States. The attest documentation prepared by the CPA in connection with the audit must be submitted for review with the audit report. Within 20 days of the Engineer's request, make your financial records available for an audit by the State for verifying the actual cost described in your audit. The Department does not participate in costs for the report where no entitlement is determined. If entitlement is determined, the Department pays for 1/2 the cost of the report; the Contractor pays for the other 1/2. The cost is determined under section 9-1.05 except no markup is allowed.

**Replace section 5-1.43E(1)(i) with:**

04-17-20

Pay the DRA or each DRB member \$2,000 per day for the DRA's or DRB member's participation at each on-site meeting.

On-site meetings include:

1. Initial project meeting
2. Progress meetings
3. Dispute meetings

The payment includes full compensation for on-site time, travel expenses, transportation, lodging, travel time, and incidentals for each day or portion thereof.

Before a DRA or DRB member spends any time reviewing the plans or specifications, evaluating positions, preparing recommendations, completing forms, or performing any other off-site DRA- or DRB-related tasks, the parties must agree to pay for the tasks. Pay the DRA or DRB member \$200 per hour for these off-site tasks. This payment includes full compensation for incidentals such as expenses for telephone, fax, and computer services.

The Department does not pay for (1) any DRA- or DRB-related work performed after Contract acceptance or (2) your cost of preparing for or attending ADR resolution meetings.

The Department pays:

1. \$2,000 for each DRA on-site meeting
2. \$6,000 for each DRB on-site meeting
3. \$200 per hour for agreed off-site DRA- or DRB-related tasks

The Department does not adjust the unit price for an increase or decrease in the quantity of:

1. DRA on-site meeting
2. DRB on-site meeting
3. Hourly off-site DRA- or DRB-related tasks

Within 60 days of receipt of Department payment, submit copies of associated invoices and supporting documents in the form of a canceled check or bank statement for DRA- or DRB- payment verification.

**Replace section 5-1.43E(2)(a) with:**

04-17-20

Section 5-1.43E(2) applies to a contract with an estimated cost from \$3 million to \$10 million.



where:

TT = district, leading zero

EA = Contract number, excluding the district identification number, expressed as 6 characters

WE = week ending date entered as month, leading zero; day of month, leading zero; year, last 2 digits

DOCTYPE = labor payroll document type, CP for Certified Payroll, FB for Fringe Benefit Statement, or SC for Statement of Compliance

Before submitting the payroll records electronically, you and your subcontractors must each complete and sign the Request for Electronic Submission of Certified Payroll Records and e-mail it in PDF format to the district Labor Compliance Office. The Department provides you and your subcontractors' assigned representatives the accounts and user identifications by e-mail after each Request for Electronic Submission of Certified Payroll Records is received.

Each electronic submission must:

1. Include certified payroll records in a nonmodifiable PDF file
2. Include a signed Statement of Compliance form with each weekly record as a nonmodifiable PDF file
3. Be received by the Department by close of business on the 15th day of the month for the prior month's work

**Replace the 12th paragraph of section 7-1.02K(3) with:**

10-18-19

Make all payroll records, including employee's complete social security number, available for inspection and copying or furnish a copy upon request of a representative of the:

1. Department
2. Division of Labor Standards Enforcement of the Department of Industrial Relations
3. Division of Apprenticeship Standards of the Department of Industrial Relations

**Replace the 1st sentence in the 5th paragraph of section 7-1.02K(6)(a) with:**

10-18-18

Submit copies of your Injury and Illness Prevention Program, Code of Safe Practices, and permits required by Cal/OSHA as informational submittals.

**Replace section 7-1.02K(6)(j)(iii) with:**

10-18-19

**7-1.02K(6)(j)(iii) Unregulated Earth Material Containing Lead**

Reserved

**Replace *Reserved* in section 7-1.02M(2) with:**

10-18-19

Submit the names and emergency telephone numbers of the nearest fire suppression agencies before the start of job site activities as an informational submittal. Post the names and phone numbers at a prominent place at the job site.

Submit a copy of your fire prevention plan required by Cal/OSHA as an informational submittal before the start of job site activities.

04-19-19

Cooperate with fire prevention authorities in performance of the work.

Immediately report fires occurring within and near the project limits by dialing 911 and to the nearest fire suppression agency by using the emergency phone numbers retained at the job site.

Prevent project personnel from setting open fires that are not part of the work.

Prevent the escape of and extinguish fires caused directly or indirectly by job site activities.

**Replace the 2nd paragraph of section 7-1.02M(3) with:**

04-19-19

For the list of permitted sites, go to the Department of Conservation, Division of Mine Reclamation website.

**Replace the 13th paragraph of section 7-1.03 with:**

10-18-19

For a taper on a bridge deck or approach slab, construct the taper with rapid setting concrete under section 60-3.02B(2) or polyester concrete under section 60-3.04B(2). Prepare the surface to receive the taper under section 60-3.02C(7). For tapers with aggregate fillers, rake conform edges to ensure smooth transitions. Cure the taper for at least 3 hours or the minimum time recommended by the manufacturer before opening to traffic.

**Replace the 4th sentence in the 16th paragraph of section 7-1.03 with:**

10-18-19

When not shown and if ordered, providing flaggers is change order work.

**Replace the 3rd sentence in the 7th paragraph of section 7-1.04 with:**

10-18-19

When not shown and if ordered, providing flaggers is change order work.

**Replace the 13th paragraph of section 7-1.04 with:**

10-18-19

Equipment must enter and leave the highway via existing ramps and crossovers and must move in the direction of traffic. All movements of workers and construction equipment on or across lanes open to traffic must be performed in a manner that do not endanger the public. Your vehicles or other mobile equipment leaving an open traffic lane to enter the construction area must slow down gradually in advance of the location of the turnoff to give the traffic following an opportunity to slow down. When leaving a work area and entering a roadway carrying traffic, your vehicles and equipment must yield to traffic. Compensation for flaggers, used for all movement of workers and construction vehicles and equipment on or across lanes open to traffic, is included in the bid items of work involved.

AA

**8 PROSECUTION AND PROGRESS**

04-17-20

Replace the row for *Safety* in the table in the 2nd paragraph of section 8-1.03 with:

10-19-18

Safety	Injury and Illness Prevention Program, Code of Safe Practices, and job site posters
--------	---

**Replace the 2nd paragraph of section 8-1.07C with:**

Losses for idle equipment, idle workers, and moving or transporting equipment are eligible for delay-related payment adjustments.

04-17-20

**Replace item 3 in the list in the 3rd paragraph of section 8-1.07C with:**

3. Delay days exclude Saturdays and holidays.

04-19-19

**Add to section 8-1.07C:**

If you claim additional costs due to impacts from an excusable delay, you must comply with section 5-1.42. Support your claim for additional costs based on the difference between the cost to perform the work as planned and the cost to perform the work as changed as determined under section 9-1.04. The Department adjusts payment for the work portion that was impacted.

04-17-20

**Replace section 8-1.14E with:**

**8-1.14E Payment Adjustment for Termination**

10-18-19

If the Department issues a termination notice, the Engineer determines the payment for termination during the performance period, from contract approval date to contract acceptance date, based on the following:

1. Direct cost for the work performed:
  - 1.1. Including:
    - 1.1.1. Mobilization
    - 1.1.2. Demobilization
    - 1.1.3. Securing the job site for termination
    - 1.1.4. Losses from the sale of materials
  - 1.2. Not including:
    - 1.2.1. Cost of materials you keep
    - 1.2.2. Profit realized from the sale of materials
    - 1.2.3. Cost of material damaged by:
      - 1.2.3.1. Act of God
      - 1.2.3.2. Act of a public enemy
      - 1.2.3.3. Fire
      - 1.2.3.4. Flood.
      - 1.2.3.5. Governor-declared state of emergency
      - 1.2.3.6. Landslide
      - 1.2.3.7. Tsunami
    - 1.2.4. Other credits
2. Cost of remedial work, as estimated by the Engineer, is not reimbursed.
3. Allowance for profit not to exceed 4 percent of the cost of the work performed where a likelihood of having made a profit had the Contract not been terminated is shown.
4. Material handling costs for material returned to the vendor or disposed of as ordered.
5. Costs in determining the payment adjustment due to the termination, excluding attorney fees and litigation costs.
6. Overhead costs.

Termination of the Contract does not relieve the surety of its obligation for any just claims arising out of the work performed.

AA

## 9 PAYMENT

04-17-20

**Add between the 1st and 2nd paragraphs of section 9-1.04A:**

04-17-20

The Tentative Daily Extra Work Agreement form is used to identify the labor, materials, and equipment used on change order work paid at force account. Signatures on this form do not constitute final agreement regarding payment.

**Replace section 9-1.07B(5) with:**

10-19-18

### 9-1.07B(5) Hot Mix Asphalt Containing Reclaimed Asphalt Pavement

The Engineer calculates the quantity of asphalt in HMA containing RAP using the following formula:

$$Qrap = HMARTT \times Xaa$$

where:

$$Xaa = Xta - [(Xrap \times Xra \times (Xta - 100)) / (100 \times (Xra - 100))]$$

and:

*Qrap* = quantity in tons of asphalt used in HMA containing RAP

*HMARTT* = HMA containing RAP, total tons placed

*Xaa* = asphalt content of HMA containing RAP adjusted to exclude the asphalt content in RAP, expressed as a percentage of the total weight of HMA containing RAP

*Xta* = total theoretical asphalt content in HMA containing RAP from the job mix formula, expressed as a percentage of the total weight of HMA containing RAP

*Xrap* = RAP percentage in HMA containing RAP from the job mix formula, expressed as a percentage of the total dry weight of aggregate in HMA containing RAP

*Xra* = average asphalt content of RAP from the job mix formula, expressed as percentage of total weight of RAP

**Replace the 2nd sentence in the 7th paragraph of section 9-1.11E with:**

04-19-19

The cost is determined under section 9-1.05 except no markup is allowed.

**Replace section 9-1.16C with:**

10-19-18

### 9-1.16C Materials On Hand

A material on hand but not incorporated into the work is eligible for a progress payment if:

1. Compliant with other Contract parts
2. Material cost exceeds either of the following:
  - 2.1. \$50,000
  - 2.2. \$25,000 if the requestor is certified as one or more of the following:
    - 2.2.1. DVBE
    - 2.2.2. DBE
    - 2.2.3. Small business as certified by Department of General Services, Office of Small Business and Disabled Veteran Business Enterprise Services

3. Purchased
4. Invoice is submitted
5. Stored within the State and you submit evidence that the stored material is subject to the Department's control
6. Protected from weather and contamination
7. Water pollution control measures are established and maintained
8. Requested on the Department-furnished form

**Replace the 1st paragraph of section 9-1.16E(3) with:**

10-18-19

During each estimate period you fail to comply with a Contract part, including the submittal of a document as specified, such as QC plans, schedules, traffic control plans and water pollution control submittals, the Department withholds a part of the progress payment except as specified below for the failure to submit a document during the last estimate period.

**Replace the 3rd paragraph of section 9-1.17C with:**

10-18-19

If you claim that the total for work completed, excluding deductions, in the proposed final estimate is less than 90 percent of your total bid, the Department adjusts the final payment to cover your overhead. The adjustment in the final estimate is 10 percent of the difference between 90 percent of your total bid and the total for work completed, excluding deductions. The Department does not make this adjustment on a terminated contract.

**Replace section 9-1.17D(2)(b) with:**

04-17-20

**9-1.17D(2)(b) Overhead Claims**

**9-1.17D(2)(b)(i) General**

Section 9-1.17D(2)(b) includes specifications for overhead claims.

The Department deducts an amount for field and home office overhead paid on added work from any claim for overhead. The home office overhead deduction equals 5 percent of the added work. The field office overhead deduction equals 5-1/2 percent of the added work.

**9-1.17D(2)(b)(ii) Definitions**

**actual daily overhead rates:** The home office overhead and field office overhead rates expressed per business day for the contract performance period. The home office overhead rate is calculated using the Eichleay Formula and is based on overhead cost pools and all allocation bases from Contract and company revenues.

**added work:** Equals the value of the work completed minus the total bid.

**contract performance period:** The period from Contract approval to Contract acceptance.

**9-1.17D(2)(b)(iii) Submittals**

Submit the following for an overhead claim:

1. Final amount of additional payment requested.
2. Specific identification of each claim and dates associated with each claim for which you seek reimbursement for specific overhead costs.
3. Audit report prepared by an independent CPA for the contract performance period identifying the actual daily overhead rates, supporting calculations and documentation for both field and home office overhead excluding a profit markup.





## 11 WELDING

04-19-19

Replace the table in the 3rd paragraph of section 11-1.01 with:

04-19-19

AWS code	Year of adoption
D1.1	2015
D1.3	2018
D1.4	2018
D1.5	2015
D1.6	2017
D1.8	2016

Replace the introductory clause in the 1st paragraph of section 11-1.03 with:

04-19-19

Replace clause 6.1.3 of AWS D1.1, the 1st paragraph of clause 9.1.2 of AWS D1.4, and clause 6.1.2 of AWS D1.5 with:

Replace the introductory clause of the 2nd paragraph of section 11-1.04 with:

04-19-19

Replace clause 6.14.6.1 of AWS D1.1, clause 9.8.1 of AWS D1.4, and clause 6.1.3.4 of AWS D1.5 with:

Add before the 1st paragraph of section 11-1.05:

04-19-19

Replace the first sentence of clause 5.21.1.1 of AWS D1.1 with the following:

5.21.1.1. The separation between surfaces of plug and slot welds, and of joints landing on a backing, shall not exceed 1/16 in [2 mm].

Replace clause 3.3.1.1 of AWS D1.5 with the following:

3.3.1.1. The separation between surfaces of plug and slot welds, and of joints landing on a backing, shall not exceed 2 mm [1/16 in].

Replace item 2 in the list in the 2nd paragraph of section 11-1.05 with:

04-19-19

2. Be mechanically and radiographically tested. Mechanical and radiographic testing and acceptance criteria must comply with the applicable AWS codes. The type of mechanical testing must be authorized.

Replace the 1st paragraph of 11-1.06 with:

04-19-19

Replace item 3 of clause 6.26.3.2 of AWS D1.5 with:

3. If indications that exhibit these planar characteristics are present at scanning sensitivity, or other evidence exists to suggest the presence of transverse cracks, a more detailed evaluation of the discontinuity by other means must be performed (e.g., alternate UT techniques, RT, grinding, or gouging for visual inspection or MT of the excavated areas.)



Replace section 12 with:

10-18-19

## 12 TEMPORARY TRAFFIC CONTROL

04-17-20

### 12-1 GENERAL

#### 12-1.01 GENERAL

Section 12-1 includes general specifications for providing temporary traffic control.

Temporary traffic control, including flagging, apparel, temporary traffic control devices, and equipment for flaggers, must comply with the *California MUTCD*, Part 6, "Temporary Traffic Control."

#### 12-1.02 MATERIALS

Not Used

#### 12-1.03 CONSTRUCTION

Assign flaggers to:

1. Control traffic
2. Warn the public of any dangerous conditions resulting from the work activities
3. Provide for the passage of traffic through the work as specified for the passage of traffic for public convenience and public safety

Maintain flagging apparel, traffic control devices, and equipment for flaggers in good repair.

#### 12-1.04 PAYMENT

Not Used

### 12-2 RESERVED

### 12-3 TEMPORARY TRAFFIC CONTROL DEVICES

#### 12-3.01 GENERAL

##### 12-3.01A General

##### 12-3.01A(1) Summary

Section 12-3.01 includes general specifications for providing temporary traffic control devices.

Providing temporary traffic control devices includes installing, placing, maintaining, repairing, replacing, and removing temporary traffic control devices.

Do not use different types of channelizing devices on the same alignment. The types include plastic drums, portable delineators, channelizers, tubular markers, traffic cones, and Type I and Type II barricades.

##### 12-3.01A(2) Definitions

**Category 1 temporary traffic control devices:** Small devices weighing less than 100 lb certified as crashworthy by crash testing or crash testing of similar devices. Category 1 temporary traffic control devices include traffic cones, plastic traffic drums, portable delineators, and channelizers.

**Category 2 temporary traffic control devices:** Small devices weighing less than 100 lb that are not expected to produce significant changes in vehicular velocity but could cause harm to impacting vehicles. Category 2 temporary traffic control devices include barricades and portable sign supports.

**Category 3 temporary traffic control devices:** Devices weighing 100 lb or more that are expected to produce significant changes in the vehicular velocity of impacting vehicles. Category 3 temporary traffic control devices include crash cushions, impact attenuator vehicles, temporary railing, temporary barrier, and end treatments for temporary railings and barriers.

**orange:** Orange, red-orange, fluorescent orange, or fluorescent red-orange.

**useable shoulder area:** Any longitudinal paved or unpaved contiguous surface adjacent to the traveled way with:

1. Enough weight-bearing capacity to support temporary traffic control devices, such as flashing arrow signs, PCMSs, and impact attenuator vehicles
2. Slope not greater than 6:1 (horizontal:vertical)

#### **12-3.01A(3) Submittals**

At least 5 business days before starting any work using the devices or within 2 business days after the request if the devices are already in use, submit as informational submittals:

1. Self-certification for crashworthiness of Category 1 temporary traffic control devices. Either you or the manufacturer must perform the self-certification. Include:
  - 1.1. Date
  - 1.2. Federal aid number for a federal-aid contract
  - 1.3. Contract number, district, county, route, and post miles of the project limits
  - 1.4. Company name, street address, city, state, and zip code of the certifying vendor
  - 1.5. Printed name, signature, and title of the certifying person
  - 1.6. Types of Category 1 temporary traffic control devices
2. List of proposed Category 2 temporary traffic control devices

Obtain a standard form for self-certification from the Engineer.

Submit a sample of the type of portable delineator that you will be using before placing the delineators on the job site.

#### **12-3.01A(4) Quality Assurance**

Reserved

#### **12-3.01B Materials**

The condition of temporary traffic control devices must comply with the most current edition of the American Traffic Safety Services Association publication *Quality Guidelines for Temporary Traffic Control Devices and Features*.

Category 2 temporary traffic control devices must be on FHWA's list of acceptable crashworthy Category 2 hardware for work zones. For this list, go to FHWA's Safety Program website.

Category 2 temporary traffic control devices must be labeled with the FHWA acceptance letter code and the name of the manufacturer. The label must be legible and permanently affixed to the temporary traffic control device by the manufacturer.

Category 3 temporary traffic control devices must be on the Authorized Material List for highway safety features.

Retroreflectivity for the following materials must comply with Table 2A-3, "Minimum Maintained Retroreflectivity Levels," of the *California MUTCD* and be on the Authorized Material List for signing and delineation materials:

1. Retroreflective sheeting for barricades
2. Retroreflective bands for portable delineators
3. Retroreflective sheeting for construction area signs
4. Retroreflective sheeting for channelizers
5. Reflectors for Type K temporary railing
6. Retroreflective cone sleeves
7. White and orange retroreflective stripes for plastic traffic drums

The following temporary traffic control devices must be visible from 1,000 feet during the hours of darkness under an illumination of legal high-beam headlights by persons with 20/20 vision or vision corrected to 20/20:

1. Retroreflective bands on portable delineators
2. Retroreflective sheeting on channelizers
3. Retroreflective cone sleeves on traffic cones

#### **12-3.01C Construction**

Perform all layout work necessary to place channelizing devices:

1. On the proper alignment
2. Uniformly at the location and spacing described
3. Straight on a tangent alignment
4. On a true arc in a curved alignment

If temporary traffic control devices are damaged, displaced, or stop operating or functioning as described from any cause during the progress of the work, immediately repair, repaint, or replace the components and restore them to their original locations and positions.

If ordered, furnish and place additional temporary traffic control devices. This work is change order work unless the temporary traffic control devices are being furnished and placed for public safety or public convenience.

Level and plumb a portable system.

Delineate the location of a trailer mounted system with a taper consisting of 9 traffic cones placed 25 feet apart, except where the system is placed within a lane closure or behind a barrier or guardrail.

When a portable system is not in use, remove it from the job site, place it behind a barrier or guardrail, or move it to an area at least 15 feet from the edge of the traveled way.

#### **12-3.01D Payment**

Not Used

### **12-3.02 TRAFFIC CONES**

#### **12-3.02A General**

Section 12-3.02 includes specifications for placing traffic cones.

#### **12-3.02B Materials**

A traffic cone must be flexible, orange, and manufactured from commercial-quality material designed for the intended purpose.

The outer section of the portion above the base of the traffic cone must be translucent and fabricated of a highly pigmented, orange, PV compound. The overall height of a traffic cone must be at least 28 inches and the bottom inside diameter of the traffic cone must be at least 10.5 inches.

During the hours of darkness, a traffic cone must have a retroreflective cone sleeve.

Retroreflective cone sleeves must be permanently affixed, double-band, sleeves consisting of 2 white retroreflective bands. The top band must be 6 inches wide and placed a maximum of 4 inches from the top of the cone. The lower band must be 4 inches wide and placed 2 inches below the bottom of the top band. You may use traffic cones with double-band retroreflective cone sleeves during daylight hours.

#### **12-3.02C Construction**

Use the same type of retroreflective cone sleeve for all cones used on the project.

Anchor the base of a traffic cone if it does not have enough size and weight to keep the cone in an upright position.

#### **12-3.02D Payment**

Not Used

### **12-3.03 PLASTIC TRAFFIC DRUMS**

#### **12-3.03A General**

##### **12-3.03A(1) Summary**

Section 12-3.03 includes specifications for placing plastic traffic drums.

##### **12-3.03A(2) Definitions**

Reserved

##### **12-3.03A(3) Submittals**

Submit a certificate of compliance for plastic traffic drums.

##### **12-3.03A(4) Quality Assurance**

Reserved

#### **12-3.03B Materials**

A plastic traffic drum must comply with the manufacturer's instructions for weight and ballast.

A plastic traffic drum must:

1. Be orange LDPE
2. Be flexible and collapsible upon vehicle impact
3. Have a weighted base to maintain an upright position and prevent displacement by passing traffic
4. Have a height such that the top of the drum is at least 36 inches above the traveled way

The weighted base must:

1. Be detachable
2. Be shaped to prevent rolling upon impact
3. Have a 38-inch maximum outside diameter
4. Have a 4-inch maximum height above the ground surface

#### **12-3.03C Construction**

Use 1 type of plastic traffic drum on the project.

Use the same type and brand of retroreflective sheeting for all plastic traffic drums used on the project.

Do not use sandbags or comparable ballast.

Moving plastic traffic drums from location to location if ordered after initial placement is change order work.

#### **12-3.03D Payment**

Not Used

### **12-3.04 PORTABLE DELINEATORS**

#### **12-3.04A General**

Section 12-3.04 includes specifications for placing portable delineators.

#### **12-3.04B Materials**

A portable delineator, including its base, must be made of a material that has enough rigidity to remain upright when unattended and must be flexible or collapsible upon impact by a vehicle. The base must be (1) shaped to prevent rolling after impact and (2) anchored or weigh enough to keep the delineator in an upright position. Ballast for a portable delineator must comply with the manufacturer's instructions.

A portable delineator must be a minimum of 36 inches in height. The vertical portion of a portable delineator must be predominantly orange. The post must be not less than 3 inches in width or diameter. Retroreflectorization of a portable delineator that has a height of less than 42 inches must be provided by two 3-inch-wide white bands placed a maximum of 2 inches from the top with a maximum of 6 inches between the bands. Retroreflectorization of a portable delineator that has a height of 42 inches or more

must be provided by four 4- to 6-inch-wide alternating orange and white stripes with the top stripe being orange.

**12-3.04C Construction**

Use only 1 type of portable delineator on the project.

**12-3.04D Payment**

Not Used

**12-3.05 CHANNELIZERS**

**12-3.05A General**

Section 12-3.05 includes specifications for placing channelizers.

**12-3.05B Materials**

A channelizer must be on the Authorized Material List for signing and delineation materials.

Its post must be orange.

A channelizer must be affixed with 3-by-12-inch, retroreflective, white sheeting.

**12-3.05C Construction**

Install channelizers on clean, dry surfaces.

Cement the channelizer bases to the pavement as specified for cementing pavement markers to the pavement in section 81-3.

When no longer required for the work, remove the channelizers and the underlying adhesive used to cement the channelizer bases to the pavement.

Do not remove channelizers that are shown to be left in place at the time of work completion.

**12-3.05D Payment**

Not Used

**12-3.06–12-3.09 RESERVED**

**12-3.10 BARRICADES**

**12-3.10A General**

Section 12-3.10 includes specifications for placing barricades.

**12-3.10B Materials**

Markings for barricade rails must be alternating orange and white retroreflective stripes.

Orange retroreflective sheeting must match color PR no. 6, Highway Orange, of the FHWA Color Tolerance Chart.

The interface between the rail surface and the retroreflective sheeting must be free of air bubbles or voids.

The predominant color of barricade components other than the rails must be white or unpainted galvanized metal or aluminum.

You may use a Type III barricade as a sign support if the barricade has been successfully crash tested under *NCHRP Report 350* criteria or the Manual for Assessing Safety Hardware (MASH) crash testing guidelines as a single unit with an attached sign panel of the size and type to be used.

A sign panel for a construction area sign or marker panel to be mounted on a barricade must comply with section 12-3.11B(2).

Do not imprint an owner identification on the retroreflective face of any rail.

### 12-3.10C Construction

Place each barricade such that the stripes slope downward in the direction road users are to pass.

Place each sand-filled bag near the ground level on the lower parts of the frame or stays to serve as ballast for the barricades. Do not place ballast on top of barricades or over any retroreflective barricade rail face that is facing traffic.

Do not remove barricades that are shown to be left in place at the time of work completion.

Moving a barricade from location to location is change order work if ordered after initial placement of the barricade.

### 12-3.10D Payment

Not Used

## 12-3.11 CONSTRUCTION AREA SIGNS

### 12-3.11A General

#### 12-3.11A(1) Summary

Section 12-3.11 includes specifications for placing construction area signs.

04-17-20

Construction area signs include general information signs and all temporary signs and object markers required for the direction of traffic within the project limits.

10-18-19

#### 12-3.11A(2) Definitions

**background:** Dominant sign color.

**legend:** Letters, numerals, tildes, bars, arrows, route shields, symbols, logos, borders, artwork, and miscellaneous characters that are intended to convey specific meanings on traffic signs.

#### 12-3.11A(3) Submittals

Reserved

#### 12-3.11A(4) Quality Assurance

Reserved

### 12-3.11B Materials

#### 12-3.11B(1) General

04-17-20

Construction area sign must be the product of a commercial sign manufacturer.

10-18-19

The style, font, size, and spacing of the legend must comply with the *Standard Alphabets* published in the FHWA's Standard Highway Signs Book.

The sign must be visible from 500 feet and legible from 300 feet at noon on a cloudless day and during the hours of darkness under an illumination of legal low-beam headlights by persons with 20/20 vision or vision corrected to 20/20. A fabric sign panel on a portable sign is not subject to the visibility and legibility requirements for headlight illumination during the hours of darkness.

04-17-20

Construction area sign must have a black legend on a retroreflective, fluorescent orange background. W10-1 advance warning sign for highway-rail grade crossings must have a black legend on a retroreflective fluorescent yellow background.

10-18-19

#### 12-3.11B(2) Stationary-Mounted Signs

04-17-20

Stationary-mounted sign must comply with section 82-2 and must have Type XI retroreflective sheeting.



A temporary sign support of any type placed within 15 feet from the edge of the traveled way must comply with the specifications for a Category 2 temporary traffic control device.

The sign post must be good, sound wood posts with the breakaway feature as shown for a roadside sign.

Fastening hardware and back braces must be commercial-quality materials.

### **12-3.11B(3) Portable Signs**

Each portable sign must consist of a base, standard or framework, and a sign panel. Units delivered to the job site must be capable of being placed into immediate operation.

A sign panel for a portable sign must comply with the specifications for a stationary-mounted sign panel or be fabricated from one of the following materials:

1. Type VI, retroreflective, elastomeric roll-up fabric
2. Nonretroreflective, cotton, drill fabric
3. Nonretroreflective, flexible, industrial, nylon fabric
4. Another type of fabric if authorized

Do not use nonretroreflective portable signs during the hours of darkness.

The bottom of the portable sign panel must be at least 1 foot above the edge of the traveled way.

### **12-3.11B(4) Temporary Object Markers**

A temporary object marker must be mounted on a stationary wood or metal post and must comply with section 82.

A marker panel for a Type N (CA), Type P (CA), or Type R (CA) object marker must comply with the specifications for a marker panel for a stationary sign panel in section 12-3.11B(2).

A target plate, post, and the hardware for a Type K (CA) and Type L (CA) temporary object marker must comply with the specifications for these items in section 82.

### **12-3.11B(5) General Information Signs**

Reserved

### **12-3.11C Construction**

#### **12-3.11C(1) General**

Place all construction area signs outside of the traveled way. Do not block a bicycle or pedestrian pathway with a construction area sign.

Place, install, maintain, and remove temporary object markers shown as construction area signs as specified for construction area signs.

Maintain accurate information on construction area signs. Immediately replace or correct signs that convey inaccurate information.

During the progress of work, immediately cover or remove unneeded signs.

Cover each unneeded sign such that the message cannot be seen. Securely fasten the cover to prevent movement from wind.

Check each covered sign daily for damage to the cover and immediately replace any cover if needed.

Clean each construction area sign panel at the time of installation and at least once every 4 months thereafter.

Be prepared to furnish additional construction area sign panels, posts, and mounting hardware or portable sign mounts on short notice due to changing traffic conditions or damage caused by traffic or other conditions. Maintain an inventory of commonly required items at the job site or make arrangements with a supplier who is able to furnish the items daily on short notice.

Replace any damaged construction area sign or repair the sign if authorized.

Remove any sign panel that exhibits irregular luminance, shadowing, or dark blotches at nighttime under vehicular headlight illumination.

### **12-3.11C(2) Stationary-Mounted Signs**

Install stationary-mounted signs as described for the installation of roadside signs except:

1. Back braces and blocks for sign panels are not required for signs 48 inches or smaller in width and diamond-shaped signs 48 by 48 inches or smaller.
2. Bottom of the sign panel must be at least 7 feet above the edge of the traveled way.
3. You may install a construction area sign on an above-ground, temporary platform sign support or on an existing lighting standard or other support if authorized. Do not make holes in a standard to support the sign if it is installed on an existing lighting standard.
4. Post embedment must be at least 2.5 feet if the post hole is backfilled around the post with commercial-quality concrete. The concrete must contain at least 295 pounds of cementitious material per cubic yard.

The Engineer determines the post size and number of posts if the type of sign installation is not shown.

Excavate each post hole by hand methods without the use of power equipment. You may use power equipment where you determine that subsurface utilities are not present in the area of the proposed post hole if authorized. The post-hole diameter must be at least 4 inches greater than the longest cross-sectional dimension of the post if it is backfilled with commercial-quality concrete.

Furnishing, installing, maintaining, moving, and removing any additional construction area signs if ordered is change order work.

### **12-3.11C(3) General Information Signs**

Reserved

### **12-3.11D Payment**

Not Used

## **12-3.12 TELESCOPING FLAG TREES**

### **12-3.12A General**

Section 12-3.12 includes specifications for placing telescoping flag trees.

### **12-3.12B Materials**

Telescoping flag trees must be manufactured from commercial-quality material designed for the intended purpose and capable of maintaining an upright position at all times while in use.

### **12-3.12C Construction**

Not Used

### **12-3.12D Payment**

Not Used

## **12-3.13–12-3.19 RESERVED**

## **12-3.20 TYPE K TEMPORARY RAILING**

### **12-3.20A General**

#### **12-3.20A(1) Summary**

Section 12-3.20 includes specifications for placing Type K temporary railing and Type K temporary terminal sections.

Type K temporary railing must consist of interconnected PC concrete barrier panels.

You may have your name or logo on each panel of Type K temporary railing. The name or logo must not be more than 4 inches in height and must be located not more than 12 inches above the bottom of the rail panel.

Reinforcing steel must comply with section 52.

#### **12-3.20A(2) Definitions**

Reserved

#### **12-3.20A(3) Submittals**

Submit a certificate of compliance for Type K temporary railing not cast at the job site.

#### **12-3.20A(4) Quality Assurance**

Reserved

#### **12-3.20B Materials**

##### **12-3.20B(1) General**

Concrete must comply with the specifications for minor concrete except load tickets and a certificate of compliance are not required.

Steel bars to receive bolts at the ends of the concrete panels must comply with ASTM A36/A36M. The bolts must comply with ASTM A307.

You may substitute a round bar of the same diameter for the end-connecting bolt shown. If a round bar is used, the round bar must:

1. Comply with ASTM A36/A36M
2. Have a minimum length of 26 inches
3. Have a 3-inch-diameter, 3/8-inch-thick plate welded on the upper end using a 3/16-inch fillet weld

The final surface finish of the railing must comply with section 51-1.03F(2).

Cure the exposed surfaces of the railing by the water method, the forms-in-place method, or the curing compound method using curing compound no. 1.

##### **12-3.20B(2) Type K Temporary Terminal Section**

The closure plate for a Type K temporary terminal section must be a white, commercial-quality steel plate shaped to conform to the cross section of the barrier. The mechanical expansion anchors for connecting the closure plate to the railings must comply with section 75-3 for concrete anchorage devices.

#### **12-3.20C Construction**

##### **12-3.20C(1) General**

Before placing Type K temporary railing on the job site, paint the exposed surfaces of the railing with white paint complying with the specifications for acrylic emulsion paint for exterior masonry. The repainting of the units is change order work if it is ordered after the units are in place.

Place Type K temporary railing on a firm, stable foundation. Grade the foundation to provide a uniform bearing surface throughout the entire length of the railing.

Structure excavation and backfill must comply with section 19-3 except compaction of earth fill placed behind Type K temporary railing in a curved layout is not required.

Place and maintain the abutting ends of PC concrete units in alignment without substantial offset from each other.

The drilling of holes and bonding of threaded rods or dowels must comply with the specifications for drilling and bonding dowels in section 51-1.

Install a reflector on the top or face of the rail of each rail unit placed within 10 feet of a traffic lane. Apply adhesive for mounting the reflector under the reflector manufacturer's instructions.

Install a Type P marker panel at each end of railing placed adjacent to a 2-lane, two-way highway and at the end facing traffic for railing installed adjacent to a one-way roadbed. If the railing is placed on a skew, install the marker at the end of the skew nearest the traveled way. Type P marker panels must comply with section 82 except you must furnish the marker panels.

After removing Type K temporary railing:

1. Restore the area to its previous condition or construct it to its planned condition if temporary excavation or embankment was used to accommodate the railing.
2. Remove all threaded rods or dowels to a depth of at least 1 inch below the surface of the concrete. Fill the resulting holes with mortar under section 51-1 except cure the mortar by the water method or by the curing compound method using curing compound no. 6.

If the Engineer orders a lateral move of Type K temporary railing and repositioning is not shown, the lateral move is change order work and the railing is not measured in the new position.

### **12-3.20C(2) Type K Temporary Terminal Section**

When the Type K temporary terminal section is no longer required, remove the anchor bolts connecting the closure plate to the concrete barrier or cut the bolts flush with the face of the barrier. If the anchor bolts are removed, fill the holes with grout.

### **12-3.20D Payment**

The payment quantity for temporary railing (Type K) is the length measured along the top of the railing.

### **12-3.21 TEMPORARY TRAFFIC SCREENS**

#### **12-3.21A General**

Section 12-3.21 includes specifications for installing temporary traffic screens.

#### **12-3.21B Materials**

Temporary traffic screen panels must be one of the following:

1. CDX grade or better plywood
2. Weather-resistant strand board
3. Plastic

Plastic temporary traffic screen panels must be on the Authorized Material List for temporary traffic screen.

Wale boards for use with plywood or strand board must be Douglas fir, rough sawn, construction grade or better.

Pipe screen supports must be schedule 40, galvanized steel pipe.

Nuts, bolts, and washers must be cadmium plated.

Screws must be black or cadmium-plated flat head, cross-slotted, with full-thread length.

Temporary traffic screen panels must be CDX grade or better, plywood or weather-resistant strand board.

Wale boards must be Douglas fir, rough sawn, construction grade or better.

Pipe screen supports must be schedule 40, galvanized steel pipe.

Nuts, bolts, and washers must be cadmium plated.

Screws must be black or cadmium-plated flat head, cross-slotted screws with full-thread length.

#### **12-3.21C Construction**

Install and anchor temporary traffic screens to the top of the Type K temporary railing. The temporary traffic screen must have 3-foot-long openings spaced at 200-foot intervals.

A lateral move of Type K temporary railing with attached temporary traffic screen is change order work if ordered and repositioning is not shown.

#### **12-3.21D Payment**

The payment quantity for temporary traffic screen is the length measured along the line of the screen with no deductions for openings in the temporary traffic screen.

### **12-3.22 TEMPORARY CRASH CUSHION MODULES**

#### **12-3.22A General**

Section 12-3.22 includes specifications for placing sand-filled temporary crash cushion modules in groupings or arrays.

If activities expose traffic to a fixed obstacle, protect the traffic from the obstacle with a sand-filled temporary crash cushion. The crash cushion must be in place before opening traffic lanes adjacent to the obstacle.

#### **12-3.22B Materials**

Each sand-filled temporary crash cushion module must be manufactured after March 31, 1997 and be on the Authorized Material List for highway safety features.

The color of each module must be standard yellow with black lids as furnished by the manufacturer. Each module must be free from structural flaws and objectionable surface defects.

For a module requiring a seal, the top edge of the seal must be securely fastened to the wall of the module by a continuous strip of heavy-duty tape.

Fill each module with sand under the manufacturer's instructions and to the sand capacity in pounds for each module shown. Sand for filling the modules must be clean, commercial-quality, washed concrete sand. When sand is placed in a module, the sand must contain no more than 7 percent water when tested under California Test 226.

#### **12-3.22C Construction**

Use the same type of crash cushion module for a single grouping or array.

Temporary crash cushion arrays must not encroach on the traveled way.

Secure the sand-filled modules in place before starting an activity requiring a temporary crash cushion.

Maintain sand-filled temporary crash cushions in place at each location, including times when work is not actively in progress. You may remove the crash cushions during the work shift for access to the work if the exposed fixed obstacle is 15 feet or more from the nearest lane carrying traffic. Reset the crash cushion before the end of the work shift.

Immediately repair sand-filled temporary crash cushion modules damaged due to your activities. Remove and replace any module damaged beyond repair. Repair and replacement of temporary crash cushion modules damaged by traffic are change order work.

You may place sand-filled temporary crash cushion modules on movable pallets or frames complying with the dimensions shown. The pallets or frames must provide a full-bearing base beneath the modules. Do not move the modules and supporting pallets or frames by sliding or skidding along the pavement or bridge deck.

Attach a Type R or Type P marker panel to the front of the temporary crash cushion if the closest point of the crash cushion array is within 12 feet of the traveled way. Firmly fasten the marker panel to the crash cushion with commercial quality hardware or by other authorized methods. Attach the Type R marker panel such that the top of the panel is 1 inch below the module lid. Attach the Type P marker panel such that the bottom of the panel rests upon the pallet or roadway surface if pallets are not used.

A lateral move of a temporary crash cushion module is change order work if ordered and the repositioning is not shown.

Remove sand-filled temporary crash cushion modules, including sand, pallets or frames, and marker panels, at Contract acceptance. Do not install sand-filled temporary crash cushion modules in the permanent work.

#### **12-3.22D Payment**

The payment quantity for temporary crash cushion module does not include:

1. Modules placed for public safety
2. Modules placed in excess of the number described
3. Repositioned modules

#### **12-3.23 IMPACT ATTENUATOR VEHICLES**

##### **12-3.23A General**

##### **12-3.23A(1) Summary**

Section 12-3.23 includes specifications for using impact attenuator vehicles.

##### **12-3.23A(2) Definitions**

**impact attenuator vehicle:** Support truck towing a deployed attenuator mounted to a trailer or a support truck with a deployed attenuator mounted to the support truck.

##### **12-3.23A(3) Submittals**

Submit a certificate of compliance for each attenuator.

##### **12-3.23A(4) Quality Assurance**

Before using an impact attenuator vehicle, conduct a meeting with the Engineer, subcontractors, and other parties involved with traffic control to discuss the operation of the impact attenuator vehicle during moving lane closures and when placing and removing components of a stationary traffic control system.

Schedule the location, time, and date for the meeting with all participants. Furnish a meeting facility located within 5 miles of the job site or at another location if authorized.

##### **12-3.23B Materials**

An impact attenuator vehicle must be on the Authorized Material List for highway safety features. The vehicle must comply with Veh Code Div 12.

Each attenuator must be individually identified with the manufacturer's name, address, attenuator model number, and a specific serial number. The name and number must be a minimum 1/2 inch high and located on the left, street side, lower front corner.

An impact attenuator vehicle must comply with the following test levels as specified in the National Cooperative Highway Research Program Report 350:

1. Test level 3 if the preconstruction posted speed limit is 50 mph or more
2. Test level 2 or 3 if the preconstruction posted speed limit is 45 mph or less

The impact attenuator vehicle must comply with the attenuator manufacturer's instructions for:

1. Support truck except the weight of the support truck must be within the allowable vehicle weight limits shown on the Authorized Material List for highway safety features and the manufacturer's instructions
2. Trailer-mounted attenuator
3. Truck-mounted attenuator

A flashing arrow sign must comply with section 12-3.30 except you may use a PCMS instead of a flashing arrow sign. A PCMS used as a flashing arrow sign must comply with the specifications for an arrow board in the *California MUTCD*.

Each impact attenuator vehicle must have:

1. Inverted V chevron pattern placed across the entire rear of the attenuator composed of alternating 4-inch-wide, nonreflective black stripes and 4-inch-wide, yellow retroreflective stripes sloping at 45 degrees
2. Type II flashing arrow sign
3. Flashing or rotating amber light
4. Operable 2-way communication system for maintaining contact with workers

**12-3.23C Construction**

Do not use an impact attenuator vehicle until authorized.

Monitor the placement and use of the attenuator vehicle on a regular basis and adjust the use of the attenuator to match changing field conditions as construction progresses.

After placing the components of a stationary traffic control system, you may place the impact attenuator vehicle in advance of the work area or at another authorized location to protect traffic and workers.

Secure objects, including equipment, tools, and ballast, on impact attenuator vehicles to prevent their loosening upon impact by an errant vehicle.

Do not use a damaged attenuator in the work. Replace any attenuator damaged from an impact during work activities.

**12-3.23D Payment**

Not Used

**12-3.24–12-3.29 RESERVED**

**12-3.30 FLASHING ARROW SIGNS**

**12-3.30A General**

Section 12-3.30 includes specifications for placing flashing arrow signs.

**12-3.30B Materials**

A flashing arrow sign must comply with the requirements shown in the following table:

**Flashing Arrow Sign Requirements**

Type	Panel size (min, inches)	Number of panel lights (min)	Legibility distance <sup>a</sup> (min, miles)
I	48 x 96	15	1
II	36 x 72	13	3/4

<sup>a</sup>The legibility distance is the distance that a flashing arrow sign must be legible at noon on a cloudless day and during the hours of darkness by persons with 20/20 vision or vision corrected to 20/20.

A flashing arrow sign must be finished with commercial-quality nonreflective black enamel and must be equipped with yellow or amber lamps that form arrows or arrowheads. Each lamp must be equipped with a visor and the lamps must be controlled by an electronic circuit that provides from 30 to 45 complete operating cycles per minute for each of the displays and modes specified. The control must be capable of dimming the lamps by reducing the voltage to 50 ± 5 percent for nighttime use. Type I signs must have both manual and automatic photoelectric-dimming controls. Dimming in both modes must be continuously variable over the entire dimming range.

A flashing arrow sign must be capable of operating in the following display modes:

1. Pass left display
2. Pass right display
3. Simultaneous display
4. Caution display or alternating diamond

A flashing arrow sign must be capable of operating in the flashing arrow mode or the sequential mode.

In the flashing arrow mode, all lamps forming the arrowhead and shaft must flash on and off simultaneously.

In the sequential mode, either arrowheads or arrows must flash sequentially in the direction indicated.

In the simultaneous display mode, the lamps forming both the right and left arrowheads and the lamps forming the arrow shaft or center 3 lamps for Type I signs must flash simultaneously. For Type II signs, the lamps forming the right and left arrowhead, but not the center lamp, may be illuminated continuously; the lamps forming the shaft and the center lamp of the arrowheads must flash on and off simultaneously.

In the caution display mode, a combination of lamps not resembling any other display or mode must flash.

Each flashing arrow sign must be:

1. Mounted on a truck or trailer
2. Capable of operating when the vehicle is moving
3. Capable of being placed and maintained in operation at locations described

A Type II flashing arrow sign must be controllable by the operator of the vehicle while the vehicle is in motion.

The bottom of the flashing arrow sign must be a minimum of 7 feet above the roadway when mounted.

The trailer for a flashing arrow sign must be equipped with (1) devices to level and plumb the sign and (2) a supply of electrical energy capable of operating the sign.

#### **12-3.30C Construction**

Not Used

#### **12-3.30D Payment**

Not Used

### **12-3.31 PORTABLE FLASHING BEACONS**

#### **12-3.31A General**

Section 12-3.31 includes specifications for placing, maintaining, and removing portable flashing beacons.

#### **12-3.31B Materials**

Each portable flashing beacon must have:

1. Standard and base
2. Signal section
3. Flasher unit
4. Battery power source

The components must be assembled to form a complete, self-contained, portable flashing beacon that can be delivered to the job site and placed into immediate operation.

The portable flashing beacon must be weatherproof and operate a minimum of 150 hours between battery recharging and routine maintenance.

The signal section must be yellow and comply with section 86-1.02R(4)(a), except it must be rated for 25 W at 12 V.

The flash rate for the flashing unit must comply with chapter 4L, "Flashing Beacons," of the *California MUTCD*.

The standard must be adjustable to allow variable mounting of the signal section from 6 to 10 feet, from the bottom of the base to the center of the lens, and be capable of being secured at the desired height. The standard must be securely attached to the base and have a length of multiconductor, neoprene-jacketed cable long enough for the full vertical height.



The base must be (1) large enough to accommodate at least two 12 V automotive-type storage batteries and (2) a shape and weight such that the beacon will not roll if struck by a vehicle or pushed over.

#### **12-3.31C Construction**

Remove portable flashing beacons from the traveled way at the end of each night's work. You may store the flashing beacon at selected central locations within the highway where designated by the Engineer.

Moving portable flashing beacons from location to location if ordered after initial placement is change order work.

#### **12-3.31D Payment**

The payment quantity for flashing beacon (portable) is the number of portable flashing beacon locations with each location counting as 1 measurement unit.

### **12-3.32 PORTABLE CHANGEABLE MESSAGE SIGNS**

#### **12-3.32A General**

##### **12-3.32A(1) Summary**

Section 12-3.32A includes specifications for placing, maintaining, and removing portable changeable message signs.

##### **12-3.32A(2) Definitions**

Reserved

##### **12-3.32A(3) Submittals**

If requested, submit a certificate of compliance for each PCMS.

Submit your cell phone number before starting the first activity that requires a PCMS.

##### **12-3.32A(4) Quality Assurance**

Reserved

#### **12-3.32B Materials**

Each PCMS consists of a sign panel, a controller unit, a power supply, and a structural support system.

The PCMS must:

1. Be assembled to form a complete self-contained unit that can be delivered to the job site and placed into immediate operation.
2. Operate at an ambient air temperature from -4 to 158 degrees F.
3. Not be affected by mobile radio transmissions other than those required to control the PCMS.
4. Be capable of displaying a 3-line message with at least 7 characters per line.
5. Provide a complete alphanumeric selection.
6. Be internally or externally illuminated during the hours of darkness, when non-illuminated pixels are used.
7. Have a dimming control that automatically adjusts the character light intensity to provide optimum character visibility and legibility under all ambient lighting conditions. The dimming control must have a minimum 3 manual dimming modes of different intensities.

A message with 18-inch high characters or 15-inch high characters must be visible from a distance of 1,500 feet and legible from a distance of at least 750 feet at noon on a cloudless day and during the night by persons with 20/20 vision or vision corrected to 20/20.

A message with 10-inch high characters must be 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.

The controller must:

1. Be an all solid-state unit.
2. Include at least 5 preprogrammed messages.

3. Have a user adjustable display rate.
4. Have a user adjustable flashing-off time.
5. Include a screen to review the messages before being displayed on the sign.
6. Include a keyboard message entry system. The keyboard must be equipped with a security lockout feature.
7. Have nonvolatile memory to store an infinite number of user created messages.
8. Be installed at a location that allows the user to perform all the functions from a single position.

### **12-3.32C Construction**

Use a PCMS with characters:

1. At least 18 inches in height where the useable shoulder area is 15 feet wide or more
2. At least 12 inches in height where the useable shoulder area is less than 15 feet wide
3. At least 10 inches in height if the PCMS is:
  - 3.1. Mounted on a service patrol truck or incident response vehicle
  - 3.2. Used for traffic control where the posted speed limit is less than 40 mph

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.

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.

Operate the PCMS under the manufacturer's instructions.

When in operation, place the bottom of a PCMS at least 7 feet above the roadway in areas where pedestrians are anticipated and 5 feet above the roadway elsewhere. Place the top of the PCMS no more than 14.5 feet above the roadway.

If more than one PCMS is simultaneously visible to traffic, only one 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.

Keep the PCMS clean to provide maximum visibility.

After the initial placement, move a sign from location to location as ordered.

### **12-3.32D Payment**

Not Used

### **12-3.33 PORTABLE SIGNAL SYSTEMS**

#### **12-3.33A General**

Section 12-3.33 includes specifications for installing, maintaining, and removing portable signal systems, including installing lighting and flashing beacons for traffic control.

A portable signal system must comply with section 87-20, except it must be trailer mounted.

#### **12-3.33B Materials**

Not Used

#### **12-3.33C Construction**

If the portable signal system is out of operation, provide flaggers to control the traffic until the traffic signals are in operation.

#### **12-3.33D Payment**

Not Used

### **12-3.34 TEMPORARY FLASHING BEACON SYSTEMS**

#### **12-3.34A General**

Section 12-3.34 includes specifications for installing, maintaining, and removing temporary flashing beacon systems.

A temporary flashing beacon system must comply with section 87-20.

#### **12-3.34B Materials**

The sign panels installed on a temporary flashing beacon system must comply with section 12-3.11.

#### **12-3.34C Construction**

Not Used

#### **12-3.34D Payment**

Not Used

### **12-3.35 AUTOMATED WORK ZONE INFORMATION SYSTEMS**

#### **12-3.35A General**

##### **12-3.35A(1) Summary**

Section 12-3.35 includes specifications for installing automated work zone information systems.

##### **12-3.35A(2) Definitions**

Reserved

##### **12-3.35A(3) Submittals**

Reserved

##### **12-3.35A(4) Quality Assurance**

Assign an on-site system coordinator. The coordinator must be available locally to service, maintain, and relocate system components as necessary. The coordinator must be accessible 24–7 while the system is deployed. If the system fails to perform as specified, perform any necessary remedial work and replace any failed components within 24 hours of notification of a system or component failure.

#### **12-3.35B Materials**

##### **12-3.35B(1) General**

The AWIS must be a proven system that has been successfully deployed and operated in actual work zones or congested areas.

The system must acquire traffic data throughout the work zone and automatically display predetermined information to motorists without operator intervention after system initialization.

Real-time information must be displayed to motorists using a PCMS. The sign must comply with section 12-3.32.

The system must be controlled either locally or remotely by a dedicated controller or computer.

Authorized users must be able to both locally and remotely override motorist information messages.

Traffic sensors must not require adjustments after the initial deployment.

#### **12-3.35B(2) General System Function Requirements**

The general system functions of the AWIS must be capable of:

1. Preventing any unauthorized users or systems from gaining access to the PCMSs through an industry authentication and encryption standard level of security.
2. Providing current operational status locally and remotely. Operational status must include current traffic data and messages, communications system, and power status.
3. Delivering notifications either by telephone, voice, or text messages to alert support staff of trouble conditions.
4. Generating trouble alerts for conditions such as (1) low roadside equipment power or voltage, (2) system communications failure, (3) low speed traffic detected, and (4) excessive delay detected.
5. Adjusting the thresholds of reduced speed and congestion-induced delay at which the system initiates a trouble alert.
6. Allowing programming of the hours during which the trouble condition alerting subsystem initiates notification to authorized users.
7. Measuring periodically and automatically the power levels of all equipment. Alert support staff, locally and remotely via a telephone message, in time to provide supplemental power before the system ceases to operate.
8. Displaying preprogrammed messages based on the time of day and day of week.

#### **12-3.35B(3) Motorist Information Message Requirements**

The AWIS must be capable of:

1. Displaying predetermined speed, delay, diversion, and closure messages to motorists when user-adjustable thresholds are exceeded.
2. Updating its speed and delay advisory messages at least once per minute. The actual message updates must be consistent with traffic conditions.
3. Selecting messages for each PCMS independently, based on the traffic conditions downstream of the sign.
4. Recording motorist information messages in a comma-separated values file with time and date stamps, including message overrides with user ID.
5. Displaying default messages when traffic conditions, system algorithms, and user parameters do not dictate that an advisory message should be displayed.
6. Displaying separate, independent, default messages on each PCMS.
7. Analyzing traffic parameters in work zones in which there are multiple speed limits.

The following parameters for the selection and presentation of information messages must be adjustable by the user:

1. Message update frequency
2. Minimum delay necessary to trigger a delay advisory message
3. Persistence of delay before a delay message is displayed
4. Level of delay required to trigger a diversion message
5. Change in delay needed to cause a delay advisory message update
6. Change in downstream speed at which a speed advisory message update occurs

#### **12-3.35B(4) System Communication Requirements**

The wireless communications subsystem of the AWIS must:

1. Operate independently of the public cellular phone system for receiving data to ensure reliable communications
2. Communicate independent of the line of sight or distance
3. Incorporate an error detection and correction mechanism to ensure the integrity of all traffic condition data and motorist information messages
4. Configure automatically during system initialization

#### **12-3.35B(5) Traffic Data Acquisition Requirements**

The AWIS must collect accurate traffic data using a speed measurement technique with an accuracy of  $\pm 5$  mph, allowing specific information messages. The system must collect data during reduced visibility conditions, including precipitation, fog, darkness, excessive dust, and road debris.

The system must (1) archive the data with time and date stamps and (2) aggregate the data in operator-definable time increments, accessible 24–7 to the Engineer in a comma-separated values file.

#### **12-3.35B(6) User Interface**

The system must have a user interface to control the AWIS PCMS communications. The interface must be (1) software compatible with a Windows environment or (2) a web service accessed by a web browser.

Provide any software on a CD or other Engineer-authorized data-storage device for installation at the Department's Transportation Management Center.

The user interface must, at a minimum, provide the user with a list of AWIS PCMSs in the field, location information for each AWIS PCMS, and a real-time on-board display of the message in the field. Control options must, at a minimum, provide the user the ability to change the on-board messages and flash rate.

#### **12-3.35C Construction**

Obtain authorization for the message content and the threshold used for triggering the message before displaying any message on a PCMS.

Provide complete setup and support for the AWIS PCMS communications.

#### **12-3.35D Payment**

Not Used

#### **12-3.36 PORTABLE TRANSVERSE RUMBLE STRIPS**

Reserved

#### **12-3.37 PORTABLE RADAR SPEED FEEDBACK SIGN SYSTEMS**

##### **12-3.37A General**

Section 12-3.37 includes specifications for placing, maintaining, and removing portable radar speed feedback sign systems.

##### **12-3.37B Materials**

A portable radar speed feedback sign system consists of a radar speed feedback sign system and a power source.

The system must comply with section 87-14, except:

1. System must be mounted on a trailer
2. LED character display must remain blank when no vehicles are detected or when the detected vehicle speed is 10 miles less than the pre-set speed

##### **12-3.37C Construction**

Place the portable radar speed feedback sign:

1. As far from the traveled way as practicable where it is visible and legible to approaching traffic. Where practicable, place the sign behind a barrier or guardrail.
2. At or before the crest of roadway vertical curvatures that restrict sight distance.

3. At or before the curve of horizontal roadway curvatures that restrict sight distance.

**12-3.37D Payment**

Not Used

**12-3.38 AUTOMATED FLAGGER ASSISTANCE DEVICES**

**12-3.38A General**

**12-3.38A(1) Summary**

Section 12-3.38 includes specifications for placing, maintaining, and removing automated flagger assistance devices (AFADs).

**12-3.38A(2) Definitions**

**automated flagger assistance devices:** Devices that enable a flagger to be positioned out of the lane of traffic and are used to control motorists through work zones. They are designed to be remotely operated either by a single flagger at one end of the work zone or at a central location, or by separate flaggers near the devices.

**12-3.38A(3) Submittals**

Submit a copy of the manufacturer's operating instructions for the automated flagger assistance devices.

**12-3.38A(4) Quality Assurance**

Reserved

**12-3.38B Materials**

The automated flagger assistance device must comply with the *California MUTCD*, Section 6E.04, and Section 6E.06, "Red/Yellow Lens Automated Flagger Assistance Devices."

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The device must:

1. Be equipped with a gate arm, which must not extend into the opposing lane
2. Alternately display a steadily illuminated circular red lens and a flashing circular yellow lens to control traffic
3. Have a fail-safe device that prevents the operator from inadvertently actuating a simultaneous flashing circular yellow lens at both ends of the work zone
4. Have a device that monitors for malfunctions and prevents the display of conflicting indication
5. Have a 24-by-30-inch R10-6 STOP HERE ON RED sign mounted on the trailer

The device must continuously monitor the wireless communication links and verify transmission and reception of data between the devices. If communication is lost, the devices must immediately display the circular red/stop indication and lower the gate arms.

**12-3.38C Construction**

The devices must:

1. Be placed where a flagger station is shown with an unobstructed view from the operator
2. Be placed outside of the traveled lane
3. Be attended by the operator when in use
4. Have a minimum of 9 cones placed on a taper in advance of the device and along the edge of shoulder or edge of the traveled way at 25-foot intervals to a point not less than 25 feet past the device
5. Be clearly visible to approaching traffic and illuminated during the hours of darkness

If any device unit becomes inoperative, do one of the following:

1. Replace the unit with the same type and model.
2. Revert to human flagging operations.

3. Terminate all construction activities requiring the use of the devices.

Incorporate the devices into the traffic control using one of the following methods:

1. Method 1: Place one device at each end of the closure.
2. Method 2: Place one device at one end of the closure and a flagger at the opposite end of the closure.

Use two operators for both methods, except you may use a single operator if:

1. Operator has an unobstructed view of the devices
2. Operator has an unobstructed view of approaching traffic in both directions
3. Second flagger is on-site to assist with manual flagging should the device malfunction, or to direct traffic when drivers fail to comply with the devices

When AFADs are in operation:

1. Use portable transverse rumble strips at your discretion
2. Do not use the 48-inch-by-48-inch C9A (CA) sign
3. Do not use the gate cones

#### **12-3.38D Payment**

If automated flagger assistance devices bid item is not shown on the Bid Item List, providing AFADS is change order work.

#### **12-3.39–12-3.40 RESERVED**

### **12-4 MAINTAINING TRAFFIC**

#### **12-4.01 GENERAL**

##### **12-4.01A General**

Section 12-4.01 includes general specifications for maintaining traffic through construction work zones.

If local authorities regulate traffic, notify them at least 5 business days before the start of job site activities. Cooperate with the local authorities to handle traffic through the work zone and to make arrangements to keep the work zone clear of parked vehicles.

##### **12-4.01B Materials**

Not Used

##### **12-4.01C Construction**

Not Used

##### **12-4.01D Payment**

Not Used

#### **12-4.02 TRAFFIC CONTROL SYSTEMS**

##### **12-4.02A General**

##### **12-4.02A(1) Summary**

Section 12-4.02 includes specifications for providing a traffic control system to close traffic lanes, shoulders, ramps, and connectors.

A traffic control system for a closure includes flagging and the temporary traffic control devices described as part of the traffic control system. Temporary traffic control devices must comply with section 12-3.

##### **12-4.02A(2) Definitions**

**Construction Zone Enhanced Enforcement Program (COZEEP):** Program that provides California Highway Patrol officers to monitor the movement of traffic within the work zone.

**designated holidays:** Designated holidays are shown in the following table:

<b>Designated Holidays</b>	
Holiday	Date observed
New Year's Day	January 1st
Washington's Birthday	3rd Monday in February
Memorial Day	Last Monday in May
Independence Day	July 4th
Labor Day	1st Monday in September
Veterans Day	November 11th
Thanksgiving Day	4th Thursday in November
Christmas Day	December 25th

If a designated holiday falls on a Sunday, the following Monday is a designated holiday. If November 11th falls on a Saturday, the preceding Friday is a designated holiday.

**12-4.02A(3) Submittals**

**12-4.02A(3)(a) General**

Submit a request for a minor deviation from the specified work hours. For a project in District 7, submit the request at least 15 days before the proposed closure date. Your request may be authorized if (1) the Department does not accrue a significant cost increase and (2) the work can be expedited and better serve the traffic.

If a closure is not opened to traffic by the specified time, submit a work plan that ensures that future closures will be opened to traffic by the specified time. Allow 2 business days for review.

Submit closure schedule requests and closure schedule amendments using LCS to show the locations and times of the requested closures.

Submit a traffic break request using LCS to show the location and time of the requested traffic break.

**12-4.02A(3)(b) Closure Schedules**

Every Monday by noon, submit a closure schedule request for planned closures for the next week.

Except for a project in District 7, the next week is defined as Sunday at noon through the following Sunday at noon.

For a project in District 7, the next week is defined as Friday at noon through the following Friday at noon.

Submit a closure schedule request from 25 days to 125 days before the anticipated start of any job site activity that reduces:

1. Horizontal clearances of traveled ways, including shoulders, to 2 lanes or fewer due to activities such as temporary barrier placement and paving
2. Vertical clearances of traveled ways, including shoulders, due to activities such as pavement overlays, overhead sign installation, or falsework girder erection

Submit closure schedule changes, including additional closures, by noon at least 3 business days before a planned closure.

Cancel closure requests using LCS at least 48 hours before the start time of the closure.

The Department notifies you through LCS of authorized and unauthorized closures and closures that require coordination with other parties as a condition for authorization.

**12-4.02A(3)(c) Contingency Plans for Closures**

Submit a contingency plan for an activity that could affect a closure if a contingency plan is specified in the special provisions or if a contingency plan is requested.

If a contingency plan is requested, submit the contingency plan within 1 business day of the request.



The contingency plan must identify the activities, equipment, processes, and materials that may cause a delay in the opening of a closure to traffic. The plan must include:

1. List of additional or alternate equipment, materials, or workers necessary to ensure continuing activities and on-time opening of closures if a problem occurs. If the additional or alternate equipment, materials, or workers are not on the job site, specify their location, the method for mobilizing these items, and the required time to complete mobilization.
2. General time-scaled logic diagram displaying the major activities and sequence of the planned activities. For each activity, identify the critical event that will activate the contingency plan.

Submit revisions to a contingency plan at least 3 business days before starting the activity requiring the contingency plan. Allow 2 business days for review.

#### **12-4.02A(3)(d) Traffic Break Schedule**

Every Monday by noon, submit a traffic break request for the next week. Support for a traffic break is based on local California Highway Patrol staffing levels and may not be available for the date or time requested.

Traffic break requests are limited to the hours when a shoulder or lane closure is allowed.

Cancel a traffic break request using LCS at least 48 hours before the start time of the traffic break.

The Department notifies you through LCS of authorized and unauthorized traffic breaks.

The Department does not adjust time or payment if (1) a California Highway Patrol officer is unavailable for the requested date or time or (2) your request is not authorized.

#### **12-4.02A(4) Quality Assurance**

Reserved

#### **12-4.02B Materials**

Not Used

#### **12-4.02C Construction**

##### **12-4.02C(1) General**

Work that interferes with traffic is limited to the hours when closures are allowed.

Do not reduce an open traffic lane width to less than 10 feet. If traffic cones or delineators are used for temporary edge delineation, the side of the base of the cones or delineators nearest to traffic is considered the edge of the traveled way.

Do not simultaneously close consecutive ramps in the same direction of travel servicing 2 consecutive local streets unless authorized.

Notify the Engineer of delays in your activities caused by the denial of either (1) an authorized closure or (2) a closure schedule request for the specified time frame allowed for closures.

Discuss the contingency plan for any activity that could affect the closure schedule with the Engineer at least 5 business days before starting the activity requiring the plan.

If you do not open a closure to traffic by the specified time, suspend work and submit a work plan. No further closures are allowed until your work plan has been authorized.

If the Engineer orders you to remove a closure before the time designated in the authorized closure schedule, any delay caused by this order is an excusable delay.

The Engineer may reschedule a closure that was canceled due to unsuitable weather.

You may use automated flagger assistance devices to enhance the traffic control system for a lane closure on a two-lane convention highway, except if a bid item for automated flagger assistance devices is shown in the Bid Item List, the use of AFADs is required.

Do not use automated flagger assistance devices:

1. On multi-lane highways
2. As a substitute or a replacement for a temporary traffic control signal
3. If the devices impair access for pedestrians and bicycles, unless alternate access is provided
4. If the usable shoulder area is not wide enough to place a trailer mounted device
5. If the distance between the devices is more than 800 feet, except when each device is controlled by a separate operator and radio communication is available between the AFAD operators

#### **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.

Within 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.

The project is not accessible in LCS after Contract acceptance.

##### **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 on a traffic lane, use code:

1. 10-97 immediately before you place the 1st cone on the traffic lane
2. 10-98 immediately after you remove all of the cones from the traffic lane

For a stationary closure on the shoulder, use code:

1. 10-97 immediately before you place the 1st cone after the last advance warning sign
2. 10-98 immediately after you remove the last cone before the advance warning signs

For a moving closure, use code:

1. 10-97 immediately before the actual start time of the closure
2. 10-98 immediately after the actual end time of the closure

For closures not needed on the authorized date, use code 10-22 within 2 hours after the authorized start time.

If you are unable to access the LCS Mobile web page, immediately notify the Engineer of the closure's status.

#### **12-4.02C(3) Closure Requirements and Charts**

##### **12-4.02C(3)(a) General**

Where 2 or more lanes in the same direction, including the shoulders, are adjacent to the area where the work is being performed, close the adjacent lane under any of the following conditions:

1. Work is off the traveled way but within 6 feet of the edge of the traveled way, and the approach speed is greater than 45 mph.
2. Work is off the traveled way but within 3 feet of the edge of the traveled way, and the approach speed is less than 45 mph.

Closure of the adjacent traffic lane is not required during any of the following activities:

1. Work behind a barrier

2. Paving, grinding, or grooving
3. Installation, maintenance, or removal of traffic control devices except for temporary railing

**12-4.02C(3)(b) Complete Freeway or Expressway Closure Requirements**

Reserved

**12-4.02C(3)(c) HOV, Express, and Bus Lane Closure Requirements**

Reserved

**12-4.02C(3)(d) City Street Closure Requirements**

Reserved

**12-4.02C(3)(e) Closure Restrictions for Special Events and Venues**

Reserved

**12-4.02C(3)(f) Closure Restrictions for Designated Holidays and Special Days**

Reserved

**12-4.02C(3)(g) Freeway or Expressway Lane Requirement Charts**

Reserved

**12-4.02C(3)(h) Complete Freeway or Expressway Closure Hour Charts**

Reserved

**12-4.02C(3)(i) Complete Connector Closure Hour Charts and Connector Lane Requirement Charts**

Reserved

**12-4.02C(3)(j) Complete Ramp Closure Hour Charts and Ramp Lane Requirement Charts**

Reserved

**12-4.02C(3)(k) Conventional Highway Lane Requirement Charts**

Reserved

**12-4.02C(3)(l) Complete Conventional Highway Closure Hour Charts**

Reserved

**12-4.02C(3)(m) City Street Closure Hour Charts and City Street Lane Requirement Charts**

Reserved

**12-4.02C(3)(n) Concrete Slab and Approach Slab Replacement Closure Hours Table**

Reserved

**12-4.02C(3)(o)–12-4.02C(3)(s) Reserved**

**12-4.02C(4)–12.4.02C(6) Reserved**

**12-4.02C(7) Traffic Control System Requirements**

**12-4.02C(7)(a) General**

Control traffic using stationary closures.

If components of the traffic control system are displaced or cease to operate or function as specified, immediately repair them to their original condition or replace them and place them back in their original locations.

Vehicles equipped with attenuators must comply with section 12-3.23.

Each vehicle used to place, maintain, and remove components of a traffic control system on a multilane highway must have a Type II flashing arrow sign that must operate whenever the vehicle is used for placing, maintaining, or removing the components. For a stationary closure, vehicles with a Type II flashing arrow sign not involved in placing, maintaining, or removing the components must display only

the caution display mode. If a flashing arrow sign is required for a closure, activate the sign before the closure is in place.

#### **12-4.02C(7)(b) Stationary Closures**

Except for channelizing devices placed along open trenches or excavations adjacent to the traveled way, remove the components of the traffic control system for a stationary closure from the traveled way and shoulders at the end of each work period. You may store the components at authorized locations within the limits of the highway.

If a traffic lane is closed with channelizing devices for excavation work, move the devices to the adjacent edge of the traveled way when not excavating. Space the devices as shown for the lane closure.

#### **12-4.02C(7)(c) Moving Closures**

For a moving closure, use a PCMS that complies with section 12-3.32 except the sign must be truck mounted. The full operational height to the bottom of the sign may be less than 7 feet above the ground but must be as high as practicable.

If you use a flashing arrow sign in a moving closure, the sign must be truck mounted. Operate the flashing arrow sign in the caution display mode if it is being used on a 2-lane, two-way highway.

#### **12-4.02C(7)(d) Traffic Breaks**

You may request a traffic break for special operations such as:

1. Installation, removal, or replacement of an overhead power line or other utility cable across the highway
2. Installation or removal of traffic control devices in areas without a standard-width shoulder
3. Transportation of large equipment across the highway
4. Access to median areas for workers or equipment

If the Department authorizes the traffic break, the Engineer notifies you and arranges the traffic break with the California Highway Patrol through COZEEP. The duration of a traffic break must not exceed 5 minutes or as authorized.

Two California Highway Patrol officers per vehicle are required for traffic breaks occurring any time from 2200 to 0600 hours.

A minimum of 2 California Highway Patrol vehicles will be assigned to conduct a traffic break.

Place a PCMS approximately 2,000 feet upstream of the work area or as agreed upon by the Engineer. The PCMS must comply with section 12-3.32 except the PCMS must not be trailer mounted. Monitor the traffic during the traffic break. If a queue develops, reposition the PCMS truck far enough upstream of the traffic break to provide real-time notification to motorists before they approach the traffic queue.

#### **12-4.02C(8) Traffic Control System Signs**

##### **12-4.02C(8)(a) General**

Traffic control system signs must comply with section 12-3.11.

##### **12-4.02C(8)(b) Connector and Ramp Closure Signs**

Inform motorists of a temporary closing of a (1) connector or a (2) freeway or expressway entrance or exit ramp using:

1. SC6-3(CA) (Ramp Closed) sign for closures of 1 day or less
2. SC6-4(CA) (Ramp Closed) sign for closures of more than 1 day

SC6-3(CA) and SC6-4(CA) signs must be stationary mounted at the locations shown and must remain in place and visible to motorists during the connector or ramp closure.

Notify the Engineer at least 2 business days before installing the sign and install the sign from 7 to 15 days before the closure.

## **12-4.02C(9) Flagging**

### **12-4.02C(9)(a) General**

#### **12-4.02C(9)(a)(i) Summary**

Section 12-4.02C(9) includes specifications for flaggers, AFAD operators, additional flaggers, advance flaggers and flagger stations.

#### **12-4.02C(9)(a)(ii) Definitions**

04-17-20

**AFAD operator:** Flagger certified by the manufacturer to operate the specific automated flagger assistance device.

10-18-19

**additional flagger:** Flagger that controls the flow of traffic at intermediate locations within the limits of a closure with reversible control, at intersections, driveways and other traffic merging points.

**advance flagger:** Flagger positioned upstream of the traffic control system, who warns approaching traffic of road work ahead and potentially stopped traffic within the advance warning signs.

04-17-20

**incidental flagger:** Flagger that performs flagging that is not part of a traffic control system.

#### **12-4.02C(9)(a)(iii) Submittals**

Submit as informational submittals:

1. Flagger certification for each flagger including AFAD operators. The submittal must include:
  - 1.1. Name of the individual receiving certification.
  - 1.2. Name of entity providing certification.
  - 1.3. Date of certification.
  - 1.4. Certification expiration date.
2. AFAD manufacturer certification for each AFAD operator. The submittal must include:
  - 2.1. Name of the manufacturer's authorized trainer.
  - 2.2. Name of the trainee.
  - 2.3. Description of device type and model for which training was provided.
  - 2.4. Date when the training was provided.
3. Training qualifications for each incidental flagger.

#### **12-4.02C(9)(a)(iv) Quality Assurance**

Flaggers must be at least 18 years of age and maintain a valid government issued identification and must possess proof of certification during flagging operations.

Effective July 1, 2020, flaggers that are part of a traffic control system must be certified by an authorized flagger training provider. The authorized flagger training provider list is available at the Department's Division of Construction website.

In addition, AFAD operators must be certified by the AFAD manufacturer on:

1. Device type and model to be used on the project
2. Installation procedures
3. Local and remote-controlled operation
4. Maintenance of the device

Incidental flaggers must be trained under 8 CA Code of Regs § 1599.

10-18-19

#### **12-4.02C(9)(b) Materials**

Not Used

**12-4.02C(9)(c) Construction**

**12-4.02C(9)(c)(i) General**

Not Used

**12-4.02C(9)(c)(ii) Flaggers**

**12-4.02C(9)(c)(ii)(A) General**

Flaggers should stand in a conspicuous place and be visible to approaching vehicles.

04-17-20

Flaggers must wear a hard hat, safety glasses, and Class 3, high-visibility, safety apparel under ANSI/SEA 107-2004.

Flaggers must be equipped with a 24-by-24-inch "STOP/SLOW" paddle with a rigid staff tall enough to maintain the bottom of the paddle a minimum of 6 feet above the pavement.

10-18-19

**12-4.02C(9)(c)(ii)(B) Automated Flagger Assistance Device Operators**

When AFADs are in operation, the AFAD operators must:

1. Be positioned away from the traveled way
2. Be positioned where they have an unobstructed line of sight to approaching vehicles and to the devices
3. Keep a backup hand held AFAD remote control readily available

A pilot car driver must not operate a device and must not be considered as one of the flaggers present on-site available to operate a device.

**12-4.02C(9)(c)(ii)(C) Additional Flaggers**

Provide additional flaggers at any of the following locations:

1. At high-volume intersections and driveways between the two flagger stations as shown
2. At Multi-lane and circular intersections

Additional flaggers use the STOP/SLOW sign paddle to control vehicles merging into the closure with reversible control.

If additional flaggers are not shown, providing additional flaggers is change order work.

**12-4.02C(9)(c)(ii)(D) Advance Flaggers**

Provide advance flaggers when any of the following conditions exist:

1. Queued traffic reaches the W20-4 (One Lane Road Ahead) sign.
2. When the horizontal roadway curvature restricts the sight distance of approaching traffic.
3. When the vertical roadway curvature restricts the sight distance of approaching traffic.

Advance flaggers use the SLOW sign paddle to warn approaching vehicles of the flagging operation ahead and signals the drivers to slow down. If the STOP/SLOW paddle is used, the STOP side must be covered.

If advance flaggers are not shown, providing advance flaggers is change order work.

**12-4.02C(9)(c)(iii) Flagger Stations**

Place flagger stations such that approaching vehicles have sufficient distance to react and follow the flagger's instructions.

Place a minimum of four cones at 50 feet intervals in advance of flagger stations.

During the hours of darkness, illuminate flagger stations under 8 CA Regs § 1523. Do not start flagging until flagger stations are illuminated.

Place advance warning signs W20-1, C9A(CA), and W3-4 upstream of the additional flagger station at intersections as shown.

Place advance warning signs W20-1, C9A(CA), and W3-4 upstream of the advance flagger station.

You may use a PCMS in place of an advance flagger. The PCMS must alternately display the messages "Prepare to Stop" and "Flagger Ahead". If the PCMS must be placed outside the project limits before the W20-1 construction area sign, place a portable W20-1 sign 500 feet in advance of the PCMS.

#### **12-4.02C(9)(d) Payment**

Not Used

#### **12-4.02C(10)–12-4.02C(12) Reserved**

#### **12-4.02D Payment**

The Department pays for change order work for a traffic control system by force account for increased traffic control and uses a force account analysis for decreased traffic control.

The Department does not pay for furnishing, placing, relocating, and removing PCMSs used for a traffic break.

The Department deducts the full cost of COZEEP support provided for the traffic break.

The hourly rate for each California Highway Patrol officer providing COZEEP support is \$115. This rate includes full compensation for each hour or portion thereof that the officer provides the support. Markups are not added to any expenses associated with COZEEP support.

The minimum number of hours for an officer is 4 hours, except if a closure is already in place and the Engineer authorizes your request for an on-duty officer to conduct a traffic break, the minimum number of hours for an officer is 1 hour.

For a cancellation less than 48 hours before the scheduled start time of COZEEP support, except for a cancellation due to adverse weather or extenuating circumstances, the Department deducts:

1. Minimum of \$50 per California Highway Patrol officer if the officer is notified before the start time
2. Maximum of 4 hours of pay per officer if the officer is not notified before the start time

### **12-4.03 FALSEWORK OPENINGS**

04-17-20

#### **12-4.03A General**

Section 12-4.03 includes specifications for providing falsework openings.

#### **12-4.03B Materials**

Not Used

#### **12-4.03C Construction**

##### **12-4.03C(1) General**

Reserved

##### **12-4.03C(2) Temporary Railing**

Install Type K temporary railing on both sides of vehicular openings through falsework. If ordered, install temporary railing at other falsework less than 12 feet from the edge of a traffic lane. This is change order work.

Temporary railings for vehicular openings must start 150 feet in advance of the falsework and extend past the falsework in the direction of adjacent traffic flow. For 2-way traffic openings, temporary railing must extend at least 60 feet past the falsework in the direction of adjacent traffic flow.

Install temporary crash cushion modules as shown at the approach end of temporary railings located less than 15 feet from the edge of a traffic lane. For 2-way traffic openings install temporary crash cushion modules at the departing end of temporary railings located less than 6 feet from the edge of a traffic lane.

The Engineer determines the exact location and length of railing and the type of flare to be used.

Install temporary railing for protecting the falsework before erecting it. Do not remove temporary railing until authorized.

#### **12-4.03D Payment**

Not Used

10-18-19

### **12-4.04 TEMPORARY PEDESTRIAN ACCESS ROUTES**

#### **12-4.04A General**

##### **12-4.04A(1) Summary**

Section 12-4.04 includes specifications for providing, maintaining, and removing temporary pedestrian access routes.

A temporary pedestrian access route includes temporary traffic control devices as shown except for Type K temporary railing and temporary crash cushions.

##### **12-4.04A(2) Definitions**

Reserved

##### **12-4.04A(3) Submittals**

If work activities require the closure of a pedestrian route and a temporary pedestrian access route is not shown, submit a work plan for a temporary pedestrian access route. The work plan must:

1. Describe the activities, processes, equipment, and materials that will be used to provide the temporary access route
2. Show the locations of the routes and the placement of traffic control devices for each stage of work
3. Include a time-scaled logic diagram displaying the sequence and duration of the planned activities for each stage of work
4. Be sealed and signed by an engineer who is registered as a civil engineer in the State

Submit "Temporary Pedestrian Access Route Contractor Compliance Report," within 2 business days after construction of a temporary pedestrian access route.

Submit "Temporary Pedestrian Access Route Contractor Weekly Report," within 2 business days of completing a weekly inspection.

##### **12-4.04A(4) Quality Assurance**

###### **12-4.04A(4)(a) General**

Reserved

###### **12-4.04A(4)(b) Quality Control**

Perform a review of the temporary pedestrian access route after it is constructed and document compliance on the "Temporary Pedestrian Access Route Contractor Compliance Report."

The Department will conduct a verification inspection after receiving the compliance report.

For a temporary pedestrian access route in use perform a weekly review and document compliance on the "Temporary Pedestrian Access Route Contractor Weekly Report."

#### **12-4.04B Materials**

The walkway surface must be slip resistant and surfaced with minor HMA or commercial-quality, bituminous material, commercial-quality concrete, or wood.

A handrail with a circular cross section must have an outer diameter from 1-1/4 to 2 inches. A handrail with a noncircular cross section must have a perimeter from 4 to 6-1/4 inches and a maximum cross-section dimension of 2-1/4 inches.



Fasteners must be rounded to prevent injury to a pedestrian's fingers, hands, and arms and to eliminate sharp edges that could catch on clothing.

A detectable warning surface must be on the Authorized Material List for detectable warning surfaces and match yellow color no. 33538 of AMS.Std.595.

Temporary traffic control devices used to channelize pedestrians must:

1. Be free of sharp or rough edges
2. Have a continuous detectable edging at least 6 inches high and at no more than 2 inches above the walkway surface
3. Be at least 32 inches in height
4. Have smooth connection points between devices to allow for a handrail
5. Have a top and bottom surface in the same vertical plane

#### **12-4.04C Construction**

Notify the Engineer 5 business days before closing an existing pedestrian route. Do not close the route until authorized.

If work activities require the closure of a pedestrian route and a temporary pedestrian access route is not shown, provide a temporary pedestrian access route near the traveled way. You may route pedestrians using the existing sidewalk or by constructing a temporary access route.

If a bid item for a temporary pedestrian access route is not shown on the Bid Item List, then constructing a temporary pedestrian access route is change order work, except when the closure is a result of your means and methods.

Construct a temporary pedestrian access route such that:

1. Walkway surface is firm and stable and free of irregularities
2. Cross slope of the pedestrian route is at most 50:1 (horizontal:vertical)
3. Longitudinal slope of the pedestrian route is at most 20:1 (horizontal:vertical)
4. Walkway, landings, blended transitions, and curb ramps are at least 60 inches wide except where not feasible, the width must be at least 48 inches wide with a 60-by-60-inch passing space at least every 200 feet
5. Lateral joints or gaps between surfaces are less than 1/2 inch wide
6. Discontinuities in surface heights are less than 1/2 inch and beveled if greater than 1/4 inch with a slope no greater than 2:1 (horizontal:vertical)
7. Ramps have:
  - 7.1. Longitudinal slope of at most 12:1 (horizontal:vertical)
  - 7.2. Rise less than 30 inches
  - 7.3. Protective edging at least 2 inches high on each side and handrails at a height from 34 to 38 inches above the walkway surface if the rise is greater than 6 inches
8. Curb ramps have:
  - 8.1. Longitudinal slope of at most 12:1 (horizontal:vertical)
  - 8.2. Protective edging at least 2 inches high on each side if the curb ramp does not have flares and the rise is greater than 6 inches
9. Pedestrians are channelized when routed off existing pedestrian routes

Construct handrails such that they are continuous, smooth and free of sharp or rough edges.

Provide an overhead covering to protect pedestrians from falling objects and drippings from overhead structures.

If the temporary access route is next to traffic or work activities, place a temporary barrier to separate the route from vehicles and equipment.

Install a detectable warning surface at locations where a curb ramp, landing, or blended transition connects to a street. Install the warning surface such that it extends a minimum of 36 inches in the

direction of travel and for the full width of the landing, blended transition, or curb ramp, excluding the flares.

Maintain the temporary pedestrian access route clear of obstructions. Do not allow traffic control devices, equipment, or construction materials to protrude into the walkway. Maintain a continuous unobstructed path connecting all pedestrian routes, parking lots, and bus stops located within the project limits.

Remove the temporary pedestrian access route when the Engineer determines it is no longer needed.

Provide a temporary pedestrian access route through falsework under section 16-2.02.

**12-4.04D Payment**

Not Used

**12-4.05 BRIDGE CLEANING AND PAINTING ACTIVITIES**

**12-4.05A General**

Section 12-4.05 includes specifications for maintaining traffic during bridge cleaning and painting activities.

Signs must comply with section 12-3.11.

**12-4.05B Materials**

Not Used

**12-4.05C Construction**

For bridge cleaning and painting activities, place the signs as shown in the following table in addition to those shown on the plans:

Sign no.	Sign description	Requirement
W20-1	Road Work Ahead	Place portable 30-by-30-inch signs at locations where traffic approaches a bridge with work underway. If the approach speed is greater than 50 mph, the sign must be 48 by 48 inches. The sign panel base material must not be plywood. Attach 2 orange, 16 sq in flags to each sign.
--	Cleaning and Painting Operations	Place a 48-by-48-inch sign near each W20-1 sign. Use 4-inch-high black lettering and include your name, address, and telephone number on an orange background.

The Engineer determines the exact locations of the signs. Do not use signs until needed. Maintain the signs in place during bridge cleaning and painting activities. Remove the signs at the end of each work shift.

After each day's bridge cleaning and painting activities, remove obstructions from the roadway to allow for free passage for traffic. Remove blast cleaning residue from the traveled way before opening the area to traffic.

You may lay supply lines along the top of curbs adjacent to railing posts if the lines do not interfere with traffic. Remove the lines when work is not in progress.

**12-4.05D Payment**

Not Used

**12-4.06 TOLL BRIDGES**

Reserved

**12-4.07–12-4.10 RESERVED**

**12-5 RESERVED**

**12-6 TEMPORARY PAVEMENT DELINEATION**

**12-6.01 GENERAL**

Section 12-6 includes specifications for placing temporary pavement delineation except for delineation on a seal coat project.

Temporary painted traffic stripes and painted pavement markings used for temporary delineation must comply with section 84-2.

Temporary signs for no-passing zones must comply with section 12-3.11.

**12-6.02 MATERIALS**

**12-6.02A General**

The following types of temporary pavement delineation must be on the Authorized Material List for signing and delineation materials:

1. Temporary pavement markers for long term day/night use (180 days or less)
2. Temporary pavement markers for short term day/night use (14 days or less)
3. Temporary (removable) striping and pavement marking tape (180 days or less)
4. Permanent traffic striping and pavement marking tape
5. Channelizers

**12-6.02B Temporary Pavement Markers**

Temporary pavement markers must be the same color as the lane line or centerline markers being replaced.

Temporary pavement markers must be for long-term day or night use, 180 days or less, except you may use temporary pavement markers for short-term day or night use, 14 days or less, if you place the permanent pavement delineation before the end of the 14 days.

**12-6.02C Channelizers**

Channelizers used for temporary edge line delineation must be orange and surface mounted.

**12-6.03 CONSTRUCTION**

**12-6.03A General**

If work activities obliterate pavement delineation, place temporary or permanent pavement delineation before opening the traveled way to traffic. The temporary pavement delineation must consist of a lane line and centerline pavement delineation for traveled ways open to traffic. On multilane roadways, freeways, expressways, and 2-lane roadways with shoulders 4 feet or more in width, the temporary pavement delineation must also include edge line delineation for traveled ways open to traffic.

Establish the alignment for temporary pavement delineation, including the required lines or markers. Surfaces to receive an application of paint or removable traffic tape must be dry and free from dirt and loose material. Do not apply temporary pavement delineation over existing pavement delineation or any other temporary pavement delineation. Maintain temporary pavement delineation until no longer needed or replace it with a new striping detail of temporary or permanent pavement delineation.

When the Engineer determines the temporary pavement delineation is no longer required for the direction of traffic, remove the temporary pavement delineation, including any underlying adhesive for temporary pavement markers, from the final layer of surfacing and from the pavement to remain in place. Remove temporary pavement delineation that conflicts with any subsequent or new traffic pattern for the area.

**12-6.03B Temporary Lane Line and Centerline Delineation**

If lane lines or centerlines are obliterated and temporary pavement delineation to replace the lines is not shown, the minimum lane line and centerline delineation must consist of temporary pavement markers placed longitudinally at 24-foot maximum intervals.

For temporary lane line or centerline delineation consisting entirely of temporary pavement markers for short-term day or night use, 14 days or less, do not use the markers for more than 14 days on lanes opened to traffic. Place the permanent pavement delineation before the end of the 14 days. If the permanent pavement delineation is not placed within 14 days, replace the temporary pavement markers with additional temporary pavement delineation equivalent to the pattern described for the permanent pavement delineation for the area.

If no-passing centerline pavement delineation is obliterated, install the following temporary no-passing zone signs before opening lanes to traffic:

1. W20-1 (Road Work Ahead) sign from 1,000 to 2,000 feet in advance of the no-passing zone
2. R4-1 (Do Not Pass) sign at the beginning of the no-passing zone and at 2,000-foot maximum intervals within the no-passing zone
3. W7-3a (Next \_\_\_ Miles) plaque beneath the W20-1 sign for continuous zones longer than 2 miles
4. R4-2 (Pass With Care) sign at the end of the no-passing zone

The Engineer determines the exact location of temporary no-passing zone signs. Maintain the temporary no-passing zone signs in place until you place the permanent no-passing centerline pavement delineation.

Remove the temporary no-passing zone signs when the Engineer determines they are no longer required for the direction of traffic.

#### **12-6.03C Temporary Edge Line Delineation**

On multilane roadways, freeways, expressways, and 2-lane roadways with shoulders 4 feet or more in width open to traffic where edge lines are obliterated and temporary pavement delineation to replace those edge lines is not shown, provide temporary pavement delineation for:

1. Right edge lines consisting of any of the following:
  - 1.1. Solid 6-inch-wide traffic stripe tape of the same color as the stripe being replaced.
  - 1.2. Traffic cones placed longitudinally at 100-foot maximum intervals.
  - 1.3. Portable delineators or channelizers placed longitudinally at 100-foot maximum intervals.
2. Left edge lines consisting of any of the following:
  - 2.1. Solid 6-inch-wide traffic stripe tape of the same color as the stripe being replaced.
  - 2.2. Traffic cones placed longitudinally at 100-foot maximum intervals.
  - 2.3. Portable delineators or channelizers placed longitudinally at 100-foot maximum intervals.
  - 2.4. Temporary pavement markers placed longitudinally at 6-foot maximum intervals.

You may apply temporary traffic stripe paint of the same color as the stripe being replaced instead of solid 6-inch-wide temporary traffic stripe tape where the removal of the temporary traffic stripe is not required.

The Engineer determines the lateral offset for traffic cones, portable delineators, and channelizers used for temporary edge line delineation. If traffic cones or portable delineators are used for temporary edge line delineation, maintain the cones or delineators during the hours of the day when they are in use.

Cement the bases of channelizers used for temporary edge line delineation to the pavement with hot melt bituminous adhesive as specified in section 81-3 for cementing pavement markers to pavement.

#### **12-6.03D Temporary Traffic Stripe, Pavement Marking, and Pavement Markers**

##### **12-6.03D(1) General**

Reserved

##### **12-6.03D(2) Temporary Traffic Stripe Tape**

Except where the temporary traffic stripe is used for 14 days or less, apply temporary removable traffic stripe tape under the manufacturer's instructions and as follows:

1. Slowly roll the tape with a rubber-tired vehicle or roller to ensure complete contact with the pavement surface.
2. Apply the tape straight on a tangent alignment and on a true arc on a curved alignment.

3. Do not apply the tape when the ambient air or pavement temperature is less than 50 degrees F unless otherwise authorized.

For temporary traffic stripe tape used for 14 days or less, apply the temporary removable traffic stripe tape under the manufacturer's instructions.

#### **12-6.03D(3) Temporary Traffic Stripe Paint**

Apply temporary traffic stripe paint under section 84-2.03, except you may apply 1 or 2 coats of the temporary traffic stripe paint for new or existing pavement.

You are not required to remove painted temporary traffic stripe that will be covered by paving work.

#### **12-6.03D(4) Temporary Pavement Marking Tape**

Apply temporary removable pavement marking tape as specified for applying temporary removable traffic stripe tape in section 12-6.03D(2).

#### **12-6.03D(5) Temporary Pavement Marking Paint**

Apply temporary pavement marking paint under section 84-2.03, except you may apply 1 or 2 coats of the temporary pavement marking paint.

You are not required to remove of painted temporary pavement markings that will be covered by paving work.

You may use permanent or temporary removable pavement marking tape instead of temporary pavement marking paint.

#### **12-6.03D(6) Temporary Pavement Markers**

Place temporary pavement markers under the manufacturer's instructions. Cement temporary markers to the surfacing with the manufacturer's recommended adhesive except do not use epoxy adhesive in areas where the removal of the pavement markers is required.

You may use retroreflective pavement markers instead of temporary pavement markers for long-term day or night use, 180 days or less, except to simulate patterns of broken traffic stripe. Retroreflective pavement markers used for temporary pavement markers must comply with section 81-3, except the waiting period before placing pavement markers on new asphalt concrete surfacing as specified in section 81-3.03 does not apply. Do not use epoxy adhesive to place pavement markers in areas where the removal of the pavement markers is required.

#### **12-6.04 PAYMENT**

The Department does not pay for additional temporary pavement delineation used to replace temporary pavement markers.

Temporary traffic stripe is measured as specified for traffic stripe in section 84.

Temporary pavement marking is measured as specified for pavement marking in section 84.

### **12-7 TEMPORARY PAVEMENT DELINEATION FOR SEAL COATS**

#### **12-7.01 GENERAL**

Section 12-7 includes specifications for placing temporary pavement delineation for a seal coat project.

Temporary signs for no-passing zones must comply with section 12-3.11.

#### **12-7.02 MATERIALS**

Temporary raised pavement markers for seal coat applications must be temporary pavement markers for short-term day or night use, 14 days or less, on the Authorized Material List for signing and delineation materials.

#### **12-7.03 CONSTRUCTION**

Before applying binder that will obliterate existing traffic stripes, place temporary raised pavement markers on the existing traffic stripes except for right edge lines at 24-foot maximum intervals. Place 2

markers side by side on double traffic stripes with 1 marker placed on each stripe longitudinally at 24-foot maximum intervals. Place temporary raised pavement markers under the manufacturer's instructions. Before opening the lanes to uncontrolled traffic, remove the covers from the temporary raised pavement markers.

If you obliterate no-passing centerline pavement delineation, install the following temporary no-passing zone signs before opening lanes to traffic:

1. W20-1 (Road Work Ahead) sign from 1,000 to 2,000 feet in advance of the no-passing zone
2. R4-1 (Do Not Pass) sign at the beginning of the no-passing zone and at 2,000-foot maximum intervals within the no-passing zone
3. W7-3a (Next \_\_\_ Miles) plaque beneath the W20-1 sign for continuous zones longer than 2 miles
4. R4-2 (Pass With Care) sign at the end of the no-passing zone

The Engineer determines the exact location of the temporary no-passing zone signs. Maintain the temporary no-passing zone signs in place until you place the permanent no-passing centerline pavement delineation. Remove the temporary no-passing zone signs when the Engineer determines they are no longer required for the direction of traffic.

Maintain temporary pavement delineation until you replace it with the permanent pavement delineation.

**12-7.04 PAYMENT**

Not Used

**12-8-12-10 RESERVED**

AA

**13 WATER POLLUTION CONTROL**

04-17-20

**Add to the end of section 13-1.01C(1):**

04-17-20

Submittals for additional or new WPC practices to manage run-on, run-off, and stormwater conveyance must:

1. Describe the activities, processes, equipment, and materials that will be used to manage the run-on, run-off, and stormwater conveyance through the job site
2. Show the locations of the management practices
3. Include a time-scaled logic diagram displaying the sequence and duration of the management practices for each stage of work
4. Be sealed and signed by an engineer who is registered as a civil engineer in the State

**Add after the 2nd paragraph of section 13-1.01C(5):**

04-19-19

For partial listing of disposal facilities and their waste acceptance list, go to SWRCB website.

**Replace the 3rd paragraph of section 13-1.01D(3) with:**

04-17-20

Training for assistant WPC managers who inspect, repair, and maintain WPC practices, collect water quality samples, and record water quality data must include:

1. Review of the sampling and analysis plan and the *Construction Site Monitoring Program Guidance Manual*
2. Health and safety review
3. Sampling simulations

The training for assistant WPC managers must comply with the requirements described under "WPC Manager Training," and includes:

1. Obtaining a certificate by completing the 8-hour WPC manager training
2. Reviewing updates, revisions, and amendments to the training

For training requirements, go to the Construction Storm Water and Water Pollution Control website.

**Replace the 1st paragraph of section 13-1.01D(4)(a) with:**

04-17-20

Assign a WPC manager to implement the WPCP or SWPPP. Assign an alternate WPC manager to perform the responsibilities of the WPC manager in the manager's absence. The alternate WPC manager must have the same qualifications as the WPC manager. You may assign an assistant WPC manager to act under the supervision of the WPC manager to inspect, repair, and maintain WPC practices, collect water quality samples, and record water quality data. You may have more than one assistant WPC manager.

**Replace the 1st paragraph of section 13-1.01D(4)(b) with:**

04-17-20

The WPC manager must:

1. Comply with the requirements provided in the Construction General Permit for QSP
2. Comply with the requirements described under "WPC Manager Training," including:
  - 2.1. Obtaining a certificate by completing the 8-hour training
  - 2.2. Reviewing updates, revisions, and amendments to the training

For the requirements, go to the Construction Storm Water and Water Pollution Control website.

**Delete item 2.6.3 in the list of section 13-1.01D(4)(c).**

04-19-19

**Replace item 7 in the list in the 1st paragraph of section 13-1.01D(4)(c) with:**

04-17-20

7. Revise the WPCP or recommend changes to the SWPPP

**Replace the 3rd sentence in the 4th paragraph of section 13-1.03A with:**

04-17-20

Additional WPC work is change order work except when the additional WPC practices are a result of your means and methods.

**Replace the 1st paragraph of section 13-2.01C with:**

04-19-19

Within 7 days after Contract approval, submit one printed copy and an electronic copy on a read-only CD, DVD, or other authorized data-storage device of your WPCP unless different quantities are ordered at the preconstruction conference. You may assign a QSP other than the WPC manager to develop the WPCP.

**Replace item 4 in the list in the 2nd paragraph of section 13-2.01C with:**

- 04-19-19
4. Show the locations and types of temporary WPC practices that will be used in the work for whichever has the longest duration in the first:
    - 4.1. 60 days
    - 4.2. Construction phase

**Replace the 4th paragraph of section 13-2.01C with:**

04-19-19

After the Engineer authorizes the WPCP, submit one printed copy and an electronic copy on a read-only CD, DVD, or other Engineer-authorized data-storage device of the authorized WPCP.

**Delete the row for Annual Certification in the table in section 13-3.01C(1).**

04-19-19

**Replace the 1st paragraph of section 13-3.01C(2)(a) with:**

04-17-20

Within 15 days of Contract approval, submit 1 printed copy and an electronic copy on a read-only CD, DVD, or other authorized data-storage device of your SWPPP unless different quantities are ordered at the preconstruction conference.

You must assign a QSD to develop and revise the SWPPP.

**Replace item 4 in the list in the 2nd paragraph of section 13-3.01C(2)(a) with:**

- 04-19-19
4. Include a schedule showing when:
    - 4.1. Work activities that could cause the discharge of pollutants into stormwater will be performed
    - 4.2. WPC practices, including soil stabilization and sediment control, that will be used in the work for whichever has the longest duration in the first:
      - 4.2.1. 60 days
      - 4.2.2. Construction phase

**Replace the 4th paragraph of section 13-3.01C(2)(a) with:**

04-19-19

Submit an electronic copy on a read-only CD, DVD, or other Engineer-authorized data-storage device and 4 printed copies of the authorized SWPPP unless fewer quantities are authorized at the preconstruction conference.

**Replace the introductory clause in the 7th paragraph of section 13-3.01C(2)(a) with:**

04-19-19

Submit a revised SWPPP annually before September 15th and any time:

**Add after the 7th paragraph of section 13-3.01C(2)(a):**

04-19-19

Revise the SWPPP through amendment. The annual SWPPP amendment must include an annual winterization plan.





Replace *Reserved* in section 14-11.15 with:

04-17-20

**14-11.15A General**

Section 14-11.15 includes specifications for disposing of electrical equipment containing hazardous materials.

**14-11.15B Submittals**

**14-11.15B(1) General**

Reserved

**14-11.15B(2) Identification of Disposal Facilities**

Thirty days before starting work submit the name and address of the appropriately permitted facilities where electrical equipment containing hazardous materials will be taken to dispose or recycle them.

**14-11.15C Waste Management**

**14-11.15C(1) General**

When you mishandle and damage electrical equipment you are the generator of resulting hazardous waste and are responsible for cleanup, management, and disposal of this hazardous waste and the associated costs for the work under section 14-11.06.

**14-11.15C(2) Universal Waste**

**14-11.15C(2)(a) General**

Universal wastes include removed:

1. Light bulbs
2. E-waste including, electronic devices as described in 22 CA Code Regs § 66273.3(a), containing:
  - 2.1. Circuit boards, including controller boxes and LED lights
  - 2.2. Computer screens or video screens
  - 2.3. Computer keyboards
  - 2.4. Cathode ray tube devices
3. Batteries as described in 22 CA Code Regs § 66273.2
4. Mercury-containing equipment as described in section 22 CA Code Regs §66273.4(a); such as lamps, timers, and switches
5. Fluorescent tubes, bulbs, and lamps

Manage and dispose of universal waste under 22 CA Code Regs § 66261.9. Transport universal wastes to an appropriately permitted recycling or disposal facility.

**14-11.15C(2)(b) Undamaged Lithium Thionyl Chloride batteries**

Package removed equipment containing undamaged lithium thionyl chloride batteries and place the packages in US DOT approved sealed shipping containers. Transport the containers to a recycling or disposal facility. Notify the receiving facility 48 hours before delivery. Affix a label to containers of intact units identifying the contents as "Universal Waste: Lithium Thionyl Chloride Batteries."

Ship lithium thionyl chloride batteries that are separated from the electrical equipment units they powered to a recycling or disposal facility under 49 CFR 173.185. Package the batteries such that contact between them and resulting short circuits are avoided. Prevent accidental contact between batteries by:

1. Covering terminal ends to prevent them from touching each other
2. Placing batteries in a sealed plastic bag packed with loose fill, such as vermiculite

The outer packaging must comply with 49 CFR 173.24 and 173.24a. Transport lithium thionyl chloride batteries to an approved hazardous waste recycling or disposal facility. For a partial list of facilities, go to:

<http://www.calrecycle.ca.gov/Electronics/Recovery/Approved/Default.htm>

**14-11.15C(3) Damaged Lithium Thionyl Chloride batteries**

Damaged Lithium thionyl chloride batteries are designated as an extremely hazardous waste under 22 CA Code of Regs, Div 4.5, Ch 11, Art 5, App 10.

When lithium thionyl chloride batteries are damaged by your mishandling you are the generator of the resulting hazardous waste and responsible for cleanup, management, and disposal of this hazardous waste and the associated costs for the work under section 14-11.06.

Lithium thionyl chloride batteries found damaged are Department-generated hazardous waste under section 14-11.07. Management of this Department-generated hazardous waste is change order work.

Use a hazardous waste manifest to transport this damaged equipment to an appropriately permitted disposal facility.

**14-11.15C(4) Electrical Equipment Containing PCBs**

**14-11.15C(4)(a) General**

PCBs are found in electrical equipment produced before 1979 such as transformers, capacitors, and fluorescent light ballasts.

**14-11.15C(4)(b) Transformers and Capacitors**

Manage and dispose of transformers and capacitors containing PCBs under 40 CFR Part 761 and 22 CA Code of Regs Div 4.5.

**14-11.15C(4)(c) Undamaged Fluorescent Light Ballasts**

Manage and dispose of fluorescent light ballasts containing PCBs under 22 CA Code of Regs § 67426.1 et seq. Fluorescent light ballasts containing PCBs must be packaged and transported by a hauler with a current DTSC registration certificate and documentation of compliance with the CA Highway Patrol Basic Inspection of Terminals Program. The hauler must transport the fluorescent light ballasts containing PCBs to a facility permitted for hazardous waste disposal by DTSC.

**14-11.15C(4)(d) Damaged Fluorescent Light Ballasts**

Damaged fluorescent light ballasts containing PCBs are designated as extremely hazardous waste by DTSC.

When fluorescent light ballasts containing PCBs are damaged by your mishandling you are the generator of the resulting hazardous waste and responsible for cleanup, management, and disposal of this hazardous waste and the associated costs for the work under section 14-11.06.

Fluorescent light ballasts containing PCBs found damaged are Department-generated hazardous waste under section 14-11.07. Management of this Department-generated hazardous waste is change order work.

Use a hazardous waste manifest to transport damaged equipment to an appropriately permitted disposal facility.

**14-11.15C(5) Lead Acid Batteries**

Removed lead acid batteries are Department-generated hazardous waste. Manage hazardous waste lead acid batteries under 22 CA Code Regs § 66266.80 and 66266.81. Do not dispose of or attempt to dispose of, a lead-acid battery on or in any land, including dumpsters, landfills, lakes, streams, or the ocean.

Upon removal immediately place batteries upright in non-reactive, structurally-secure, closed containers such as polyethylene buckets or drums for transport. Package the batteries under 49 CFR 172.101 and 49 CFR 173.59. Prevent accidental contact between batteries by:

1. Covering terminal ends to prevent them from touching each other
2. Placing batteries in a sealed plastic bag packed with loose fill, such as vermiculite

Label the container with the date the first battery is placed in it and identify the contents as "Lead-acid Batteries."



**Replace item 2 in the list in the 1st paragraph of section 20-1.03C(1) with:**

2. Controlling weeds and pests

10-18-19

**Replace the 2nd paragraph of section 20-2.01A(4)(d) with:**

In the presence of the Engineer, perform a functional test for each system that demonstrates:

10-19-18

1. Components of the system are functioning and integrated with one another.
2. Controller programming is complete including external weather, learned flow, and other system data inputs required to operate the system in the automatic mode.
3. Watering schedule is appropriate for the plants, current weather, season, and site conditions.
4. System has complete sprinkler coverage of the site.

10-18-19

10-19-18

Perform the test for each system:

1. Before planting the plants
2. After irrigation system repair work
3. Annually during plant establishment work
4. Not more than 30 days prior to contract acceptance
5. When ordered

**Delete section 20-2.01A(4)(e).**

10-19-18

**Replace the 1st paragraph of section 20-2.01B(5) with:**

Pull boxes must comply with section 86-1.02C and be no. 5 or larger. Pull boxes for low voltage conductors must not have side openings.

10-19-18

**Replace the 2nd paragraph of section 20-2.01B(5) with:**

Pull box covers used for control and neutral conductors for irrigation equipment operated by the irrigation controller must be marked *SPRINKLER CONTROL*.

04-19-19

**Add to section 20-2.01B:**

**20-2.01B(9) Woven Wire Cloth and Gravel**

04-19-19

Woven wire cloth must be galvanized and manufactured with a minimum diameter of 19-gauge wire and have square openings from 1/4 to 1/2 inches.

Gravel must be 3/4-inch gravel or crushed rock. Gravel or crushed rock must be clean, washed, dry, and free from clay or organic material.

**Replace the 1st paragraph of section 20-2.01C(2) with:**

Perform trenching and backfilling under section 87-1.03E(2).

10-19-18

**Replace the introductory clause to the list in the 1st paragraph of section 20-2.01C(3) with:**

Install pull boxes under section 87-1.03C at the following locations:

10-19-18

**Add to section 20-2.01C(4):**

Install valve boxes on woven wire cloth and gravel or crushed rock.

04-19-19

**Add to the end of section 20-2.01C(4):**

Space remote control valve boxes at least 2 feet from the edge of the adjacent valve box.

04-17-20

**Replace the 1st paragraph of section 20-2.04A(4) with:**

Perform field tests on control and neutral conductors. Field tests must comply with the specifications in section 87-1.01D(2)(a).

10-19-18

**Replace the 1st and 2nd paragraphs of section 20-2.04B with:**

Control and neutral conductors must comply with the provisions for conductors and cables in section 86-1.02F.

10-19-18

Electrical conduit and fittings must comply with section 86-1.02(B).

**Replace the 1st paragraph of section 20-2.04C(4) with:**

Splice conductors with a UL-listed connector manufactured for copper wire, direct burial irrigation systems. Connector must be prefilled with a moisture sealing compound that encapsulates and protects the splice in a waterproof housing. Connector must be sized for the number and gauge of the conductors at the splice.

04-19-19

**Add to the end of the 4th paragraph of section 20-2.06B(2)(a):**

Notify the Engineer at least 10 business days before accessing the network communications to integrate new irrigation controllers into the network.

10-18-19

**Replace the introductory clause of the 1st paragraph of section 20-2.06B(3) with:**

The irrigation controller enclosure cabinet must comply with section 86-1.02Q and must:

10-19-18

**Add to the beginning of section 20-2.06C:**

10-19-18

Install the irrigation controller enclosure cabinet under 87-1.03Q(1).

**Replace the paragraph of section 20-2.07B(3) with:**

10-18-19

Corrugated HDPE pipe must comply with ASTM F667 or be Type S complying with AASHTO M252 or AASHTO M294. Couplings and fitting must be as recommended by the pipe manufacturer.

**Replace the 3rd paragraph of section 20-2.09B(1) with:**

04-19-19

Threaded nipples for swing joints and risers must be schedule 80, PVC 1120 or PVC 1220 pipe, and comply with ASTM D1785.

**Add to the end of section 20-2.10B(6):**

10-18-19

Flanged adapters used to connect pipe to gate valves must be metal.

**Replace section 20-2.10B(7) with:**

04-17-20

Each pressure regulating valve used on the downstream side of the control valves must be:

1. Threaded type with outflow pressure clearly marked on the regulator
2. Plastic body with a working pressure of 125 psi or greater
3. Stainless-steel compression spring

Each pressure regulating valve used on the upstream side of the control valves must be:

1. Flanged or threaded and manufactured of brass or bronze
2. Capable of withstanding a working pressure of 300 psi or greater
3. Adjustable with a stainless-steel spring and seat
4. Tapped and plugged for a pressure gauge and if shown with a gauge installed

Replace the table in the 3rd paragraph of section 20-3.01B(2)(a) with:

10-19-18

Plant group designation	Description	Container size (cu in)
A	No. 1 container	152–251
B	No. 5 container	785–1242
C	Balled and burlapped	--
E	Bulb	--
F	In flats	--
H	Cutting	--
I	Pot	--
K	24-inch box	5775–6861
M	Liner <sup>a</sup>	--
O	Acorn	--
P	Plugs <sup>a, b</sup>	--
S	Seedling <sup>c</sup>	--
U	No. 15 container	2768–3696
Z	Palm Tree	--

<sup>a</sup>Do not use containers made of biodegradable material.

<sup>b</sup>Grown in individual container cells.

<sup>c</sup>Bare root.

Replace the introductory clause of the 1st paragraph of section 20-3.01B(4)(b) with:

10-19-18

Slow-release fertilizer must be a pelleted or granular form with a nutrient release over a 3 to 4 month period and be within the chemical analysis ranges shown in the following table:

Replace section 20-3.01C(3) with:

10-19-18

Water plants as needed to keep the plants in a healthy growing condition.

Replace item 3 in the list in the 2nd paragraph of section 20-4.01A with:

10-18-19

- Controlling weeds and pests

Replace the 1st paragraph of section 20-4.03G with:

10-18-19

Operate the electric irrigation systems utilizing external weather, learned flow, and other system data inputs required to operate the system in the automatic mode, unless otherwise authorized.

Delete the 3rd paragraph of section 20-4.03G.

10-19-18

Replace the 1st paragraph of section 20-5.03A(2) with:

10-18-19

Preemergent must be granular oxadiazon.





## 21 EROSION CONTROL

04-17-20

**Replace section 21-2.01C(3) with:**

10-18-19

At least 60 days before seed application, submit proof that the purchase order for seed required for the Contract has been placed and accepted by the seed vendor. Include the seed's botanical names, quantity ordered, and the anticipated date of delivery on the purchase order.

Submit a copy of the supplier's seed analysis report and seed label for each seed species before application.

Seed analysis report must show:

1. Seed variety including botanical name and common name
2. Percent pure live seed
3. Percent by weight inert matter
4. Percent by weight other crop seed
5. Percent by weight weed seed
6. Name of restricted noxious weed seed by number per pound of seed
7. Germination test results
8. Name and address of the supplier or grower
9. Name and address of the seed laboratory
10. Date of the analysis

Seed labels must show:

1. Seed variety including botanical name and common name
2. Lot number or other lot identification
3. Origin
4. Net weight
5. Percent pure live seed
6. Percent total viability
7. Percent by weight inert matter
8. Percent by weight other crop seed
9. Percent by weight weed seed
10. Name of restricted noxious weed seed by number per pound of seed
11. Name and address of the supplier or grower
12. Date the seed was labeled

**Replace section 21-2.01D(3) with:**

10-18-19

Seed must be tested for purity and germination by a seed laboratory certified by the Association of Official Seed Analysts or by a seed technologist certified by the Society of Commercial Seed Technologists. Seed test must be performed for germination within 12 months before application.

**Replace the 2nd paragraph of section 21-2.03J with:**

04-19-19

Do not incorporate materials within 3 feet of the pavement edge.

**Delete the 4th paragraph of section 21-2.03J**

04-19-19





**Add to section 39-2.01A(4)(h)(v):**

04-19-19

AASHTO T 324 (modified) and AASHTO T 283 are not required if production start-up evaluation is within 45 days of the date the Hot Mix Asphalt Verification form is signed.

If production stops for more than 60 days, perform a production start-up evaluation. If production stops for more than 30 days but less 60 days, perform a reduced production start-up evaluation. Reduced production start-up evaluation is production start-up evaluation without AASHTO T 324 and AASHTO T 283.

If production start-up evaluation fails, do not begin production.

**Add between the 3rd and 4th paragraphs of section 39-2.01A(4)(i)(i):**

04-19-19

You must assist in collecting Engineer acceptance samples. Sample in the presence of the Engineer. Split the Engineer acceptance samples into at least 4 parts. Engineer retains 3 parts and you keep 1 part.

**Replace the 1st sentence in the 5th paragraph of section 39-2.01A(4)(i)(i) with:**

04-17-20

The Engineer conditions each at-the-plant sample of HMA mixture for testing under AASHTO 283 in compliance with sections 7.1.2, 7.1.3, and 7.1.4 of AASHTO R 30.

**Replace the 1st through 3rd paragraphs of section 39-2.01A(4)(i)(iv) with:**

04-19-19

You and the Engineer must work together to avoid potential conflicts and to resolve disputes regarding test result discrepancies. You and the Engineer may only dispute each other's test results if one party's test results pass and the other party's test results fail.

If there is a dispute, submit your test results and copies of paperwork including worksheets used to determine the disputed test results within 3 business day of receiving Engineer's test results. An independent third party performs referee testing. Before the third party participates in a dispute resolution, it must be qualified under AASHTO re:source 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 HMA producer

If the Department's portion of the split acceptance samples are not available, the independent third party uses any available material agreed by you and the Engineer as representing the disputed HMA for evaluation.

**Replace the 1st paragraph of section 39-2.01B(2)(b) with:**

04-17-20

If the proposed JMF indicates that the aggregate is being treated with dry lime or lime slurry with marination, or the HMA with liquid antistripping, then testing the untreated aggregate under AASHTO T 283 and California Test 389 is not required.

**Replace the table in the 3rd paragraph of section 39-2.01C(3)(f) with:  
Tack Coat Application Rates for HMA**

04-17-20

HMA over:	Minimum residual rates (gal/sq yd)		
	CSS-1/CSS-1h, SS-1/SS-1h, and QS-1h/CQS-1h asphaltic emulsion	CRS-1/CRS-2 and QS-1/CQS-1 asphaltic emulsion	Asphalt binder and PMCRS-2/PMCRS-2h asphaltic emulsion
New HMA (between layers)	0.02	0.03	0.02
Concrete pavement and existing asphalt concrete surfacing	0.03	0.04	0.03
Planed pavement	0.05	0.06	0.04

**Replace the 2nd paragraph of section 39-2.02A(4)(b)(iii) with:**

10-18-19

When tested under AASHTO T 308, the uncorrected binder content of the combined RAP sample must be within  $\pm 2.00$  percent of the average uncorrected asphalt binder content reported on page 4 of your Contractor Hot Mix Asphalt Design Data form. If a new processed RAP stockpile is required, the average uncorrected binder content of the new processed RAP stockpile tested under AASHTO T 308 must be within  $\pm 2.00$  percent of the average uncorrected binder content reported on page 4 of your Contractor Hot Mix Asphalt Design Data form. You must use the same ignition oven used to determine the uncorrected asphalt binder content reported on page 4 of your Contractor Hot Mix Asphalt Design Data form.

**Replace item 2 in the 4th paragraph of section 39-2.02A(4)(b)(iii) with:**

10-18-19

2. Moisture content at least once a day

**Replace footnote a in the table in item 1 in the list in the paragraph of section 39-2.02A(4)(e) with:**

04-17-20

10-18-19

<sup>a</sup>The Engineer determines combined aggregate gradations containing RAP under California Test 384. The Engineer uses the correlation factor from Contractor Hot Mix Asphalt Design Data form and mathematically combines the virgin and corrected RAP aggregate gradations at the correct proportions to obtain the combined gradation.

**Replace the table in item 2 in the list in the paragraph of section 39-2.02A(4)(e) with:**

10-18-19

**Reclaimed Asphalt Pavement Quality**

Quality characteristic	Test method	Requirement
Uncorrected binder content (% within the average value reported <sup>a</sup> )	AASHTO T 308	$\pm 2.00$
Specific gravity (within the average value reported <sup>b</sup> )	AASHTO T 209	$\pm 0.06$

<sup>a</sup>Average uncorrected binder content of three ignition oven tests performed at JMF verification. Engineer must use the same ignition oven used to determine the average uncorrected binder content at JMF verification.

<sup>b</sup>Average maximum specific gravity reported on page 4 of Contractor Hot Mix Asphalt Design Data form.

Replace the row for *Moisture susceptibility (min, psi, dry strength)* in the table in item 3 in the list in the paragraph of section 39-2.02A(4)(e) with:

04-19-19

For RAP substitution equal to or less than 15% moisture susceptibility (min, psi, dry strength)	AASHTO T 283	100
For RAP substitution greater than 15% moisture susceptibility (psi, dry strength)	AASHTO T 283	100-300 <sup>h</sup>

Replace the row for *Hamburg wheel track (min number of passes at inflection point)* in the table in item 3 in the paragraph of section 39-2.02A(4)(e) with:

04-17-20

Hamburg wheel track (number of passes at inflection point)	California Test 389	Report only
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Add a footnote to the table in item 3 in the list in the paragraph of section 39-2.02A(4)(e):

04-19-19

<sup>h</sup>Not required in the following areas:

1. Southern San Luis Obispo or Santa Barbara County in District 5.
2. Kern County in District 6.
3. Kings County in District 6: route 5, post mile 0 to 17; route 33, post mile 0 to 19; route 41, post mile 0 to 16.
4. Tulare County in District 6: route 65, post mile 0 to 10; route 99, post mile 0 to 10; route 43, post mile 0 to 15.

Replace the row for *Hamburg wheel track (min number of passes at inflection point)* in the 1st paragraph of section 39-2.02B(2) with:

04-17-20

Hamburg wheel track (number of passes at inflection point)	California Test 389 <sup>c</sup>	Report only
--	----------------------------------	-------------

Replace the row for *Moisture susceptibility, dry strength* in the table in the 1st paragraph of section 39-2.02B(2) with:

04-19-19

For RAP substitution equal to or less than 15% moisture susceptibility (min, psi, dry strength)	AASHTO T 283	100
For RAP substitution greater than 15% moisture susceptibility (psi, dry strength)	AASHTO T 283	100-300 <sup>e</sup>

**Add a footnote to the table in the 1st paragraph of section 39-2.02B(2):**

04-19-19

Not required in the following areas:

1. Southern San Luis Obispo or Santa Barbara County in District 5.
2. Kern County in District 6.
3. Kings County in District 6: route 5, post mile 0 to 17; route 33, post mile 0 to 19; route 41, post mile 0 to 16.
4. Tulare County in District 6: route 65, post mile 0 to 10; route 99, post mile 0 to 10; route 43, post mile 0 to 15.

**Replace the 3rd and 4th paragraphs of section 39-2.02B(2) with:**

04-19-19

For RAP substitution of 15 percent or less, the grade of the virgin binder must be the specified grade of asphalt binder for Type A HMA.

For RAP substitution greater than 15 percent and not exceeding 25 percent, the grade of the virgin binder must be the specified grade of asphalt binder for Type A HMA with the upper and lower temperature classification reduced by 6 degrees C. Hamburg wheel track requirements are based on the grade of asphalt binder specified for Type A HMA.

**Replace the 2nd sentence in the 2nd paragraph of section 39-2.02B(11) with:**

04-19-19

For RAP substitution of 15 percent or less, RAP must be within  $\pm 3$  of RAP percentage shown in your Contractor Job Mix Formula Proposal form without exceeding 15 percent. For RAP substitution of greater than 15 percent, RAP must be within  $\pm 3$  of RAP percentage shown in your Contractor Job Mix Formula Proposal form without exceeding 25 percent.

**Replace the row for *Hamburg wheel track (min number of passes at 0.5-inch rut depth)* in the table in item 2 in the paragraph of section 39-2.03A(4)(e)(i) with:**

04-17-20

Hamburg wheel track (min number of passes at 0.5-inch rut depth)	California Test	
Base binder grade:	389	
PG 64 or lower		15,000
PG 70		20,000

**Replace the row for *Hamburg wheel track (number of passes at inflection point)* in the table in item 2 in the paragraph of section 39-2.03A(4)(e)(i) with:**

04-17-20

Hamburg wheel track (number of passes at inflection point)	California Test	Report only
	389	



Replace the row for *Hamburg wheel track (min number of passes at 0.5-inch rut depth)* in the table in 1st paragraph of section 39-2.03B(2) with:

04-17-20

Hamburg wheel track (min number of passes at 0.5-inch rut depth) Base binder grade: PG 64 or lower PG 70	California Test 389 <sup>d</sup>	15,000 20,000
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Replace the row for *Hamburg wheel track (min number of passes at inflection point)* in the table in 1st paragraph of section 39-2.03B(2) with:

04-17-20

Hamburg wheel track (number of passes at inflection point)	California Test 389 <sup>d</sup>	Report only
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Replace the table in the 3rd paragraph of section 39-2.04C with:  
**Tack Coat Application Rates for OGFC**

04-17-20

OGFC over:	Minimum residual rates (gal/sq yd)		
	CSS-1/CSS-1h, SS-1/SS-1h, and QS-1h/CQS-1h asphaltic emulsion	CRS-1/CRS-2 and QS-1/CQS-1 asphaltic emulsion	Asphalt binder and PMCRS-2/PMCRS-2h asphaltic emulsion
New HMA	0.03	0.04	0.03
Concrete pavement and existing asphalt concrete surfacing	0.05	0.06	0.04
Planned pavement	0.06	0.07	0.05

Replace the 8th and 9th paragraphs of section 39-2.04C with:

04-19-19

For 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:

1. Spread and compact if the ambient air temperature is at least 55 degrees F and the surface temperature is at least 60 degrees F
2. Complete the 1st coverage using 2 rollers before the surface temperature drops below 280 degrees F
3. Complete compaction before the surface temperature drops below 250 degrees F

For RHMA-O produced with WMA additive technology and RHMA-O-HB produced with WMA additives technology:

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 compaction before the surface temperature drops below 240 degrees F

Spread sand at a rate from 1 to 2 lb/sq yd on RHMA-O and RHMA-O-HB with or without WMA technology pavement after finish rolling activities are complete. Keep traffic off the pavement until spreading of the sand is complete.

**Replace the 2nd paragraph of section 39-2.05A(1)(a) with:**

04-17-20

Placing a BWC consists of applying a bonded wearing course asphaltic emulsion and placing the specified HMA in a single pass with an integrated paving machine.

**Replace the row for *Penetration at 25 °C* in the table in the 1st paragraph of section 39-2.05A(1)(d)(iii) with:**

04-17-20

Penetration at 25 °C (dmm)	AASHTO T 49	70–150
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**Replace the paragraph of section 39-2.05A(2)(b) with:**

04-17-20

The asphaltic emulsion must be bonded wearing course asphaltic emulsion.

AA

## 40 CONCRETE PAVEMENT

04-17-20

**Replace the 2nd paragraph of section 40-1.01C(4) with:**

04-17-20

At least 15 days before starting field qualification, submit the proposed concrete mix proportions, the corresponding mix identifications, and laboratory test reports, including measurements of the modulus of rupture and compressive strength, for each trial mixture at 3, 7, 10, 21, 28, and 42 days.

**Replace the 2nd paragraph of section 40-1.01C(9) with:**

10-19-18

Submit your coefficient of thermal expansion test data at:

<https://dime.dot.ca.gov/>

**Replace the 3rd paragraph of section 40-1.01D(1) with:**

04-17-20

Provide material, labor and equipment that meets initial curing requirement to assist the Engineer in fabricating, curing and handling test beams for the Department's modulus of rupture testing. Failure to maintain the proper curing environment during initial cure will not be basis for rejection of samples, dispute resolution, or claim against the Department. The initial curing equipment must be capable of being locked, using a Department provided padlock. Ensure that the initial curing equipment is secured at all times and protected against theft and damage.

**Replace the row for *Density* in the table in the 1st paragraph of section 40-1.01D(7)(a) with:**

04-17-20

Unit weight	California Test 518	1 per 4 hours
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**Add to the list in the 4th paragraph of section 40-1.01D(7)(a):**

04-17-20

6. Unit weight

**Replace item 2 in the list in the 8th paragraph of section 40-1.01D(7)(a) with:**

04-17-20

2. 1 point falls outside the suspension limit line for individual penetration, unit weight or air content measurements

**Replace  $n_v$  in the 1st paragraph of section 40-1.01D(8)(b)(ii) with:**

04-17-20

$n_v$  = number of Department's tests (minimum of 3 required)

**Replace the 4th paragraph of section 40-1.01D(8)(b)(ii) with:**

04-17-20

If your QC test results are not verified, core at least 3 specimens from the concrete pavement under section 40-1.03M. For dispute resolution, the Engineer selects the core locations and the Department contracts with an independent testing laboratory or uses the Department's laboratory to test these specimens for air content under ASTM C457. The Engineer compares these test results with your QC test results using the t-test method. If your QC test results are verified based on this comparison, the Engineer uses your QC test results for acceptance of concrete pavement for air content, otherwise, the Engineer uses the test results from the dispute resolution process and you pay for the independent testing.

**Replace the note *b* in the table in the 1st paragraph of section 40-1.01D(8)(c)(i) with:**

04-17-20

<sup>b</sup>Average of the individual test results of 3 test beams.

**Replace the 1st sentence of section 40-1.01D(8)(c)(iii) with:**

04-17-20

The Department verifies and accepts pavement smoothness based on the results of your inertial profiler testing under Section 36-3.

**Replace section 40-1.01D(8)(c)(v) with:**

04-17-20

**40-1.01D(8)(c)(v) Determining Modulus of Rupture from Pavement Cores**

For each approved mix design, a correlation between flexural beam strength and compressive core strength may be developed to evaluate low modulus of rupture results from projects. If the average 28-day modulus of rupture is below 570 psi, you may use compressive strength results from pavement cores to determine the equivalent 28-day modulus of rupture.

In the presence of engineer:

1. From the test strip, fabricate an additional 3 beams, and take a total of 15 cores under ASTM C42 to test 3 cores at each age of 28, 42, 56, 70, and 91 days.
2. If test strip is not constructed, fabricate additional 3 beams on the first day of production and placement of concrete pavement, and take total 15 cores under ASTM C42 to test 3 cores at each age of 28, 42, 56, 70, and 91 days.

3. Break 3 beams at 28 days and take the average.
4. Break 3 cores at each age of 28, 42, 56, 70, and 91 days under ASTM C 39 and take the average at each age.

Use the following formula to calculate the equivalent 28-day modulus of rupture:

$$MOR = MORs \times [Cp(t)/Cs(t)]^{1/2}$$

where:

*MOR* = equivalent 28-day modulus of rupture in psi

*MORs* = average modulus of rupture in psi of 3 beams taken from the test strip at 28 days

*Cs(t)* = average compressive strength in psi of 3 cores taken from the test strip at (t): 28, 42, 56, 70, or 91 days under ASTM C39

*Cp(t)* = average compressive strength in psi of 3 cores taken from the pavement project at (t): 28, 42, 56, 70, or 91 days under ASTM C39

Submit all test results to engineer on the same date of completion of testing.

If the 28-day modulus of rupture is below 570 psi, select an age equal to one of the test ages from the test strip and drill 3 concrete cores under ASTM C42 of same diameter as the test strip from the area not complying to the acceptance strength requirement and test in presence of engineer for compressive strength under ASTM C39. The average compressive strength of 3 concrete cores will be used to determine the equivalent 28-day modulus of rupture.

**Replace introductory clause in the 4th paragraph of section 40-1.03J with:**

04-17-20

Do not allow traffic or use equipment on concrete pavement before the concrete has attained a modulus of rupture of 550 psi based on the Department's testing unless:

**Add to the list in the 4th paragraph of section 40-1.03J:**

04-17-20

- 2.5 You must monitor for damage and immediately discontinue access and suspend operations if any damage becomes apparent

**Replace section 40-2 with:**

10-18-19

**40-2 CONTINUOUSLY REINFORCED CONCRETE PAVEMENT**

**40-2.01 GENERAL**

**40-2.01A Summary**

Section 40-2 includes specifications for constructing continuously reinforced concrete pavement.

Constructing continuously reinforced concrete pavement includes terminal joints and expansion joints.

**40-2.01B Definitions**

Reserved

**40-2.01C Submittals**

For field qualification, submit the test data for the coefficient of thermal expansion of the concrete.

If you request to use plastic chairs to support the transverse bars, submit a sample of the plastic chair, including:

1. Manufacturer's instructions for the applicable use and load capacity
2. Chair spacing
3. Your calculation for the load on a chair for the area of bar reinforcement it supports

During production, submit the test data for the coefficient of thermal expansion as an informational submittal.

#### **40-2.01D Quality Assurance**

For field qualification, test the coefficient of thermal expansion of the concrete under AASHTO T 336. The coefficient of thermal expansion must not exceed 6.0 microstrain/degree F.

During the evaluation of the test strip, the Engineer visually checks the reinforcement and dowel and tie bar placement.

During production, test the coefficient of thermal expansion of the concrete at a frequency of 1 test for each 5,000 cu yd of paving but not less than 1 test for a project with less than 5,000 cu yd of concrete.

### **40-2.02 MATERIALS**

#### **40-2.02A General**

Reserved

#### **40-2.02B Transverse Bar Assembly**

Transverse bar assemblies may be used to support longitudinal bars instead of transverse bars and other support devices.

#### **40-2.02C Intermediate Transverse Bars**

Intermediate transverse bars do not need to be epoxy-coated for a project not shown to be in a high desert or any mountain climate region.

#### **40-2.02D Joints**

Joint seals for transverse expansion joints must comply with section 51-2.02.

Geosynthetic bond breaker for expansion joint support slabs must comply with section 36-2.

### **40-2.03 CONSTRUCTION**

#### **40-2.03A General**

Reserved

#### **40-2.03B Bar Reinforcement**

Place bar reinforcement under section 52-1.03D except you may request to use plastic chairs. Plastic chairs will be considered only for support directly under the transverse bars. You must demonstrate the vertical and lateral stability of the bar reinforcement and plastic chairs during the construction of the test strip.

For a transverse bar in a curve with a radius under 2,500 feet, place the reinforcement in a single continuous straight line across the lanes and aligned with the radius point as shown.

Lap splice bar reinforcement under section 52-6. For low carbon, chromium-steel bar reinforcement, the length of lap splice must be at least 30 inches.

#### **40-2.03C Construction Joints**

Transverse construction joints must be perpendicular to the lane line. Construct the joints so that the nearest longitudinal bar splice is at least 42 inches away from each side of the joint.

Clean joint surfaces before placing concrete against the surfaces. Remove laitance, curing compound, and other foreign materials.

**40-2.03D Correcting Noncompliant Pavement Work**

**40-2.03D(1) General**

The specifications for repairing cracks in section 40-1.03N do not apply to CRCP. Do not apply high-molecular-weight methacrylate to cracks in CRCP.

CRCP that develops raveling areas of 6 by 6 inches or greater requires partial depth repair.

**40-2.03D(2) Partial Depth Repair**

Partial depth repair must comply with section 41-4 except:

1. Determine a rectangular boundary which extends 6 inches beyond the damaged area. The depth of the saw cut must be between 2 inches from the surface to 1/2 inch above the longitudinal bars.
2. Provide additional reinforcement if each length of the repair boundaries is equal to or greater than 3 feet.

**40-2.03D(3) Full-Depth Repair**

**40-2.03D(3)(a) General**

Remove the full-depth of CRCP except for the portion of reinforcement to remain in place. Provide continuity of the reinforcement. For low carbon, chromium-steel bar reinforcement, the length of lap splice must be at least 30 inches. Splicing must comply with section 52-6. Do not damage the base, concrete, and reinforcement to remain in place. Place concrete in the area where you removed CRCP.

**40-2.03D(3)(b) Transverse Cracks**

Make initial full-depth transverse saw cuts normal to the lane line a distance of 3 feet on each side of the transverse crack.

**40-2.03D(3)(c) Longitudinal Cracks**

Remove the cracked area normal to the lane line for the full width of the lane a distance of 1 foot beyond each end of the crack. You may propose alternate limits with your repair plan.

**40-2.03E Reserved**

**40-2.04 PAYMENT**

Not Used

AA

**41 EXISTING CONCRETE PAVEMENT**

04-17-20

**Replace the 2nd paragraph of section 41-10.01C with:**

04-17-20

At least 15 days before delivery of the chemical adhesive to the job site, submit the SDS and the manufacturer's instructions for:

1. Handling and storage
2. Installation procedures
3. Minimum cure time
4. Use of chemical adhesive

**Replace the 3rd paragraph of section 41-10.02A with:**

04-17-20

Each chemical adhesive system container must clearly and permanently show the:

1. Manufacturer's name

2. Material name
3. Lot or batch number
4. Expiration date
5. Evaluation report number
6. Directions for use
7. Storage requirement
8. Warnings or precautions required by State and federal laws and regulations

**Replace section 41-10.03A with:**

04-17-20

**41-10.03A General**

Drill holes for bars as shown without damaging the adjacent concrete. Clean drilled holes under the chemical adhesive manufacturer's installation instructions. Holes must be dry at the time of placing the chemical adhesive and bars. Immediately after inserting the bar into the chemical adhesive, support the bar to prevent movement until chemical adhesive has cured the minimum time recommended by the manufacturer.

Use a grout retention ring when drilling and bonding dowel bars. Apply dowel bar lubricant to the entire exposed portion of the dowel bar.

If the Engineer rejects a bar installation: stop paving, drilling, and bonding activities. Adjust your procedures and obtain the verbal authorization before resuming paving, drilling, and bonding.

Cut the rejected bar flush with the pavement joint surface and coat the exposed end of the bar with chemical adhesive. Offset the new hole 3 inches horizontally from the rejected hole's center.

AA

**DIVISION VI STRUCTURES**  
**46 GROUND ANCHORS AND SOIL NAILS**

04-17-20

**Replace section 46-1.01C(2) with:**

04-17-20

**46-1.01C(2) Shop Drawings**

**46-1.01C(2)(a) General**

Submit shop drawings and supporting calculations to OSD, Documents Unit for initial review. Notify the Engineer of the submittal. Include in the notification the date and contents of the submittal.

Submit 6 copies of the general project information, 5 copies of the fabricators plan, and 3 copies of the construction plan.

Shop drawings and calculations must be sealed and signed by an engineer who is registered as a civil engineer in the State.

Allow 30 days for the Department's review.

After review, submit from 6 to 12 copies of final shop drawings and supporting calculations, as requested, for authorization and use during construction.

**46-1.01C(2)(b) General Project Information Plan**

General project information plan must include:

1. Name, address, email address, and phone number of the contractor or subcontractor performing the work.

2. Wall construction schedule with construction sequence.
3. Wall construction staging schedule.
4. Table of lengths, tendon sizes, centralizers, and drilled-hole diameters.
5. For ground anchors, calculations for determining the bonded length and assumed bonded strength. Do not rely on any capacity from the grout-to-ground bond within the unbonded length.
6. Procedures for installing verification and proof test nails.
7. Bench width requirements for installation equipment.
8. Excavation lift height and maximum duration of exposure for each wall zone, including:
  - 8.1. Methods to stabilize the exposed excavated face if face is not maintaining its integrity
  - 8.2. Supporting calculations

#### **46-1.01C(2)(c) Fabrication Plan**

Fabrication plan must include:

1. Details and specifications for:
  - 1.1. Ground anchors and anchorage system
  - 1.2. Production and test soil nails
2. Corrosion protection details and repair procedure for:
  - 2.1. Damaged sheathing
  - 2.2. Couplers
3. Testing equipment including jacking frame and appurtenant bracing.
4. For ground anchors, details for the transition between the corrugated plastic sheathing and the anchorage assembly. If shims are used during lock-off, include:
  - 4.1. Shim thickness
  - 4.2. Supporting calculations

You may start fabrication early by requesting an authorization of the fabrication plan portion before the complete shop drawings submittal is authorized. If the early fabrication plan is authorized, you are fully responsible for any changes that may occur after starting fabrication.

#### **46-1.01C(2)(d) Construction Plan**

Construction plan must include:

1. Methods of excavation for the staged lifts and types of excavation equipment.
2. Details for measuring the movement of the excavated face and the wall during stability testing and construction.
3. Measures to ensure wall and slope stability during construction.
4. Details for providing the bonded and unbonded length. If packers or other similar devices are used, include the type.
5. For soil nails, details for isolating installed proof test soil nails during shotcrete application.
6. Dewatering plan to divert, control, and dispose of surface and groundwater during construction
7. Drilling methods and equipment, including:
  - 7.1. Size of drilled hole
  - 7.2. Space requirements
8. Grout mix design and testing procedures.
9. Grout placement equipment and procedures, including minimum required cure time.
10. Testing equipment including method and equipment for measuring movement during testing.
11. For soil nails, include procedure for extracting grouted soil nails.

**Add to the list in the 1st paragraph of section 46-1.01C(3):**

12. Digital photo logs of extracted test soil nails



**Replace the 2nd paragraph of section 46-1.01C(3) with:**

10-19-18  
Submit the test data in electronic and hard copy format within 1 business day after testing is complete. Upon completion of the wall, send an email of the soil nail test results as a tabulated spreadsheet to the Engineer and Geotechnical.Data@dot.ca.gov. Include the contract number and Department's structure number of the wall in the subject line of the email.

**Replace *Not Used* in section 46-1.01D(1) with:**

10-19-18  
Welding must comply with AWS D1.1.

**Add to the end of section 46-1.03A:**

10-19-18  
Shotcrete must comply with section 53-2.

**Delete the 3rd paragraph of section 46-1.03B.**

**Replace the 1st paragraph of 46-2.02B with:**

04-17-20  
Strand tendons, bar tendons, and bar couplers must comply with section 50-1.02B and must be on the Authorized Material List for post-tensioning systems.

**Replace the 1st sentence in the 2nd paragraph of section 46-2.02B with:**

10-19-18  
The anchorage enclosure and the steel tube and bearing plate of the anchorage assembly must be galvanized steel and comply with sections 55-1.02D(1) and 55-1.02E(1).

**Replace item 9 in the list in the 3rd paragraph of section 46-2.02D with:**

- 10-19-18  
9. Have the physical properties shown in Table 4.1 of *Recommendations for Prestressed Rock and Soil Anchors* published by the Post-Tensioning Institute

**Replace the 4th paragraph of section 46-2.03D with:**

10-19-18  
Immediately after lock-off, perform a lift-off test to verify that the lock-off load has been attained. The lift-off load must be within 10 percent of the specified lock-off load. If necessary adjust the shim thickness to achieve the lock-off load. If the load is not within 10 percent of the specified lock-off load, the anchorage must be reset and another lift-off load reading must be made. Repeat the process until the specified lock-off load is obtained.

**Replace the 2nd paragraph of section 46-3.01A with:**

10-19-18  
A soil nail consists of a solid steel bar with an anchorage assembly that is placed in a drilled hole and then grouted.

Replace section 46-3.01D(2)(b)(ii)(1) with:

10-19-18

**46-3.01D(2)(b)(ii)(1) General**

Determine the test load using the following equation:

$$T = Lb \times Qb$$

where:

$T$  = test load, pounds

$Lb$  = soil nail bonded length, feet, 10 feet minimum

$Qb$  = test load per unit length of bond, pounds/foot

Replace the 8th paragraph of section 46-3.01D(2)(b)(ii)(2) with:

04-19-19

If the Engineer revises soil nail lengths or test load per unit length of bond values, any additional verification test soil nails are change order work.

Replace section 46-3.02A with:

04-19-19

**46-3.02A General**

Each production soil nail must be either a solid steel bar encapsulated full length in a grouted corrugated plastic sheathing or an epoxy-coated prefabricated solid steel bar partially encapsulated in a grouted corrugated plastic sheathing as shown.

Epoxy-coated prefabricated solid steel bars must comply with the specifications for epoxy-coated prefabricated reinforcement in section 52-2.03, except the average coating thickness after curing must be from 10 to 15 mils.

Solid steel bar for test soil nails is not required to be epoxy coated or encapsulated in grouted plastic sheathing.

Replace the heading of section 46-3.02B with:

10-19-18

**Anchorage Assemblies**

Replace section 46-3.02C with:

10-19-18

**46-3.02C Solid Steel Bars**

Solid steel bars must be either:

1. Threaded bars with spirally-deformed, ribbed threads continuous along the entire length of the bar.
2. Deformed reinforcing bars with at least a 6-inch length of thread cut into the bar on the anchorage end. Use coarse threading and the next larger reinforcing bar size.

Solid steel bars must comply with ASTM A615/A615M or A706/A706M, Grade 60 or ASTM A615/A615M, Grade 75.

Splicing must be authorized.

Epoxy coating at the anchorage end of epoxy-coated bars may be omitted for a maximum of 6 inches. Metal surfaces of assembled splices of epoxy-coated bars must be epoxy coated.

Choose the solid steel bar size and grade for test soil nails. Test soil nail bars must not be smaller than the production soil nails they represent.

**Replace the 1st paragraph of section 46-3.03A with:**

10-19-18

Determine the drilled-hole diameter and installation method required to achieve the test load per unit length of bond values shown.

**Replace the introductory clause to the list in the 3rd paragraph of section 46-3.03B with:**

10-19-18

Install verification test soil nails by any of the following means:

**Replace the 7th and 8th paragraphs of section 46-3.03B with:**

10-19-18

Remove each verification and proof test soil nail to 6 inches behind the front face of the shotcrete after testing is complete. Fill the voids with grout.

If ordered, extract verification and proof test soil nails selected by the Engineer. Fill the voids with grout. Photograph the extracted test nails in 5-foot section intervals.

**Replace the 3rd paragraph of section 46-3.03C with:**

10-19-18

Splice the solid steel bar only where shown on the authorized shop drawings or at the end of a soil nail that is ordered to be lengthened.

**Replace the 1st sentence in the 7th paragraph of section 46-3.03C with:**

10-19-18

Hand tighten the nut on the end of the production soil nail bar before shotcrete hardening begins. Ensure the bearing plate is fully seated on the shotcrete.

AA

**48 TEMPORARY STRUCTURES**

04-17-20

**Replace *signed* at each occurrence in section 48 with:**

04-17-20

sealed and signed

**Replace section 48-1.01 with:**

04-17-20

**48-1.01 GENERAL**

**48-1.01A Summary**

Section 48-1 includes general specifications for constructing temporary structures.

If a railroad company is involved, falsework, temporary supports, and jacking support systems must comply with any additional requirements of the railroad company.

**48-1.01B Definitions**

**frame:** Portion of a bridge between expansion joints.

**jacking:** Positioning of new or existing structures or portions thereof, by jacks or other mechanical methods.

**previously welded splice:** Splice made in a temporary-structure member in compliance with AWS D1.1 or other recognized welding standard, before contract award.

**temporary-structure adjustment:** Grading or adjusting of temporary structures.

**48-1.01C Submittals**

**48-1.01C(1) General**

Submit 6 copies of shop drawings and 2 copies of calculations for:

1. Falsework
2. Temporary supports
3. Temporary decking
4. Jacking
5. Adjustment

**48-1.01C(2) Temporary-Structure Inspection Report**

Temporary-structure inspection reports must be:

1. Prepared daily during jacking and temporary-structure adjustment activities. Reports must be submitted:
  - 1.1. By close of business the following business day
  - 1.2. Before opening the roadway on or under the temporary structure to traffic
2. Prepared before placing concrete

The temporary-structure inspection report must be prepared, sealed, and signed by the temporary-structure engineer.

The temporary-structure inspection report must include:

1. Description of the progress of the jacking and adjustment activities
2. Description and evaluation of the condition of the temporary structure and supported structure
3. Inspection findings and the certifications listed in section 48-1.01D(2) that are completed by the temporary-structure engineer

**48-1.01C(3) Adjustment Plan Shop Drawings**

Submit adjustment plan shop drawings if the falsework or temporary supports are to be adjusted more than 1/2 inch.

The adjustment plan shop drawings and calculations must be sealed and signed by the temporary-structure engineer.

Adjustment plan shop drawings and calculations must include:

1. Methods and sequencing for the adjustment.
2. Descriptions of equipment to be used.

3. Location of jacks or other adjustment equipment.
4. Detailed sequence for releasing of bracing.
5. Details and calculations for the stability and adjustment of the falsework or temporary supports during all stages of the adjustment including any additional required temporary bracing.
6. Calculations that include stresses, deflections, and loads in all load carrying members, bracing, and equipment as well as any redistributed loads resulting from the adjustment. Calculations must also include the effect of the adjustment sequence.

**48-1.01D Quality Assurance**

**48-1.01D(1) General**

Reserved

**48-1.01D(2) Temporary-Structure Engineer**

The temporary-structure engineer must:

1. Be registered as a civil engineer in the State.
2. Have experience in temporary structure design or temporary structure construction inspection.
3. Seal and sign the shop drawings.
4. Be present during all jacking and adjustment activities.
5. Prepare, seal, and sign a daily temporary-structure inspection report during jacking and temporary-structure adjustment activities.
6. The temporary-structure engineer must inspect and certify that:
  - 6.1. Temporary structure is stable before jacking activities or adjustments and before concrete is placed.
  - 6.2. Temporary structure complies with the authorized shop drawings.
  - 6.3. Materials and workmanship are satisfactory for the work.
7. Stop activity if any unanticipated issues occur.
8. Propose revisions to the authorized shop drawings to address any issues. Do not resume temporary structure activities until the proposed revisions are authorized.

The temporary-structure engineer may assign a representative to perform the temporary structure activities specified in section 48-1.01D. The temporary-structure engineer must submit a letter that is sealed and signed certifying that the representative:

1. Is registered as a civil engineer in the State
2. Has experience in temporary structure design or temporary structure construction inspection
3. Is familiar with the authorized shop drawings and the stresses the members are required to sustain
4. Will attend at least 1 job site visit with the Engineer and your temporary-structure superintendent to discuss the authorized shop drawings

**Add to list in the 2nd paragraph of section 48-2.01A:**

5. Includes illumination for vehicular and pedestrian traffic

04-17-20

**Add to the end of section 48-2.01A:**

Falsework used as temporary supports must comply with section 48-3.

04-17-20

**Replace section 48-2.01B with:**

04-17-20

**48-2.01B Definitions**

**independent support system:** Support system that is in addition to a falsework removal system that employs methods of holding falsework from above by winches, hydraulic jacks with prestressing steel, HS steel rods, or cranes.

**falsework release:** Lowering of falsework to the point that it no longer supports the loads imposed by the permanent structure, or any element, that the falsework was designed to support during construction. Falsework release includes blowing sand from sand jacks, turning screws on screw jacks, and removing wedges.

**falsework removal:** Releasing, lowering, and disposing of the falsework.

**Replace the last paragraph of section 48-2.01C(1) with:**

04-17-20

Submit a falsework lighting plan at least 10 days before starting construction on falsework containing openings for vehicular traffic, pedestrians, or railroad.

The plan must include:

1. Location, spacing, and mounting heights of luminaires
2. Types of luminaires
3. Calculations of illumination levels used to determine placement of luminaries
4. Plot of illumination points used to demonstrate compliance with the illumination levels requirements
5. Lighting circuit diagrams

**Replace section 48-2.01C(2) with:**

04-17-20

**48-2.01C(2) Shop Drawings**

Submit shop drawings and calculations for falsework.

The falsework shop drawings and calculations must be sealed and signed by the temporary-structure engineer for any of the following conditions:

1. Height of any portion of the falsework measured from the ground line to the soffit of the superstructure is more than 14 feet
2. Any individual falsework clear span is more than 16 feet
3. Falsework contains openings for vehicular, pedestrian, or railroad traffic
4. Falsework removal systems support falsework from above by winches, hydraulic jacks with prestressing steel, HS rods or cranes

Shop drawings and calculations for falsework piles with a calculated loading capacity greater than 100 tons must be sealed and signed by an engineer who is registered as a civil or geotechnical engineer in the State.

Falsework shop drawings and calculations must include:

1. Details of erection and removal activities.
2. Methods and sequences of erection and removal, including equipment.
3. Maximum falsework adjustment height.
4. Details for the stability of falsework during all stages of erection and removal activities.
5. Superstructure placing diagram showing concrete placing sequence and construction joint locations. If a schedule for placing concrete is shown, no deviation is allowed.
6. Assumed soil bearing values for falsework footings.
7. Maximum horizontal distance falsework piles may be pulled for placement under caps.

8. Maximum deviation of falsework piles from vertical.
9. Anticipated total falsework and formwork settlements, including footing settlement and joint take-up.
10. Grade, species, and type of any timber or structural composite lumber. Include manufacturer's tabulated working stress values for composite lumber.
11. Design calculations that include stresses and deflections in load carrying members.
12. Provisions for complying with temporary bracing requirements.
13. Welding standard used for welded members, including previously welded splices.
14. The following information for falsework removal systems employing methods of holding falsework from above by winches, hydraulic jacks with prestressing steel, HS steel rods, or cranes:
  - 14.1. Design code used for the analysis of the structural members of the independent support system
  - 14.2. Provisions for complying with current Cal/OSHA requirements
  - 14.3. Load tests and ratings within 1 year of intended use of hydraulic jacks and winches
  - 14.4. Location of the winches, hydraulic jacks with prestressing steel, HS steel rods, or cranes
  - 14.5. Analysis showing that the bridge deck and overhang are capable of supporting all loads at all time
  - 14.6. Analysis showing that winches will not overturn or slide during all stages of loading
  - 14.7. Location of deck and soffit openings if openings are needed
  - 14.8. Details of repair for the deck and soffit openings after falsework removal

Submit separate falsework shop drawings and calculations for each:

1. Single bridge or portion of bridge
2. Frame for multi-frame bridges

**Add to section 48-2.01D:**

04-17-20

**48-2.01D(3) Falsework Lighting**

After the installation of falsework lighting, measure the illumination levels in the presence of the Engineer, during the hours of darkness. For pavement and pedestrian walkway lighting, the measurements must be taken at ground level with the meter sensor pointing upward. For portal lighting, measurements must be taken at the face of the surface areas specified with the meter sensor perpendicular to the surface areas.

Falsework lighting must comply with the illumination levels shown in the following table:

<b>Illumination Levels</b>		
Illumination Area	Average Illuminance (fc) ( $E_{avg}$ )	Uniformity ( $E_{avg}/E_{min}$ )
Pavement	0.6	4.0
Portal	1.0	4.0
Pedestrian Walkway	2.0	4.0

**Replace the 1st paragraph of section 48-2.01D(2) with:**

04-17-20

Except for previously welded splices, welding must comply with AWS D1.1. Welding of bar reinforcement must comply with AWS D1.4.

**Replace *Reserved* in section 48-2.02A with:**

04-17-20

Wood must comply with the NDS. Timber used for falsework construction must be seasoned with moisture content not to exceed 19 percent.

**Add to the end of section 48-2.02B(1):**

04-17-20

Where falsework for multiple level bridges is supported on the deck of a structure:

1. Falsework must bear directly on either:
  - 1.1. Girder stems, bent caps, or end diaphragms of the supporting structure.
  - 1.2. Falsework sills that transmit the load to the girder stems, bent caps, or end diaphragms without applying any stress to the deck slab.
2. Additional falsework must be in place beneath the supporting structure when construction loads are imposed on the supporting structure. Design and construct additional falsework to support all construction loads imposed on the supporting structure from the upper structure.

Design the falsework lighting, for pavement, portals, and pedestrian walkways at or under falsework openings, to illuminate:

1. Falsework portals during the hours of darkness
2. Pavement, with portals less than 150 feet apart, during the hours of darkness
3. Pavement, with portals 150 feet or more apart, 24 hours a day
4. Pedestrian walkways 24 hours a day

Lighting branch circuits must not exceed 20 A.

**Replace the 2nd sentence in the 1st paragraph of section 48-2.02B(2) with:**

04-17-20

The minimum total design load for any falsework for combined live and dead load is 100 psf, including members that support walkways.

**Replace the 4th paragraph of section 48-2.02B(2) with:**

10-19-18

The assumed horizontal load the falsework bracing system must resist must be the sum of the actual horizontal loads due to equipment, construction sequence or other causes, and a wind loading. The assumed horizontal load in any direction must be at least 2 percent of the total dead load.

**Replace the table in the 7th paragraph of section 48-2.02B(2) with:**

04-17-20

Height zone, H (feet above ground)	Wind pressure value	
	Shores or columns adjacent to traffic (psf)	At other locations (psf)
H≤30	20	15
30<H≤50	25	20
50<H≤100	30	25
H>100	35	30



Replace the table in the 8th paragraph of section 48-2.02B(2) with:

04-17-20

Height zone, H (feet above ground)	Wind pressure value	
	For members over and bents adjacent to traffic opening (psf)	At other locations (psf)
H≤30	2.0 Q	1.5 Q
30<H≤50	2.5 Q	2.0 Q
50<H≤100	3.0 Q	2.5 Q
H>100	3.5 Q	3.0 Q

NOTE:

$$Q = 1 + 0.2W, \text{ but not more than } 10$$

where:

$W$  = width of the falsework system in feet, measured in the direction of the wind force

Replace section 48-2.02B(3)(b) with:

04-17-20

**48-2.02B(3)(b) Timber**

Design stresses for timber and timber connections must not exceed stresses specified in the current NDS.

Adjustment factors used to determine allowable stresses for timber members and connections must comply with NDS for the appropriate condition of use and species.

Deflection due to concrete loading only must not exceed 1/240 of the span length.

Pile design load for timber piles must not exceed 45 tons.

Replace the 1st and 2nd paragraphs of section 48-2.02B(3)(c) with:

04-17-20

Except for flexural compressive stresses, the design load for identified grades of steel must not exceed the allowable strength specified in the AISC *Steel Construction Manual*.

Except for flexural compressive stresses, the design load for unidentified steel must not exceed the allowable strength specified for steel complying with ASTM A36/A36M in the AISC *Steel Construction Manual* or as shown in the following table:

Quality characteristic	Requirement
Tension, axial and flexural (psi)	22,000
Compression, axial (psi)	16,000 - 0.38(L/r) <sup>2a</sup>
Shear on gross section of web of rolled shapes (psi)	14,500
Web yielding for rolled shapes (psi)	27,000
Modulus of elasticity (E) (psi)	30 x 10 <sup>6</sup>

NOTES:

$L$  = unsupported length, inches

$r$  = radius of gyration of the member, inches

<sup>a</sup> $L/r$  must not exceed 120

Replace the table in the 3rd paragraph of section 48-2.02B(3)(c) with:

10-19-18

Quality characteristic	Requirement
Compression, flexural (psi)	$12,000,000/[(L \times d)/(b \times t)]^a$
Deflection due to concrete loading only	1/240 of the span
Modulus of elasticity (E) (psi)	$30 \times 10^6$

NOTES:

*L* = unsupported length, inches

*d* = least dimension of rectangular columns or the width of a square of equivalent cross-sectional area for round columns, or the depth of beams, inches

*b* = width of the compression flange, inches

*t* = thickness of the compression flange, inches

*F<sub>y</sub>* = specified minimum yield stress in psi

<sup>a</sup>Not to exceed (1) 22,000 psi for unidentified steel, (2) 22,000 psi for steel complying with ASTM A36/A36M, or (3) 0.6*F<sub>y</sub>* for other identified steel

**Add to section 48-2.02:**

04-17-20

**48-2.02C Falsework Lighting**

**48-2.02C(1) General**

A falsework luminaire must:

1. Be commercially available
2. Include brackets and locking screws

**48-2.02C(2) Pavement Illumination**

Not Used

**48-2.02C(3) Portal Illumination**

Portal illumination includes plywood clearance guides 4 feet wide by 8 feet high and luminaires.

**48-2.02C(4) Pedestrian Walkway Illumination**

Not Used

04-17-20

**Delete the 3rd paragraph of section 48-2.03A.**

**Add to section 48-2.03A:**

04-17-20

During concrete placement, if (1) events occur that the Engineer determines will result in a structure that does not comply with the structure as described or (2) settlement variance is greater than 3/8-inch from the values shown on shop drawings, stop concrete placement and apply corrective measures. If the measures are not provided before initial concrete set occurs, stop concrete placement at the location ordered.

Detour traffic from the lanes over which falsework is being erected, released, adjusted, or removed.

**Replace the 3rd paragraph of the section 48-2.03B with:**

04-17-20

Falsework piles must be driven and assessed under section 49. The actual nominal driving resistance must be at least twice the falsework pile design load. For pile acceptance, the required number of hammer blows in the last foot of driving is determined using the formula in 49-2.01A(4)(c).

**Add between the 2nd and 3rd paragraphs of section 48-2.03C:**

10-19-18

Falsework erection includes adjustments or removal of components that contribute to the horizontal stability of the falsework system.

**Delete the 8th paragraph of section 48-2.03C.**

04-17-20

**Replace section 48-2.03D with:**

04-17-20

**48-2.03D Removal**

Release and remove falsework such that portions of falsework to be removed remain stable.

Falsework release includes blowing sand from sand jacks, turning screws on screw jacks, and removing wedges.

Except for concrete above the deck, do not release falsework supporting any span of a:

1. Simple span bridge before 10 days after the last concrete has been placed
2. Continuous or rigid frame bridge before 10 days after the last concrete has been placed:
  - 2.1. In that span
  - 2.2. In adjacent portions of each adjoining span for a length equal to one-half of the span where falsework is to be released
3. Simple span, continuous, or rigid frame bridge until the supported concrete has attained a compressive strength of 2,880 psi or 80 percent of the specified strength, whichever is greater

Do not release falsework for prestressed portions of structures until prestressing steel has been tensioned.

Do not release falsework supporting any span of a continuous or rigid frame bridge until all required prestressing is complete (1) in that span and (2) in adjacent portions of each adjoining span for a length equal to at least one half of the span where falsework is to be released.

Release falsework supporting spans of CIP girders, slab bridges, or culverts before constructing or installing railings or barriers on the spans, unless authorized.

Release falsework for arch bridges uniformly and gradually. Start at the crown and work toward the springing. Release falsework for adjacent arch spans concurrently.

Do not release falsework that supports overhangs, deck slabs between girders, or girder stems that slope 45 degrees or more from vertical before 7 days after deck concrete has been placed.

You may release falsework supporting the sides of girder stems that slope less than 45 degrees from vertical before placing deck concrete if you install lateral supports. Lateral supports must be:

1. Designed to resist rotational forces on the girder stem, including forces due to concrete deck placement
2. Installed immediately after each form panel is removed
3. Installed before releasing supports for the adjacent form panel

Do not release falsework for bent caps supporting steel or PC concrete girders before 7 days after placing bent cap concrete.

Release falsework for structural members subject to bending as specified for simple span bridges.

Do not release falsework for box culverts and other structures with decks lower than the roadway pavement and span lengths of 14 feet or less until the last placed concrete has attained a compressive strength of 1,600 psi. Curing of the concrete must not be interrupted. Falsework release for other box culverts must comply with the specifications for the release of bridge falsework.

Do not release falsework for arch culverts sooner than 40 hours after concrete has been placed.

Remove falsework piling to at least 2 feet below the original ground or streambed. Remove falsework piling driven within ditch or channel excavation limits to at least 2 feet below the bottom and side slopes of the excavated areas.

Falsework removal systems employing methods of holding falsework by winches, hydraulic jacks with prestressing steel, HS steel rods, or cranes must also be supported by an independent support system when the falsework is over vehicular, pedestrian, or railroad traffic openings open to traffic.

Bridge deck and soffit openings used to facilitate falsework removal activities must:

1. Have a 6-inch maximum diameter opening.
2. Be located away from the wheel paths for deck openings.
3. Be formed with corrugated HDPE pipe complying with section 20-2.07B(3).

Before filling the bridge deck and soffit openings with concrete:

1. Trim HDPE pipes 1 inch from the exposed surface of the top of deck, bottom overhand, and soffit
2. Clean and roughen concrete surfaces of opening. Fill the opening with rapid setting concrete complying with section 60-3.02B(2) or with a concrete mix of equal or higher strength than the deck. Finish surface must comply with section 51-10.3F(2).

Falsework removal over roadways with a vertical traffic opening of less than 20 feet must start within 14 days after the falsework is eligible to be released and must be completed within 45 days after it is eligible to be released.

**Replace section 48-2.03E with:**

04-17-20

**48-2.03E Falsework Lighting**

**48-2.03E(1) General**

Notify the Engineer at least 5 business days before the installation of the falsework lighting.

Fasten power cables to the supporting structure at a minimum 3-foot intervals and within 12 inches from every box. Encase cables within 8 feet of the ground in a minimum 1/2-inch Type 1 conduit.

Enclose splices in junction boxes.

Provide power for the falsework lighting under section 87-20.

Energize lighting circuits immediately after supporting structures have been erected.

**48-2.03E(2) Pavement Illumination**

Provide pavement illumination on roadways beneath falsework structures.

Install luminaires:

1. Along the sides of the opening not more than 4 feet behind or 2 feet in front of the roadway face of the temporary railing
2. 12 to 16 feet above the roadway surface without obstructing the light pattern on the pavement

3. Aimed to avoid glare to motorists
4. Spaced to comply with the illumination levels table
5. At the ends no more than 10 feet inside portal faces

Measure the illumination levels at a minimum two points per lane, one on each side within one-quarter of the lane width from the lane stripe. Use this pattern to start the measurements at both ends of the falsework and then at 15-foot intervals through the length of the pavement under the falsework.

#### **48-2.03E(3) Portal Illumination**

Provide portal illumination on the sides facing traffic. Install luminaires and clearance guides immediately after falsework vertical members are erected.

Fasten clearance guides:

1. To the vertical support adjacent to the traveled way, facing traffic
2. Vertically with the bottom of the clearance guide from 3 to 4 feet above the roadway
3. With the center located approximately 3 feet horizontally behind the railing face on the roadway side

Paint clearance guides before each installation with not less than 2 applications of flat white paint.

If ordered, repainting is change order work.

Install luminaires on the structure directly over the vertical support, approximately 16 feet above the pavement and 6 feet in front of the guides. Aim the luminaires to illuminate the exterior falsework beam, the clearance guides, and the overhead clearance sign and comply with the illumination levels table.

Measure the illumination levels at the center and four corners of the clearance guides, at the exterior falsework beam, and at the overhead clearance sign.

#### **48-2.03E(4) Pedestrian Walkway Illumination**

Provide pedestrian walkway illumination immediately after the protective overhead covering is erected.

Install the luminaires a minimum 8 feet clearance in the protective overhead covering and center them over the pedestrian walkway. Space the luminaires through the pedestrian walkway as needed to comply with the illumination levels table. Install luminaires at the ends no more than 7 feet inside the pedestrian walkway openings.

Measure the illumination levels at a minimum two points, one on each side within one-quarter of the walkway width from the edge. Use this pattern to start the measurements at both ends of the falsework and then at 10-foot intervals through the length of the pedestrian walkway.

**Replace item 11 in the list in the 1st paragraph of section 48-3.01C(2) with:**

11. Mitigation plan for jacking the structure if settlement occurs in the temporary supports.

04-17-20

**Delete the 4th paragraph of section 48-3.01C(2).**

10-19-18

**Replace the 1st paragraph of section 48-3.01D(1) with:**

Welding, welder qualification, and welding inspection for temporary supports must comply with AWS D1.1 and section 48-2.

04-17-20

**Replace section 48-3.02B with:**

04-17-20

**48-3.02B Design Criteria**

The Engineer does not authorize temporary support designs based on allowable stresses or design load greater than those specified in section 48-2.02B(3).

If falsework loads are imposed on temporary supports, the temporary supports must also satisfy the deflection criteria in section 48-2.02B(3).

The temporary support system must support the initial jacking loads and the minimum temporary support design loads and forces shown. As a minimum, the horizontal load to be resisted in any direction by the temporary support system must be (1) the sum of actual horizontal loads due to equipment, construction sequence, or other causes plus an allowance for wind and (2) not less than 5 percent of the total supported dead load at the location being considered. Adjust vertical design loads for the weight of the temporary supports and jacking system, construction equipment loads, and additional loads imposed by jacking activities. Construction equipment loads must be at least 20 psf of deck surface area of the frame involved.

Temporary supports must resist the described lateral design forces applied at the point where the column to be removed meets the superstructure. If the temporary support lateral stiffness exceeds the described minimum stiffness, increase the lateral design forces to be compatible with the temporary support stiffness.

Place temporary supports, that are resisting transverse lateral loads, within 1/2 of the span length from the existing bent. Place temporary supports, that are resisting longitudinal lateral loads, within the frame where columns are to be removed.

You may use the permanent piles as part of the temporary support foundation. Do not move or adjust permanent piles from the locations shown. If you install permanent piles longer than described to support the temporary supports above the top of the footing and later cut off the piles at their final elevation, you must use shear devices adequate to transfer all pile reactions into the footing.

Design temporary support footings to carry the loads imposed without exceeding the estimated soil bearing values or anticipated settlements. You must determine soil bearing values.

Where temporary supports are placed on the deck of an existing structure:

1. Temporary supports must bear either:
  - 1.1. Directly on girder stems, bent caps, or end diaphragms of the supporting structure
  - 1.2. On falsework sills that transmit the load to the stems, bent cap, or end diaphragms without overstressing any member of the new or existing structure
2. Temporary supports must not induce permanent forces into the completed structure or produce cracking.
3. Place additional temporary supports beneath the existing structure where temporary support loads are imposed on the existing structure. Design and construct the additional temporary supports to support all loads from the upper structure and construction activities.

Provide additional bracing as required to withstand all imposed loads during each phase of temporary support erection and removal. Include wind loads complying with section 48-2.02B(2) in the design of additional bracing.

Mechanically connect (1) the structure to the temporary supports and (2) the temporary supports to their foundations. Mechanical connections must be capable of resisting the lateral design forces. Friction forces developed between the structure and temporary supports (1) are not considered an effective mechanical connection and (2) must not be used to reduce lateral forces.

Design mechanical connections to accommodate movement resulting from adjustments made to the temporary supports.

If the concrete is to be prestressed, design temporary supports to support changes to the loads caused by prestressing forces.

Temporary supports must comply with the specifications for falsework in section 48-2.02B(4).

**Replace section 48-4.01 with:**

04-17-20

**48-4.01 GENERAL**

**48-4.01A Summary**

Section 48-4 includes specifications for temporary decking for joint or deck reconstruction.

Temporary decking must consist of a steel plate system that spans the incomplete work.

Concrete anchorage devices and nonskid surface must comply with section 75-3.

**48-4.01B Definitions**

Reserved

**48-4.01C Submittals**

Submit shop drawings and calculations for temporary decking.

Shop drawings and calculations for temporary decking must be sealed and signed by an engineer who is registered as a civil engineer in the State.

Temporary decking shop drawings and calculations must include:

1. Storage location of equipment and materials that allows for 1 shift of work and placement of temporary decking within the time allowed
2. Construction sequence and schedule details
3. Cure time for concrete to be placed under temporary decking
4. Details for removing temporary decking and restoring the existing structure

If temporary decking is not shown, shop drawings and calculations must also include:

1. Design calculations, including the description, location, and value, of all loads
2. Details of the connection between the temporary decking and the existing or new structure

Submit a certificate of compliance for temporary decking materials.

Sections 48-1.01C(2), 48-1.01C(3), and 48-1.01D(2) do not apply for temporary decking.

**48-4.01D Quality Assurance**

Reserved

**Replace *Not Used* in section 48-4.02 with:**

04-17-20

**48-4.02A General**

Yield strength of steel plate must be greater than or equal to 36 ksi.

Bolts must comply with ASTM F3125, Grade A325.

Nuts must comply with ASTM A563/563M.

Material for temporary tapers must be rapid setting concrete or polyester concrete complying with section 60-3.02B(2) or 60-3.04B(2).

**48-4.02B Design Criteria**

If temporary decking is not shown, the temporary decking design must:

1. Comply with the unfactored permit loads, braking force, and HL93 loads except lane load from the current *AASHTO LRFD Bridge Design Specifications with California Amendments*.
2. Not exceed the allowable stresses or design loads specified in section 48-2.02B(3).
3. Have live load deflection not exceeding 1/300 of the temporary decking span for the design load.
4. Provide for temporary decking with a uniform surface with a coefficient of friction of at least 0.35 when measured under California Test 342.
5. Provide for temporary decking that is mechanically connected to the existing structure and adjacent approaches. If a steel plate spans a joint, the mechanical connection must accommodate at least 50 percent of the movement rating shown for that joint.
6. Not overstress, induce permanent forces into, or produce cracking in the existing structure.

**Replace section 48-4.03 with:**

04-17-20

**48-4.03 CONSTRUCTION**

For bolted connections, drill the holes without damaging the adjacent concrete. Do not damage existing reinforcement.

If the temporary decking does not extend the entire width of the roadway, taper the sides of the temporary decking at a 12:1 (horizontal: vertical) ratio.

Cure temporary tapers at least 3 hours before allowing traffic on the temporary decking.

If unanticipated displacements, cracking, or other damage occurs to the existing structure or to any new components installed in or adjacent to the deck, stop work on the deck and perform corrective measures.

Edges of steel plate systems must be in full contact with the existing deck and the adjacent approach slab. If used, shims must be securely attached to the plate.

Do not allow traffic on deck concrete until it has attained the compressive strength shown.

When temporary decking is no longer needed, immediately remove temporary decking materials and connections from the existing structure. Patch holes with rapid setting concrete complying with section 60-3.02. Remove modifications to the existing structure except where permanent alterations are shown.

10-19-18

**Delete the 4th paragraph of section 48-5.01C.**

**Replace the 1st paragraph of section 48-5.02B with:**

10-19-18

The jacking support system must resist the structure dead load and lateral design forces shown, plus any additional loads from jacking equipment and activities. As a minimum, the horizontal load to be resisted in any direction for the jacking support system and temporary bracing must be (1) the sum of actual horizontal loads due to equipment, construction sequence, or other causes plus an allowance for wind as specified in Section 48-2.02B(2) and (2) not less than 2 percent of the total dead load of the structure being jacked. You must determine soil bearing values for support footings. If the jacking support stiffness exceeds the described minimum stiffness, increase the lateral design forces to be compatible with the jacking support lateral stiffness.

**Replace the 1st paragraph of section 48-5.03 with:**

10-19-18

Construct the jacking support system under the specifications for falsework in section 48-2.03.



**Add to the end of section 48-6.01C(1):**

Sections 48-1.01C(2), 48-1.01C(3), and 48-1.01D(2) do not apply for temporary wood poles.

04-17-20

**Replace Reserved in section 48-6.01D(1) with:**

A temporary-structure engineer is not required.

04-17-20

**Delete the 3rd paragraph of section 48-6.02B.**

04-17-20

AA

**49 PILING**

04-19-19

**Replace the 6th paragraph of section 49-1.01D(4) with:**

Except for load test piles and anchor piles, drive the 1st production pile in the control zone. Do not install any additional production piles until dynamic monitoring has been performed, and the Engineer provides you with the bearing acceptance criteria curves for any piles represented by the dynamically monitored piles.

10-19-18

**Replace the 3rd paragraph of section 49-2.01D with:**

The payment quantity for furnish piling is the length measured along the longest side of the pile from the specified tip elevation shown to the plane of pile cutoff, except for dynamically monitored piles. For dynamically monitored piles, the payment quantity for furnish piling includes an additional length of 2 times the largest cross-sectional dimension of the pile plus 2 feet.

10-19-18

**Add to the end of section 49-2.02A(2):**

**longitudinal weld length:** The length of a continuous longitudinal weld.

10-19-18

**circumferential weld length:** The length of a continuous weld around the circumference of the pipe pile.

**spiral weld length:** The length of one full 360-degree spiral weld revolution around the circumference of the pipe pile.

**Replace the 3rd paragraph of section 49-2.02A(4)(b)(iii)(B) with:**

For welding performed under AWS D1.1:

10-19-18

1. Perform NDT on 25 percent of each longitudinal, circumferential, or spiral weld length using RT or UT.
2. If repairs are required in a portion of the tested weld:
  - 2.1. Perform additional NDT on untested areas on each end of the initial portion tested. The length of additional NDT on each end must equal 10 percent of the weld length. If it is not possible to

- perform 10 percent of the weld length on one end, perform the remaining percentage on the other end.
- 2.2. After this additional 20 percent of NDT is performed, determine and record the total cumulative repair lengths from all NDT for each weld length. If the cumulative weld repair length is equal to or more than 10 percent of the weld length, then perform NDT on the entire weld length.
  - 2.3. Perform NDT on the repaired portion plus 2 inches on each end of the repaired weld excavation.

**Replace the 2nd paragraph of section 49-2.02A(4)(b)(iii)(C) with:**

10-19-18

Perform NDT on 25 percent of the weld length performed by each welder, using RT or UT at locations selected by the Engineer. The Engineer may select several locations on a given splice. The cover pass must be ground smooth at locations to be tested.

**Replace the 4th paragraph of section 49-2.02A(4)(b)(iii)(C) with:**

10-19-18

If repairs are required in a portion of the tested weld:

1. Perform additional NDT on untested areas on each end of the initial portion tested. The length of additional NDT on each end must equal 10 percent of the pipe's outside circumference. If it is not possible to perform 10 percent of the weld length on one end, perform the remaining percentage on the other end.
2. After this additional 20 percent of NDT is performed, determine and record the total cumulative repair lengths from all NDT for each weld length. If the cumulative weld repair length is equal to or more than 10 percent of the pipe's outside circumference, then perform NDT on the entire weld length.
3. Perform NDT on the repaired portion plus 2 inches on each end of the repaired weld excavation.

**Replace the 5th paragraph of section 49-2.02B(1)(b) with:**

04-19-19

If splicing steel pipe piles using a circumferential weld, the piles must comply with the fit-up requirements of clause 9.24.1 of AWS D1.1.

**Replace section 49-3.01B(2) with:**

04-19-19

**49-3.01B(2) Mass Concrete**

Section 49-3.01B(2) applies to CIP concrete piles with a diameter greater than 8 feet.

For piles with a diameter greater than 8 feet and less than or equal to 14 feet:

1. The specifications for SCM content in the 4th paragraph of section 90-1.02B(3) do not apply.
2. The SCM content of the concrete must comply with the following:
  - 2.1. Any combination of portland cement and fly ash satisfying:

Equation 1:

$$(12 \times FM) / MC \geq X$$

where:

*FM* = fly ash complying with AASHTO M 295, Class F, with a CaO content of up to 10 percent, including the quantity in blended cement, lb/cu yd

*MC* = minimum quantity of cementitious material specified, lb/cu yd



**Replace section 51-1.01C(5) with:**

04-17-20

**51-1.01C(5) Drill and Bond Dowel—Chemical Adhesive**

For each lot or batch of chemical adhesive used for drill and bond dowel chemical-adhesive systems, submit the following:

1. Certificate of compliance, including the material name and lot or batch number
2. Manufacturer's installation procedures, including the minimum cure time
3. SDS

For each chemical adhesive, submit 1 test sample for every 100 cartridges or fraction thereof to be used. The test sample must consist of 1 cartridge of chemical adhesive, 1 mixing nozzle, and 1 retaining nut. Submit test samples to METS at least 25 days before use.

Each test sample must clearly and permanently show the following:

1. Manufacturer's name
2. Material name
3. Lot or batch number
4. Expiration date
5. Evaluation report number
6. Directions for use
7. Storage requirements
8. Warnings or precautions required by State and federal laws and regulations

**Add to the end of section 51-1.01D(3):**

04-17-20

**51-1.01D(3)(c) Drill and Bond Dowel—Chemical Adhesive**

The Department will verify the chemical adhesive used in the drill and bond dowel chemical adhesive system is chemically consistent with the chemical adhesive material on the Authorized Materials List.

**Add to the end of section 51-1.02B:**

10-18-19

Concrete for concrete bridge decks or PCC deck overlays must contain:

1. Polymer fibers. Each cubic yard of concrete must contain at least 1 pound of microfibers and at least 3 pounds of macrofibers.
2. Shrinkage reducing admixture. Each cubic yard of concrete must contain at least 3/4 gallon of a shrinkage reducing admixture. If you use the maximum dosage rate shown on the Authorized Material List for the shrinkage reducing admixture, your submitted shrinkage test data does not need to meet the shrinkage limitation specified in section 90-1.02A.

**Replace section 51-1.02D with:**

04-17-20

**51-1.02D Rapid Strength Concrete**

For bridge decks or PCC deck overlays:

1. RSC must have a minimum 28-day compressive strength of 4,500 psi
2. RSC must contain at least 675 pounds of cementitious material per cubic yard
3. If your RSC shrinkage test results are 0.24 percent or less without the use of a shrinkage reducing admixture:

- 3.1 Use of shrinkage reducing admixture is not required
- 3.2 Fibers are not required
- 4. If you use the maximum dosage rate shown on the Authorized Material List for shrinkage reducing admixture, your shrinkage test results must be 0.032 percent or less

RSC must have a minimum 28-day compressive strength of 4,000 psi.

If you use chemical admixtures or SCMs, the same proportions must be used when testing.

If you use aggregate that is not on the Authorized Material List for innocuous aggregate, the cement in your proposed mix design must comply with one of the following:

- 1. Any hydraulic cement, with or without any proposed SCM, must have an expansion ratio of less than 0.10 percent when tested with glass aggregate under ASTM C1260. Test specimens must be prepared using proportions of ingredients under ASTM C441.
- 2. For Portland cement, the quantity of SCM in your proposed mix design must satisfy equation 1 of section 90-1.02B(3).

The specifications for a reduction in the operating range and contract compliance for cleanness value and sand equivalent specified in section 90-1.02C(2) and section 90-1.02C(3) for aggregate, do not apply to RSC used for a bridge element.

**Replace the 1st paragraph of section 51-1.02H with:**

04-17-20

Chemical adhesives for bonding dowels must be on the Authorized Material List for chemical adhesives and must be appropriate for the installation conditions of the project.

10-18-19

**Delete the 5th paragraph of section 51-1.03C(2)(b).**

**Add to the end of section 51-1.03E(1):**

04-17-20

Repair rejected holes, that will not be encased in concrete, with bonding material complying with section 51-1.02C.

**Replace the 2nd paragraph of section 51-1.03E(3) with:**

04-17-20

If reinforcement is encountered during drilling before the specified depth is attained, notify the Engineer. Unless coring through the reinforcement is authorized. Drill a new hole adjacent to the rejected hole to the depth shown.

**Replace section 51-1.03E(5) with:**

04-17-20

**51-1.03E(5) Drill and Bond Dowel—Chemical Adhesive**

Install dowels for the drill and bond dowel chemical adhesive system under the manufacturer's instructions. When installing dowels in new concrete, install after the concrete has cured for at least 28 days.

Drill the holes without damaging the adjacent concrete. Remove all loose dust and concrete particles from the hole and protect the hole from deleterious materials until the anchor is installed.

If reinforcement is encountered during drilling before the specified depth is attained, notify the Engineer. Unless coring through the reinforcement is authorized. Drill a new hole adjacent to the rejected hole to the depth shown.

Immediately after inserting the dowel into the chemical adhesive, support the dowel as necessary to prevent movement until the chemical adhesive has cured the minimum time specified in the manufacturer's instructions. Dowels must not be adjusted by bending. The adhesive must be fully cured before the dowel is put into service.

Replace dowels that fail to bond or are damaged.

**Replace the 2nd paragraph of section 51-1.03H with:**

10-18-19

Cure the top surface of bridge decks by (1) misting and (2) the water method using a curing medium under section 90-1.03B(2). After strike-off, immediately and continuously mist the deck with an atomizing nozzle that forms a mist and not a spray. Continue misting until the curing medium has been placed and the application of water for the water method has started. At the end of the curing period, remove the curing medium and apply curing compound on the top surface of the bridge deck during the same work shift under section 90-1.03B(3). The curing compound must be curing compound no. 1.

**Delete the 4th paragraph of section 51-1.03H.**

10-18-19

**Add to section 51-1.03:**

10-19-18

**51-1.03J Temporary Decking**

If you are unable to complete bridge reconstruction activities before the bridge is to be opened to traffic, furnish and maintain temporary decking under section 48-4 until that portion of the work is complete.

**Add to the end of section 51-2.01A(1):**

10-18-19

The specifications for (1) shrinkage in section 90-1.02A, (2) shrinkage reducing chemical admixture in section 51-1.02B, and (3) polymer fibers in section 51-1.02B do not apply to concrete used to fill blocked-out recesses for joint seal assemblies.

**Replace the 2nd paragraph of section 51-4.01C(1) with:**

04-19-19

For PC PS concrete girders and deck panels, submit an erection work plan. The work plan must be signed by an engineer who is registered as a civil engineer in the State and include procedures, details, and sequences for:

1. Unloading
2. Lifting
3. Erecting
4. Temporary bracing installation

**Replace the 1st paragraph of section 51-4.01C(2)(a) with:**

04-19-19

Submit shop drawings for PC concrete members to the OSD Documents Unit unless otherwise specified.

**Replace Reserved in section 51-4.01C(2)(e) with:**

04-19-19

For PC deck panels, shop drawings must include:

1. Panel materials, shapes, and dimensions.
2. Deck panel layout identifying the locations of each panel.
3. Reinforcing, joint, and connection details.
4. Complete details of the methods, materials, and equipment used in prestressing and precasting work.
5. Type of texture and method of forming the textured finish.
6. Methods and details for lifting, bracing, and erection.
7. Method of support and grade adjustment.
8. Methods of sealing against concrete leaks.

**Replace the 2nd paragraph of section 51-4.02B with:**

04-19-19

Handle, store, transport, and erect PC members in a position such that the points of support and directions of the reactions with respect to the member are approximately the same as when the member is in its final position.

**Replace Reserved in section 51-4.02D(7) with:**

04-19-19

Clearly label the top surface of each panel with the word *TOP* as shown on the deck panel layout using waterproof paint or other authorized means.

Apply a coarse texture to at least 90 percent of the deck panel top surface area by brooming with a stiff bristled broom or by other suitable devices that results in uniform scoring parallel with the prestressing strands. The top surface texture must have a maximum 1/8-inch texture.

Each camber strip must:

1. Consist of high density expanded polystyrene with a minimum compressive strength of 55 psi.
2. Consist of a single layer and extend continuously under each deck panel.
3. Achieve a height that accounts for roadway profile, cross slope, and girder camber.
4. Have 1/4-inch v-notches or 1/2 by 1/2-inch slots cut into the top surface on 4-foot centers.

Camber strip dimensions must comply with the following table:

**Polystyrene Camber Strip Dimensions**

Height (H) (inches)	Width (W) (inches)
1 to 2.5	1.5
Greater than 2.5 and less than or equal to 3.5	1.75
Greater than 3.5 and less than or equal to 4	2

Chemical adhesive must be suitable for use with concrete and polystyrene.

For the concrete deck pour, the aggregate must comply with the 1/2-inch maximum or the 3/8-inch maximum combined aggregate gradation specified in section 90-1.02C(4)(d).

**Add between the 5th and 6th paragraphs of section 51-4.03B:**

10-19-18

Erect steel or PC girders onto the supporting concrete, such as bent caps or abutments, after the concrete attains a compressive strength of 2,880 psi or 80 percent of the specified strength, whichever is greater.

**Replace *Reserved* in section 51-4.03G with:**

04-19-19

Construct the deck panel system in the following sequence:

1. After girders and diaphragms are in place, place each polystyrene camber strip along the top of each girder. Apply a continuous bead of chemical adhesive to the top and bottom of each camber strip to prevent gaps between the camber strip and concrete members.
2. Place each deck panel as shown on the deck panel layout such that each panel bears uniformly on the camber strips.
3. Abrasive blast clean deck panel and girder surfaces before placing deck reinforcement. Remove all surface laitance, curing compound, and other foreign materials. Thoroughly clean under the edges of each panel to ensure removal of construction debris before the stage 1 deck pour.
4. Place deck reinforcement.
5. Place deck concrete in a two-stage continuous pour:
  - 5.1. Place and vibrate stage 1 concrete over the girders by completely filling the area between the camber strips in from 15 to 30 feet longitudinal sections ahead of the stage 2 concrete deck pour. Check slots or holes in camber strips to ensure removal of air voids and full consolidation during concrete placement.
  - 5.2. Place stage 2 concrete deck over stage 1 concrete and deck panels as to not result in a cold joint between the two stages.

If required, install temporary bracing between the ends of each deck panel to prevent transverse panel movement that could lead to loss of bearing on the camber strips.

Loads placed on deck panels during construction must not exceed 50 psf.

**Replace the row for *Apparent elongation* in the table in the 2nd paragraph of section 51-5.02B with:**

04-19-19

Apparent elongation (max, percent)	ASTM D4632	35
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AA

**52 REINFORCEMENT**

04-17-20

**Replace section 52-1.02E with:**

04-17-20

**52-1.02E Dowels**

**52-1.02E(1) General**

Reinforcing steel dowels must be deformed bars complying with section 52-1.02B.

Threaded rods used as dowels must comply with section 75-1.02A.



**52-1.02E(2) Dowels for Drill and Bond Dowel—Chemical Adhesive**

Dowels for drill and bond dowel chemical-adhesive systems must be one of the following:

1. Threaded rods complying with ASTM F1554, Grade 36
2. Deformed bar reinforcement complying with section 52-1.02B
3. Stainless steel reinforcement complying with ASTM A955/A955M, Grade 60, UNS Designation S31653, S32304, S32205, or S31803

AA

**53 SHOTCRETE**

10-18-19

**Replace the 1st paragraph of section 53-1.01A with:**

10-18-19

Section 53-1 includes general specifications for applying shotcrete.

**Replace section 53-1.01B with:**

10-18-19

**53-1.01B Definitions**

**shotcrete:** Concrete pneumatically projected at high velocity onto a surface to achieve compaction.

**dry-mix shotcrete:** Dry aggregates and cementitious materials are mixed before entering the delivery hose. Mixing water is added at the nozzle.

**wet-mix shotcrete:** Dry aggregates, cementitious materials, and water are mixed before entering the delivery hose. If used, accelerator may be added at the nozzle.

**rebound:** Aggregate coated with cement paste that ricochets away from the surface against which the shotcrete is being applied.

**Replace *Reserved* in section 53-1.01D with:**

10-18-19

Air pressure and shotcrete supply at the nozzle must be uniform and provide a steady, continuous flow of shotcrete. Inspect nozzles and nozzle body components before each work shift. Replace nozzles and components under the manufacturer's instructions.

**Replace the introductory clause to the list in the 2nd paragraph of section 53-1.02 with:**

10-18-19

For dry-mix shotcrete:

**Replace the introductory clause to the list in the 3rd paragraph of section 53-1.02 with:**

10-18-19

For wet-mix shotcrete:

**Replace the 1st sentence in item 2 in the list in the 3rd paragraph of section 53-1.02 with:**

10-18-19

2. You may substitute a maximum of 40 percent coarse aggregate for the fine aggregate.

**Replace section 53-1.03B with:**

10-18-19

**53-1.03B Preparing Receiving Surfaces**

Evenly grade the receiving surface before applying shotcrete. No point on the graded slope may be above the slope plane shown.

Thoroughly compact the receiving surface. The receiving surface must contain enough moisture to provide a firm foundation and prevent excess absorption of water from the shotcrete. The receiving surface must be free of surface water.

Forms must comply with section 51-1.03C(2). Reinforce, secure, and brace forms to maintain form alignment against distortion from shotcrete operations. Install and maintain alignment control means at corners or offsets not established by forms or shotcrete operations.

Use ground wires to establish thickness, surface planes, and finish lines. Use temporary coverings to protect adjacent surfaces from the nozzle stream.

**Replace section 53-1.03C with:**

10-18-19

**53-1.03C Applying Shotcrete**

Dry-mix or wet-mix shotcrete must be applied by the nozzle.

Apply shotcrete using small circular motions of the nozzle while building the required thickness. Direct the nozzle perpendicular to the receiving surface with the nozzle held at such a distance to produce maximum consolidation and full encapsulation of the reinforcement. Shotcrete must completely encase reinforcement and other obstructions.

Apply shotcrete first in corners, voids, and areas where rebound or overspray cannot easily escape. Do not incorporate rebound or overspray in the work.

Before applying subsequent layers of shotcrete:

1. Allow shotcrete to stiffen sufficiently. Remove hardened overspray and rebound from adjacent surfaces, including exposed reinforcement.
2. Use a cutting rod, compressed air blowpipe, or other authorized methods to remove all loose material, overspray, laitance, or other deleterious materials that may compromise the bond of the subsequent layers of shotcrete.
3. Bring the receiving surface to a saturated surface-dry condition immediately before applying subsequent layer.

For dry-mix shotcrete:

1. Adjust air volume, material feed volume, and distance of the nozzle from the work as necessary to encase reinforcement.
2. Maintain uniform water pressure at the nozzle of at least 15 psi greater than the air pressure at the machine.
3. Do not use aggregate and cementitious materials that have been mixed for more than 45 minutes.

For wet-mix shotcrete:

1. Transport shotcrete under section 90-1.02G(3).
2. Apply ground wires at approximately 7-foot centers.
3. Select a slump range that will effectively encapsulate reinforcement within the work but not cause shotcrete to sag or slough during application.

**Replace section 53-1.03D with:**

10-18-19

**53-1.03D Finishing Shotcrete**

Apply shotcrete to the line and grade shown. Leave finished shotcrete surface as gun finish unless otherwise described.

Do not initiate cutting or finishing until the shotcrete has set sufficiently to avoid sloughing or sagging. The finished surface must be smooth and uniform for the type of work involved.

Remove and replace loose areas of shotcrete.

Cure shotcrete for at least 7 days by any of the methods specified in section 90-1.03B. If the curing compound method is used for a gun or roughened surface, apply the curing compound at twice the specified rate. If you add a coloring agent to the shotcrete and you use the curing compound method for curing the shotcrete, use curing compound no. 6.

Protect shotcrete under section 90-1.03C.

**Replace the 2nd paragraph of section 53-1.04 with:**

10-18-19

The Department does not pay for shotcrete applied outside the dimensions shown or to fill low areas of receiving surfaces.

**Replace the paragraph of section 53-2.01A with:**

10-18-19

Section 53-2 includes specifications for applying structural shotcrete. Structural shotcrete must be applied using wet-mix shotcrete.

**Replace *qualifications* in item 1.1 in the list in the 1st paragraph of section 53-2.01C with:**

10-18-19

certifications

**Replace the paragraph of section 53-2.01D(2) with:**

10-18-19

Nozzlemen performing the work must hold current ACI CPP 660.1-17 certification as a nozzleman for wet-mix shotcrete. Nozzlemen performing overhead shotcrete work must hold current qualifying ACI CPP 660.1-17 certification in the overhead shooting orientation for wet-mix shotcrete.

**Replace the 2nd paragraph of section 53-2.01D(3) with:**

10-18-19

Each nozzleman performing the work must construct 1 unreinforced test panel and 1 reinforced test panel for each proposed mix design. The test panel orientation must match the orientation of the work.

**Replace the 1st sentence in the 1st paragraph of section 53-2.01D(4)(b) with:**

10-18-19

Obtain at least four 3-inch-diameter test cores from each 50 cu yd, or portion thereof, of shotcrete applied.

**Add between the 1st and 2nd paragraphs of section 53-2.01D(4)(b):**

For soil nail walls, do not core through waler bars.

10-19-18

**Replace section 53-2.02 with:**

**53-2.02 MATERIALS**

Shotcrete must comply with the specifications for concrete in section 90-1.

Shotcrete must have a minimum compressive strength of 3,600 psi, unless otherwise described.

Mortar and alternative filler material must comply with section 60-3.05B(2).

10-18-19

**Delete the 2nd paragraph of section 53-2.03.**

10-18-19

**Add between the 3rd and 4th paragraphs of section 53-2.03:**

Before applying shotcrete, reinforcement must be:

10-18-19

1. Free from loose rust, oil, curing compound, overspray, or other material deleterious to the bond between concrete and steel.
2. Lapped separated by one of the following:
  - 2.1. Three times the diameter of the largest reinforcing bar.
  - 2.2. Three times the maximum size aggregate.
  - 2.3. Two inches, whichever is least, unless otherwise specified. Lapped bars must be in the same plane and parallel to the shooting direction.
3. Securely tied to minimize movement or vibration.

The temperature of reinforcement and receiving surfaces must be below 90 degrees F before applying shotcrete.

Apply the wet-mix shotcrete continuously removing accumulations of rebound and overspray using a compressed air blowpipe. Ensure the nozzleman and the blowpipe operator work together and the nozzleman does not get ahead of the blowpipe operator.

**Delete the 4th paragraph of section 53-2.03.**

10-18-19

**Replace the 7th paragraph of section 53-2.03 with:**

If a finish coat is used, clean the surface before applying the finish coat. Wash receiving surface with an air-water blast to remove all loose material, laitance, overspray, or other material that may compromise the bond of subsequent layers of shotcrete.

10-18-19

**Delete the 8th paragraph of section 53-2.03.**

10-18-19

Replace the 12th paragraph of section 53-2.03 with:

10-18-19

After removing field QC test cores, fill the holes with mortar or alternative filler material. If using mortar, apply mortar under section 51-1.03E(2). If using an alternative filler material, apply a bonding epoxy before placing the filler material. Apply the alternative filler material under the manufacturer's instructions.

AA

**55 STEEL STRUCTURES**

04-19-19

Replace the 3rd paragraph of section 55-1.02E(7)(a) with:

04-19-19

Dimensional details and workmanship for welded joints in tubular and pipe connections must comply with clause 9 of AWS D1.1.

AA

**56 OVERHEAD SIGN STRUCTURES, STANDARDS, AND POLES**

04-17-20

Replace section 56-1.01D(2)(b)(i) with:

04-19-19

**56-1.01D(2)(b)(i) General**

Perform NDT of steel members under AWS D1.1 and the requirements shown in the following tables:

**Nondestructive Testing for Steel Standards and Poles**

Weld location	Weld type	Minimum required NDT
Circumferential splices around the perimeter of tubular sections, poles, and arms	CJP groove weld with backing ring	100% UT or RT
Longitudinal seam	CJP or PJP groove weld	Random 25% MT
Longitudinal seam within 6 inches of a circumferential weld	CJP groove weld	100% UT or RT
Welds attaching base plates, flange plates, pole plates, or mast arm plates to poles or arm tubes	CJP groove weld with backing ring and reinforcing fillet	t ≥ 1/4 inch: 100% UT and 100% MT t < 1/4 inch: 100% MT after final weld pass
	External (top) fillet weld for socket-type connections	100% MT
Hand holes and other appurtenances	Fillet and PJP welds	MT full length on random 25% of all standards and poles
Longitudinal seam on the telescopic female end, designated slip-fit length plus 6 inches	CJP groove weld	100% UT or RT

NOTE: t = pole or arm thickness

**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: 25% MT t ≥ 1/4 inch: 25% UT or RT
	PJP groove weld	Random 25% MT
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 ≥ 1/4 inch: 100% UT and 100% MT t < 1/4 inch: 100% MT after 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

**Replace section 56-1.01D(2)(b)(ii) with:**

04-19-19

**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 24 inches in diameter, the acceptance and repair criteria must comply with Clause 9.27.1.1 of AWS D1.1.

When performing UT, use an authorized procedure under AWS D1.1, Annex S.

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 base plate connections using UT.

Replace section 56-2.02F with:

04-17-20

**56-2.02F Pipe Posts**

Pipe posts must be welded or seamless steel pipes. The maximum ultimate tensile strength of pipe posts must not exceed 90 ksi. Manufactured pipe posts must comply with one of the following:

1. ASTM A53/A53M, Grade B
2. ASTM A106/A106M, Grade B
3. ASTM A1085, Grade A
4. API Specification 5L PSL2 Grades B, X42R, X42M, X52M or Grade X52N, using nominal pipe sizes for threaded end pipe

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.

Spiral seam welds are not allowed.

AA

**57 WOOD AND PLASTIC LUMBER STRUCTURES**

10-18-19

Add to section 57-2.02B:

04-19-19

HDPE shims must be commercial quality.

Replace section 57-2.02C with:

10-18-19

**57-2.02C Construction**

Install lagging members 4 inches thick or less with a 3/8-inch gap between members. Install lagging members greater than 4 inches thick with a 1/2-inch gap between members.

Replace the table in the 4th paragraph of section 57-3.02C with:

10-19-18

Quality characteristic	Test method	Requirement
Density of concrete core (kg/m <sup>3</sup> , min)	ASTM D792	1,762
28-day compressive strength of concrete core (psi, min)	ASTM C579	5,000
Structural strength of shell: Tensile strength, tensile modulus (percent loss) Flexural strength, flexural modulus (percent loss)	ASTM D638 ASTM D790	Less than 10 after UV deterioration test specified for plastic lumber
Dry film thickness of coating (mils, min)	--	15
Color change of coating	ASTM D4587, Test Cycle 2	No visible color change when tested for 800 hours
Initial adhesion of coating (psi, min)	ASTM D4541, Test Method D, E, or F and Protocol 2	150
Decrease in initial adhesion of coating, decrease (percent)	ASTM D4541, Test Method D, E, or F and Protocol 2 ASTM D1183, Test Condition D <sup>a</sup>	No more than 10 following 2 exposure cycles

<sup>a</sup>Use a low temperature phase at 4 ± 5 °F and high temperature phase at 140 ± 5 °F.

AA

## 59 STRUCTURAL STEEL COATINGS

10-19-18

Replace the 2nd paragraph in section 59-1.01D with:

10-19-18

Measure coating adhesion strength with a self-aligning adhesion tester under ASTM D4541, Test Method D, E, or F and Protocol 2.

Replace the 2nd paragraph of section 59-1.02C with:

10-19-18

Coatings selected for use must comply with the volatile organic compound concentration limits specified for the air quality district where the coating is applied. The undercoats and finish or final coats selected for use must be compatible with each other.

Add after the paragraph of section 59-2.01A(3)(a):

10-19-18

If requested by the Engineer, submit documentation from the coating manufacturer verifying the compatibility of the undercoats and finish or final coats selected for use.



AA

**60 EXISTING STRUCTURES**

10-18-19

**Replace section 60-2.02B with:**

04-19-19

**60-2.02B Materials**

Design criteria for temporary support shoring and temporary bracing must comply with section 48-3.02B.

**Add to section 60-3.01A:**

10-19-18

If you are unable to complete bridge reconstruction activities before the bridge is to be opened to traffic, furnish and maintain temporary decking under section 48-4 until that portion of the work is complete.

**Replace the 3rd and 4th paragraphs of section 60-3.02C(3) with:**

04-19-19

Remove asphalt concrete surfacing by cold milling under the following conditions:

1. If a membrane seal is shown:
  - 1.1. Remove the seal by cold milling
  - 1.2. Do not remove more than 1/2 inch of the existing concrete slab
2. If a membrane seal is not shown:
  - 2.1. Remove asphalt concrete surfacing until a 1/2-inch minimum of surfacing remains on top of existing concrete slab
  - 2.2. Use other authorized means to remove the remaining asphalt concrete without damage to the concrete slab

**Add to section 60-3.02C(3):**

04-19-19

Where a portion of the asphalt concrete surfacing is to remain, saw cut a 2-inch-deep true line along the edge to remain in place before removing asphalt concrete. Remove the asphalt concrete without damaging the surfacing to remain in place.

**Delete the 3rd paragraph of section 60-3.04B(3)(a).**

04-19-19

**Replace the 9th paragraph of section 60-3.04B(3)(c) with:**

04-19-19

Protect the overlay from moisture and do not allow traffic or equipment on the overlay (1) for a minimum of 4 hours cure time after final finishing and (2) until each rebound test result for the final finish shows a reading of at least 28 when tested under ASTM C805. The cure time must be extended if ordered. The rebound test may not be used to reduce the 4-hour cure time of the overlay.

**Replace the 10th paragraph of section 60-4.09B(2)(a) with:**

10-19-18

Steel parts must comply with ASTM A36/A36M or A576, Grade 1030 and must not be rimmed or capped steel.

**Replace section 60-4.10 with:**

10-18-19

**60-4.10 BRIDGE SEAT EXTENDERS FOR RETROFITS**

**60-4.10A General**

**60-4.10A(1) Summary**

Section 60-4.10 includes specifications for fabricating and installing bridge seat extenders.

Bridge seat extenders must comply with the specifications for miscellaneous bridge metal in section 75-3.

**60-4.10A(2) Definitions**

Reserved

**60-4.10A(3) Submittals**

Submit a work plan showing the method of grouting pipe seat extenders to prevent grout from entering the hinge area.

**60-4.10A(4) Quality Assurance**

Inspect bridge seat extender materials at the fabrication site.

Notify the Engineer:

1. When materials have been delivered to the fabrication site
2. At least 10 days before starting fabrication

**60-4.10B Materials**

**60-4.10B(1) General**

Reserved

**60-4.10B(2) Pipe Seat Extenders**

Pipe seat extenders must consist of double extra-strong steel pipes, HS threaded rods, nuts, and washers.

Double-extra strong steel pipe must comply with ASTM A53/A53M, Grade B. HS threaded rods, nuts, and washers must comply with section 55-1.02D(1).

Galvanize double-extra strong steel pipe under section 75-1.02B. After galvanizing, any alterations resulting in new exposed surfaces, including holes or cut ends, must be coated as specified for repairing damaged galvanized surfaces under section 75-1.02B.

Grout for bonding the pipe to the cored hole must comply with section 60-4.06B(2). Any filler materials or seals must not restrict joint movement.

**60-4.09B(3) Slab Bridge Seat Extenders**

Slab bridge seat extenders must consist of steel plates, support tubes, bolts, bars, nuts, washers, pins, and elastomeric bearing pads.

Slab bridge seat extender must comply with section 55. Elastomeric bearing pads must comply with section 51-3.02. The support tubes must comply with ASTM A500/A500M, Grade B.

Galvanize seat extender under section 75-1.02B. After galvanizing, any alterations resulting in new exposed surfaces, including holes or cut ends, must be coated as specified for repairing damaged galvanized surfaces under section 75-1.02B.

Epoxy mortar must consist of a mixture of epoxy binder and aggregate. The epoxy mortar must comply with section 95-1.02C. The mix proportions of epoxy mortar must be 1-part binder to 1-part aggregate by volume. Aggregate must consist of a combination of 1-part material passing the no. 30 sieve and 3-parts material passing the no. 20 sieve.

**60-4.10C Construction**

**60-4.10C(1) General**

Reserved.

**60-4.10C(2) Pipe Seat Extenders**

Reserved

**60-4.10C(3) Slab Bridge Seat Extenders**

Place epoxy mortar under section 95-1.03.

Place elastomeric bearing pads under section 51-3.02C. Bond elastomeric bearing pads to steel support tubes with adhesive complying with Federal Specification MMM-A-121.

**60-4.10D Payment**

The payment quantity for seat extender does not include the weight of nonmetallic materials used in constructing the seat extenders.

\*\*\*\*\*

**DIVISION VII DRAINAGE FACILITIES**

Replace section 62 with:

04-17-20

**62 STORMWATER TREATMENT**

04-17-20

**62-1 GENERAL**

**62-1.01 GENERAL**

**62-1.01A Summary**

Section 62-1 includes general specifications for constructing permanent stormwater treatment best management practices.

Earthwork must comply with section 19.

Concrete and joint seals must comply with section 51.

Sealant must comply with section 41-5.

Reinforcement must comply with section 52.

Underdrain must comply with section 68-2.

Miscellaneous metal must comply with section 75.

Cable railing must comply with section 83-2.07.

**62-1.01B Definitions**

Reserved

**62-1.01C Submittals**

At least 5 business days before placing permeable material, submit a certificate of compliance for the gradation of the material from the source.

No more than 5 business days after placing permeable material, submit:

1. At least one ASTM D6913 test on permeable material sampled at:
  - 1.1. Job site
  - 1.2. Authorized location
2. Verification that the permeable materials testing results meet the gradation requirements

**62-1.01D Quality Assurance**

Submit verification that the placed material complies with the gradation for the Class 4 and Class 5 permeable materials.

Submit verification of the uniformity coefficient for Class 5 permeable material.

For Department acceptance, the depth of the permeable material will be measured after the in-place washing is complete.

**62-1.02 MATERIALS**

**62-1.02A General**

Not Used

**62-1.02B Class 4 Permeable Material**

Class 4 permeable material must consist of sand, gravel, or crushed stone that is hard, durable, and clean. The material must be free from organic material, clay balls, or other deleterious substances.

The percentage composition by weight of Class 4 permeable material in place must comply with the gradation requirements shown in the following table:

Sieve size	Percentage passing
2"	100
1-1/2"	95-100
3/4"	50-100
3/8"	15-55
No. 4	0-25
No. 8	0-5
No. 100	0

Class 4 permeable material must have a durability index of not less than 40.

**62-1.02C Class 5 Permeable Material**

Reserved

**62-1.02D Miscellaneous Metal**

Fabricate the parts shown in the table below from the corresponding materials shown:

Part	Material
Ladders	Steel
Handrails	Steel
Trash screen	Steel
Components of riser support brackets	Stainless steel complying with ASTM A276, Grade 304 CIP inserts must be ferrule loop type

**62-1.02E Filter Fabric**

Class D filter fabric must comply with the requirements shown in the following table:

**Class D Filter Fabric**

Quality characteristic	Test method	Requirement
Permittivity (min and max, sec <sup>-1</sup> )	ASTM D4491	1.6–1.8
Apparent opening size, average roll value (min and max, US standard sieve size)	ASTM D4751	60–80
Grab breaking load, 1-inch grip, in each direction (min, lb)	ASTM D4632	120
Apparent elongation, in each direction (min, %)	ASTM D4632	50
UV resistance, retained grab breaking load, 500 hours (min, %)	ASTM D4355	70

**62-1.02F–62-1.02I Reserved**

**62-1.03 CONSTRUCTION**

**62-1.03A General**

Placing filter fabric must comply with section 68-1.03B.

**62-1.03B Permeable Material**

**62-1.03B(1) General**

Before placement, wash permeable material:

1. To remove silt and clay particles
2. With potable water equal to at least 4 times the volume of the material being placed

After placement, wash permeable material:

1. With potable water
2. Until the discharged water has a turbidity reading of:
  - 2.1. 30 NTU or less for a project within the Tahoe Hydrologic Unit
  - 2.2. 200 NTU or less for a project outside the Tahoe Hydrologic Unit

Capture the wash water. Handle the wash water by any of the following means:

1. Dispose of
2. Use as dust control
3. Disperse onsite in an authorized location other than the BMP

**62-1.03B(2) Class 5 Permeable Material**

Place Class 5 permeable material:

1. In a way that does not damage or displace the filter fabric
2. Using methods that produce a finished surface as shown

**62-1.03C–62-1.03H Reserved**

**62-1.04 Payment**

Not Used

**62-2 DESIGN POLLUTION PREVENTION INFILTRATION AREA**

Reserved

**62-3 INFILTRATION TRENCH**

Reserved

**62-4 INFILTRATION BASIN**

Reserved





**Replace section 71-3.01A(4)(c) with:**

04-17-20

**71-3.01A(4)(c) Quality Control**

**71-3.01A(4)(c)(i) General**

Reserved

**71-3.01A(4)(c)(ii) Annular Space Grouting**

The grout cast density at the point of placement must be from 53 to 68 lb/cu ft and the minimum compressive strength must be 300 psi at 28 days.

Test the grout for compressive strength under ASTM C495 except that specimens must be moist cured before the 28-day compressive strength test and not be oven dried. If the grouting plan shows multiple stages, the grouting plan must include test results that verify that the grout stiffness is adequate for placement of multiple lifts.

For each batch of grout, perform density and viscosity tests under ASTM C138 and ASTM C939 in the presence of the Engineer. Grout density must be within 3 lb/cu ft of the density in the authorized grout plan with mix design. The time of efflux (outflow) must not exceed 20 seconds as specified in ASTM C939 unless otherwise authorized.

For pipeliners with a stiffness of less than 29 psi, the grout pump's pressure measured at the point of injection must not exceed either of the following:

1. 5 psi
2. Manufacturer's instruction

For pipeliners with a stiffness of at least 29 psi, the grout pump's pressure measured at the point of injection must not exceed 7.25 psi.

The pipeliner must be able to withstand a static head of grout that is 6 inches above the highest crown elevation. The maximum grout pressure for a static grout head must not exceed the grout pump's maximum allowable pressure.

Install a grout pressure gauge and recorder immediately adjacent to each injection port. Continuously record on paper with ink the actual grouting pressure versus time. Record grout pressure to an accuracy of  $\pm 0.5$  psi. Attach a gauge to a saddle-type diaphragm seal to prevent clogging with grout.

**71-3.01A(4)(c)(iii) CCTV Recording**

CCTV recordings must be made and submitted in high quality electronic media such as CD or DVD.

The CCTV equipment must include:

1. CCTV camera with articulating head
2. Transporter adapted for conditions of the culvert
3. Television monitor
4. Lighting
5. Cables and power sources

CCTV equipment must:

1. Be specifically designed and constructed for pipe inspection
2. Have camera lighting for minimizing reflective glare
3. Have an adjustable focal-distance range from 6 inches to infinity
4. Produce a minimum resolution of 356 lines per inch for both the camera and monitor
5. Have a remote-reading meter counter accurate to 1 percent over the length of the particular section being inspected

Verify the accuracy of the distance meter in the CCTV with a walking meter, roll-a-tape, or other authorized device.



Where human entry is possible for the entire length of the culvert, you may use a handheld video camera with lighting as an alternative to CCTV. Video and audio content must comply with the requirements for CCTV. Inspect at a rate that is not more than 30 feet per minute.

**71-3.01A(4)(c)(iv) Photographs**

Use a digital camera and lighting. Lighting and photo quality must be suitable to provide clear and focused photographs of the entire culvert surface under all conditions.

**71-3.01A(4)(c)(v) Monitoring of Annular Space Grouting**

Wherever a pipeliner with annular space grouting is described, monitor the grouting and record pressures throughout the grouting process. Verify compliance with the manufacturer's instructions for each phase of the grouting process. Gauges must comply with ANSI B40, Grade 2A. The pressure gauges, recorder, and field equipment must be calibrated by an independent testing agency.

**71-3.01A(4)(c)(vi) Pipeliners**

Pipeliners must be continuous over the entire length of the culvert and must have no visual defect such as foreign inclusions, concentrated ridges, discoloration, pitting, pin holes, cracking or other deformities. The pipeliner must not be over-deflected. There must not be segregation or voids in the grout.

**71-3.01A(4)(c)(vii) Deflection Testing of Pipeliners**

If a pipeliner with annular space grouting is described, test the pipeliner for deflection. Test after grouting and in the presence of the Engineer.

For pipeliners with a nominal inside diameter of 36 inches or less, either pull a mandrel through the pipeliner by hand or use another authorized method. The mandrel must be:

1. Rigid and nonadjustable
2. Comprised of at least 9 legs and have an odd number of total legs
3. Longer than it is wide
4. Made of steel
5. Fitted with pulling rings at each end
6. Stamped or engraved on some segment other than a runner indicating pipeliner material specification, nominal size, and mandrel outside diameter (e.g., HDPE F 714-SDR 26- 36" – 31.569")
7. Furnished in a suitable carrying case labeled with the same data as stamped on the mandrel
8. Authorized before use

For pipeliners with a nominal inside diameter greater than 36 inches, determine the deflection using a 1-inch diameter, rigid, nonadjustable metal bar; a minimum-radius rigid template; or other authorized method.

The pipeliner must not be over-deflected. For pipeliners 36 inches or less in nominal diameter, the mandrel must pass through the entire pipeliner. For pipeliners greater than 36 inches in nominal diameter, the deflection must be the lesser of either of the following:

1. 5 percent greater than the actual dimension of the pipeliner in place. This actual dimension includes the pipe joint system.
2. 6-1/2 percent of the nominal pipeliner dimension.

If more than 8 percent of the nominal pipeliner dimension is over-deflected, the pipeliner is rejected. If 8 percent or less of the nominal pipeliner dimension is over-deflected, the pipeliner may remain in place and the Department deducts 20 percent of the bid amount for that pipeliner.

**Replace item 2 in the list in the first paragraph of section 71-3.01B(2) with:**

2. Not less than 590 lb of cementitious material per cubic yard



04-17-20

Delete the 3rd paragraph of section 75-3.02C(4).

AA

## 78 INCIDENTAL CONSTRUCTION

04-17-20

Replace section 78-4.03 with:

04-19-19

### 78-4.03 PAINTING CONCRETE

#### 78-4.03A General

##### 78-4.03A(1) Summary

Section 78-4.03 includes specifications for preparing and painting concrete surfaces.

##### 78-4.03A(2) Definitions

Reserved

##### 78-4.03A(3) Submittals

Submit the coating manufacturer's application instructions at least 7 days before use.

##### 78-4.03A(4) Quality Assurance

Reserved

#### 78-4.03B Materials

Coatings for concrete must comply with the specifications for acrylic emulsion paint for exterior masonry in section 91-4.02B.

Coatings must be white.

#### 78-4.03C Construction

##### 78-4.03C(1) General

Reserved

##### 78-4.03C(2) Surface Preparation

Before painting, surfaces must be:

1. At least 28 days old.
2. Prepared under SSPC-SP 13/NACE no. 6. Pressure rinse the prepared surfaces before applying the paint.
3. Thoroughly dry. You may use artificial drying methods if authorized.

##### 78-4.03C(3) Application

Apply at least 2 coats under the manufacturer's instructions and SSPC-PA 7. Protect adjacent surfaces during painting using an authorized method.

#### 78-4.03D Payment

Not Used

**Replace section 78-4.04 with:**

04-19-19

**78-4.04 STAINING CONCRETE AND SHOTCRETE**

**78-4.04A General**

**78-4.04A(1) Summary**

Section 78-4.04 includes specifications for preparing and staining concrete and shotcrete surfaces.

**78-4.04A(2) Definitions**

**acid stain:** non-tintable, transparent stain that contains dilute acid.

**water-based stain:** semi-transparent or solid water-based coating in an acrylic emulsion vehicle, that can be tinted to match an AMS-STD-595 color.

**78-4.04A(3) Submittals**

**78-4.04A(3)(a) General**

Submit the stain and sealer manufacturer's product data and application instructions at least 7 days before starting staining activities.

**78-4.04A(3)(b) Contractor Qualifications**

Submit the following documentation at least 10 days before the prestaining meeting:

1. Summary of the staining contractor's experience that demonstrates compliance with section 78-4.04A(4)(c).
2. List of at least 3 projects completed in the last 5 years that demonstrate the staining contractor's ability to stain surfaces similar to the surfaces for this project. For each project include:
  - 2.1. Project description
  - 2.2. Name and phone number of the owner
  - 2.3. Staining completion date
  - 2.4. Color photos of the completed stained surface

**78-4.04A(3)(c) Staining Quality Work Plan**

Submit a staining quality work plan at least 10 days before the prestaining meeting. The work plan must include details for preparing and staining the surfaces to achieve the required color, and for sealing the surfaces, including:

1. Number of applications that will be used to apply the stain
2. For each application of the stain, a description of:
  - 2.1. Manufacturer, color, finish, and percentage strength mixture of the stain that will be applied
  - 2.2. Proposed methods and tools for applying the stain
3. Proposed methods for protecting adjacent surfaces during staining
4. Proposed methods and tools for applying the sealer

For acid stains, the work plan must also include a rinse water collection plan for containing all liquid, effluent, and residue resulting from preparing and staining the surfaces.

**78-4.04A(4) Quality Assurance**

**78-4.04A(4)(a) General**

Reserved

**78-4.04A(4)(b) Test Panels**

Stain the authorized test panel complying with section 51-1.01D(2)(c) or section 53-3.01D(3).

The test panel must be:

1. Stained using the same personnel, materials, equipment, and methods to be used in the work
2. Accessible for viewing
3. Displayed in an upright position near the work

4. Authorized for staining before starting the staining work

If ordered, construct additional test panels until a satisfactory color is attained. The preparing and staining of additional test panels is change order work.

The Engineer uses the authorized stained test panel to determine the acceptability of the stained surface.

Dispose of the test panels after the staining work is complete and authorized. Notify the Engineer before disposing of the test panels.

**78-4.04A(4)(c) Contractor Qualifications**

The staining contractor must have experience staining surfaces to simulate the appearance of natural rock formations or stone masonry, and must have completed at least 3 projects in the past 5 years involving staining of surfaces similar to the surfaces for this project.

**78-4.04A(4)(d) Prestaining Meeting**

Before starting staining activities, conduct a meeting to discuss the staining quality work plan. Meeting attendees must include the Engineer and all staining contractors.

**78-4.04B Materials**

**78-4.04B(1) General**

Reserved

**78-4.04B(2) Stain**

**78-4.04B(2)(a) General**

The stain must be:

1. Commercially available product designed specifically for exterior applications
2. Specifically manufactured for staining concrete surfaces

**78-4.04B(2)(b) Acid Stain**

Acid stain must:

1. Contain dilute acid that penetrates and etches the surfaces
2. Be a water-based solution of inorganic metallic salts
3. Produce abrasion-resistant color deposits

**78-4.04B(2)(c) Water-based Stain**

Water-based stain must be:

1. Acrylic emulsion
2. Non-fading and UV resistant
3. Capable of producing irregular, mottled tones

**78-4.04B(3) Sealer**

The sealer must be as recommended by the stain manufacturer, clear and colorless, and have a matte finish when dry.

**78-4.04B(4) Joint Sealing Compound**

Reserved

**78-4.04C Construction**

**78-4.04C(1) General**

At locations where there is exposed metal adjacent to the surfaces to be stained, seal the joint between the surfaces to be stained and the exposed metal with a joint sealing compound before applying the stain.

#### **78-4.04C(2) Surface Preparation**

Test surfaces for acceptance of the stain before applying the stain. Clean surfaces that resist accepting the stain and retest until passing.

Before staining, the surfaces must be:

1. At least 28 days old
2. Prepared under SSPC-SP 13/NACE no. 6
3. Thoroughly dry

#### **78-4.04C(3) Application**

##### **78-4.04C(3)(a) General**

Apply the stain under the manufacturer's instructions. Protect adjacent surfaces during staining. Drips, puddles, or other irregularities must be worked into the surface.

Apply the sealer under the manufacturer's instructions.

##### **78-4.04C(3)(b) Acid Stain**

Work the acid stain into the concrete using a nylon bristle brush in a circular motion.

After the last coat of stain has dried, rinse the stained surfaces with water and wet scrub them with a stiff-bristle nylon brush until the rinse water runs clear. Collect all rinse water.

#### **78-4.04D Payment**

Not Used

Replace section 78-23 with:

04-17-20

### **78-23 ADJUST UTILITY FRAMES, COVERS, AND MANHOLES**

#### **78-23.01 GENERAL**

Section 78-23 includes specifications for adjusting utility access box frames, covers, and manholes.

Work performed on existing utility frames, covers, grates and manholes must comply with section 15.

#### **78-23.02 MATERIALS**

Not Used

#### **78-23.03 CONSTRUCTION**

Lower and raise utility frames, covers, grates and manholes by lowering before cold planing and raising after paving or surfacing. Before opening the lane to traffic, either (1) complete permanent paving or surfacing or (2) temporarily fill any depressions with HMA.

Do not adjust to final grade until the adjacent pavement or surfacing is complete.

For a structure that is to be raised, remove the cover or frame and trim the top of the structure to provide a suitable foundation for the new material.

Instead of using new materials similar in character to those in the existing structure, you may use raising devices to adjust a manhole to grade. Before starting paving work, measure and fabricate raising devices. Raising devices must:

1. Comply with the specifications for section 75 except that galvanizing is not required
2. Have a shape and size that matches the existing frame
3. Be match marked by painting identification numbers on the device and corresponding structure
4. Result in an installation that is equal to or better than the existing one in stability, support, and nonrocking characteristics
5. Be fastened securely to the existing frame without projections above the surface of the road or into the clear opening

Where manholes are to be lowered, remove the top portion to 3.5 feet below finished grade or to an authorized depth. Adjust the manhole using the taper needed to match the finished grade.

If a manhole cover is unstable or noisy under traffic, place a coil of asphalt-saturated rope, a plastic washer, or asphaltic compound on the cover seat. Before placement, obtain authorization for use of the material.

**78-23.04 PAYMENT**

Not Used

AA

**80 FENCES**

10-18-19

**Replace the 1st paragraph of section 80-2.02B with:**

10-18-19

Line posts must comply with ASTM A702 except packaging of posts is not required. You may omit the anchor plate if the post is set in a concrete footing with a minimum cross-sectional dimension of 6 inches and a depth equal to the full penetration of the post.

**Replace item 3 in the list in the 1st paragraph of section 80-2.02D with:**

10-18-19

- 3. Be one of the following:
  - 3.1. 12-1/2 gauge, Class 3
  - 3.2. 13-1/2 gauge, Class 3
  - 3.3. 14 gauge, Class 3
  - 3.4. 15-1/2 gauge, Class 3

**Replace the 2nd paragraph of section 80-3.02B with:**

10-19-18

Posts and braces must comply with the strength requirements in ASTM F1043 for one of the following:

- 1. Group IA, regular grade, for round pipes
- 2. Group IC, 50,000 psi yield, for round pipes
- 3. Group II-L for roll-formed posts and braces

**Replace the list in section 80-4.02B(1)(b) with:**

10-19-18

- 1. Comply with ASTM A1064 and have a Class 1 zinc coating complying with ASTM A641
- 2. Be welded or woven galvanized steel wire fabric
- 3. Be made of at least 16-gauge wire
- 4. Be 36 inches wide

**Replace the paragraph in section 80-4.02B(2) with:**

10-19-18

The materials for a temporary desert tortoise fence must comply with section 80-4.02B(1).

**Replace the 2nd sentence in the 1st paragraph of section 80-4.02C(2) with:**

Embed the posts at maximum 10-foot intervals into the ground.

10-19-18

AA

**DIVISION IX TRAFFIC CONTROL DEVICES  
82 SIGNS AND MARKERS**

04-17-20

**Replace the list in the 1st paragraph of section 82-2.01C with:**

1. Aluminum sheeting
2. Retroreflective sheeting
3. Color imaging methods and film
4. Protective-overlay film

04-19-19

**Replace section 82-2.02C with:**

04-17-20

**82-2.02C Retroreflective Sheeting**

Retroreflective sheeting used for the background and legend must comply with ASTM D4956-13 and must be on the Authorized Material List for signing and delineation materials.

Retroreflective sheeting must be Type XI, except for white background signs, it must be Type VIII or IX.

Warning sign plaques and panels must be retroreflective fluorescent orange or fluorescent yellow background.

Type VIII, IX, and XI retroreflective sheeting must have Class 1, 3, or 4 adhesive backing. Adhesive backing must be pressure sensitive and fungus resistant.

Retroreflective sheeting must be applied to sign panels at the fabrication plant under the retroreflective sheeting manufacturer's instructions without appreciable stretching, tearing, or other damage.

Orientation of the legend must comply with the retroreflective sheeting manufacturer's instructions.

Retroreflective sheeting on a sign panel with a minor dimension of 48 inches or less must be a single, contiguous sheet without splices except for the splices produced during the manufacture of the retroreflective sheeting. Sign panel with a minor dimension greater than 48 inches may have 1 horizontal splice in the retroreflective sheeting other than the splices produced during the manufacture of the retroreflective sheeting.

Unless the retroreflective sheeting manufacturer's instructions require a different method, splices in the retroreflective sheeting must overlap by at least 1 inch. The retroreflective sheeting on either side of a splice must not exhibit a color difference under incident and reflected light.

**Replace section 82-2.02D with:**

04-19-19

**82-2.02D Color Imaging Methods and Film**

The material used for color imaging methods, film, and protective-overlay must be recommended by the retroreflective sheeting manufacturer.



Colored retroreflective sheeting must be used for the background.

Signs with green, red, blue, or brown backgrounds may use reverse-screened-process color on white retroreflective sheeting for the background color. The coefficient of retroreflection must be at least 70 percent of the coefficient of retroreflection specified in ASTM D4956 for the corresponding color of retroreflective sheeting.

The sign must have outdoor weatherability characteristics equivalent to those specified for the corresponding color of retroreflective sheeting in ASTM D4956.

**Replace the 2nd paragraph of section 82-3.01A with:**

04-17-20

Roadside signs include ground-mounted signs and Type N (CA), Type P (CA), and Type R (CA) marker panels.

**Add to section 82-3.01B:**

04-17-20

**ground-mounted sign:** Roadside sign or signs with a wide-flange metal post.

**Add to section 82-3.02B:**

04-17-20

Mounting for a ground-mounted sign must be a wide-flange metal post fabricated from structural steel complying with ASTM A36/A36M. Nuts, bolts, and washers for the breakaway connections of a wide-flange steel post must comply with ASTM A325.

**Replace section 82-5.01A with:**

10-19-18

Section 82-5 includes specifications for fabricating and installing markers, including milepost markers.

**Replace the 2nd paragraph in section 82-5.02E with:**

10-19-18

A target plate for milepost marker or Type L-1 (CA) or Type L-2 (CA) object marker installed on a metal post must be manufactured from an aluminum sheet or zinc-coated steel sheet.

**Replace section 82-5.02H with:**

10-19-18

**82-5.02H Milepost Markers**

Letters and numerals on a milepost marker must be made with opaque black paint or film. The paint and film must have an equivalent outdoor weatherability as the retroreflective sheeting specified in ASTM D4956. Nonreflective, opaque, black film must be vinyl or acrylic material.

Film for letters and numerals must be computer cut and have pressure-sensitive adhesive.

**Replace the 5th paragraph of section 82-5.03 with:**

10-19-18

Use stencils to paint letters and numerals on milepost markers.



Retroreflectivity must be measured under ASTM E1710 and the sampling protocol specified in ASTM D7585.

#### 84-2.01B Definitions

**pavement marking:** Transverse marking which includes shoulder or gore marking, traffic island marking, word or numeral or symbol marking, arrow, limit line, stop line, yield line, crosswalk marking, speed measurement marking, speed reduction marking, speed hump marking, parking space marking, and route shield marking. 10-18-19

**traffic stripe:** Longitudinal centerline or lane line used for separating traffic lanes in the same direction of travel or in the opposing direction of travel or a longitudinal edge line marking the edge of the traveled way or the edge of a lane at a gore area separating traffic at an exit or entrance ramp. A traffic stripe is shown as a traffic line. 10-19-18

#### 84-2.01C Submittals

For each lot or batch of traffic stripe material, primer, and glass beads, submit:

1. Certificate of compliance, including the material name, lot or batch number, and manufacture date
2. METS notification letter stating that the material is authorized for use, except for thermoplastic and primer
3. SDS
4. Manufacturer's Instructions

For each lot or batch of thermoplastic, submit a manufacturer's certificate of compliance and the following test results from the California Test 423:

1. Brookfield Thermosel viscosity
2. Hardness
3. Yellowness index, white only
4. Daytime luminance factor
5. Yellow color, yellow only
6. Glass bead content
7. Binder content

The date of the test must be within 1 year of use.

Submit test results for each lot of beads specifying the EPA test methods used and tracing the lot to the specific test sample. The testing for lead and arsenic content must be performed by an independent testing laboratory.

Submit the thermoplastic test stripe to the Engineer.

Submit the retroreflectivity test result within 5 days of testing the traffic stripes and pavement markings. The data must include the retroreflectivity, time, date, and GPS coordinates for each measurement.

#### 84-2.01D Quality Assurance

##### 84-2.01D(1) General

Reserved

##### 84-2.01D(2) Quality Control

Before starting permanent application of methyl methacrylate and two component paint traffic stripes and pavement markings, apply a test stripe on roofing felt or other suitable material in the presence of the Engineer. The test stripe section must be at least 50 feet in length.

Upon request, apply a thermoplastic test stripe on suitable material in the presence of the Engineer during the application of thermoplastic traffic stripes or markings. The test stripe must be at least 1 foot in length.

Remove loose glass beads before measuring the retroreflectivity. Obtain authorization to proceed with the application of traffic stripes and pavement markings.

Within 30 days of application, test the traffic stripes and pavement markings under the test methods and frequencies shown in the following table:

**Traffic Stripe Testing Frequency**

Quality characteristic	Test method	Minimum sampling and testing frequency
Initial retroreflectivity (min, $\text{mcd}\cdot\text{m}^{-2}\cdot\text{lx}^{-1}$ )	ASTM E1710	ASTM D7585 <sup>a</sup>
White		
Yellow		

<sup>a</sup>Use the referee evaluation protocol for project length less than 10 miles. For project lengths greater than or equal to 10 miles, add one evaluation for every additional mile.

Verify the glass bead application rate by stabbing the glass bead tank with a calibrated rod.

**84-2.01D(3) Department Acceptance**

The Engineer will perform a nighttime, drive-through, visual inspection of the retroreflectivity of the traffic stripes and pavement markings and notify you of any locations with deficient retroreflectivity. Test the retroreflectivity of the deficient areas to confirm striping and pavement markings meets the requirements.

The thermoplastic test stripe will be tested for yellow color, daytime luminance factor, and yellowness index requirements by METS.

**84-2.02 MATERIALS**

**84-2.02A General**

Reserved

**84-2.02B Glass Beads**

Each lot of glass beads must comply with EPA Test Method 3052 and 6010B or 6010C. Glass beads must contain less than 200 ppm each of arsenic and lead.

Type 1 glass beads must comply with AASHTO M 247.

Type 2 glass beads must comply with AASHTO M 247. At least 75 percent of the beads by count must be true spheres that are colorless and do not exhibit dark spots, air inclusions, or surface scratches when viewed under 20X magnification.

High-performance glass beads must be on the Authorized Material List for high-performance glass beads.

Large-gradation glass beads must be on the Authorized Material List for two component traffic paint.

Glass beads for methyl methacrylate must be on the Authorized Material List for methyl methacrylate traffic striping and pavement marking.

Glass beads for paint must comply with State Specification 8010-004.

Glass beads must be surface treated, according to the bead and the material manufacturer's instructions, to promote adhesion with the specified material.

**84-2.02C Thermoplastic**

Thermoplastic must comply with State Specification PTH-02HYDRO, or PTH-02ALKYD.

Sprayable thermoplastic must comply with State Specification PTH-02SPRAY.

Each lot or batch of thermoplastic must be tested under California Test 423.

**84-2.02D Methyl Methacrylate**

Methyl methacrylate traffic paint must:

1. Be on the Authorized Material List for methyl methacrylate traffic striping and pavement marking

2. Be Category 2

**84-2.02E Traffic Striping and Pavement Marking Tape**

Traffic striping and pavement marking tape must be on the Authorized Material List for signing and delineation materials.

04-19-19

White tape must have an initial retroreflectivity of a minimum 700 mcd/m<sup>2</sup>.

Yellow tape must have an initial retroreflectivity of a minimum 500 mcd/m<sup>2</sup>.

10-19-18

When contrast is required for traffic striping and pavement marking tape, the tape must be pre-formed and retroreflective, consisting of a white film with retroreflective beads and a contrasting black film border. The contrasting black border must be a nonreflective film bonded on each side of the white film to form a continuous roll. Each black border must be a minimum of 2 inches wide. The width of the tape must be at least 4 inches wider than the stripe width.

**84-2.02F Two-Component Paint**

Two-component traffic paint must be on the Authorized Material List for two component traffic paint.

**84-2.02G Paint**

Paint must comply with the requirements shown in following table:

Paint Specifications		
Paint type	Color	Specification
Waterborne traffic line	White, yellow, and black	State Specification PTWB-01R2
Waterborne traffic line for the international symbol of accessibility and other curb markings	Blue, red, and green	Federal Specification TT-P-1952E

**84-2.02H–84-2.02L Reserved**

**84-2.03 CONSTRUCTION**

**84-2.03A General**

Establish the alignment for traffic stripes and the layouts for pavement markings with a device or method that will not conflict with other traffic control devices.

Protect existing retroreflective pavement markers during work activities.

Remove existing pavement markers that are coated or damaged by work activities and replace with an equivalent marker on the Authorized Material List for signing and delineation materials.

A completed traffic stripe or pavement marking must:

1. Have well defined edges
2. Be uniform
3. Be free from runs, bubbles, craters, drag marks, stretch marks, and debris

A completed traffic stripe must:

1. Be straight on a tangent alignment
2. Be a true arc on a curved alignment
3. Not deviate from the width shown by more than:
  - 3.1. 1/4 inch on a tangent alignment
  - 3.2. 1/2 inch on a curved alignment

The length of the gaps and individual stripes that form a broken traffic stripe must not deviate by more than 2 inches from the lengths shown. The gaps and stripes must be uniform throughout the entire length of the traffic stripe.

Protect newly placed traffic stripes and pavement markings from traffic and work activities until the traffic stripes and pavement markings are dry or hard enough to bear traffic.

Use mechanical methods to remove dirt, contaminants, and loose material from the pavement surface before applying the traffic stripe or pavement marking.

Use abrasive blast cleaning to remove laitance and curing compound from the surface of new concrete pavement before applying the traffic stripe or pavement marking.

Construct recesses as shown in the following table:

Material	Recess Depth Requirements	
	Requirement Depth (mils)	Requirement Depth (in)
Thermoplastic	375	3/8
Two component traffic paint	250	1/4
Methyl methacrylate traffic paint	250	1/4

Construct recesses for double traffic stripes in a single pass.

Before applying the traffic stripes and pavement markings:

1. Allow wet ground recesses to dry a minimum of 24 hours
2. Remove all powdery residue from dry recess
3. Keep the recesses dry and free from debris

Apply traffic stripes and pavement markings before the end of the same work shift.

#### **84-2.03B Application of Traffic Stripes and Pavement Markings**

##### **84-2.03B(1) General**

Apply material for a pavement marking with a stencil or a preformed marking.

Immediately remove drips, overspray, improper markings, or material tracked by traffic, using an authorized method.

Apply a traffic stripe or a pavement marking only to a clean, dry surface during a period when the pavement surface temperature is above 50 degrees F.

Apply traffic stripe or pavement marking and glass beads in a single pass. You may apply the glass beads by hand on pavement markings.

Embed glass beads to a depth of 1/2 their diameters.

Distribute glass beads uniformly on traffic stripe and pavement markings.

Glass beads with integral color must match the color of the stripe or pavement marking.

Apply glass beads with two separate applicator guns when two gradations are specified.

Allow enough overlap distance between new and existing striping patterns to ensure continuity at the start and end of the transition.

The retroreflectivity of applied traffic stripes and pavement markings must comply with the requirements shown in the following table:

**Retroreflectivity Requirements**

Traffic stripe material	White (min, mcd·m <sup>-2</sup> ·lx <sup>-1</sup> )	Yellow (min, mcd·m <sup>-2</sup> ·lx <sup>-1</sup> )
Paint	250	125
Thermoplastic	250	125
Thermoplastic with wet night enhanced visibility	700	500
Two component	250	125
Methyl methacrylate	500	300
Tape	700	500

**84-2.03B(2) Thermoplastic**

**84-2.03B(2)(a) General**

Apply primer or surface preparation adhesive under the manufacturer's instructions:

1. To all roadway surfaces except for asphaltic surfaces less than 6 months old
2. At a minimum rate of 1 gallon per 300 square feet
3. To allow time for the thermoplastic primer to dry and become tacky before application of the thermoplastic

Do not thin the primer.

Preheat thermoplastic using preheaters with mixers having a 360-degree rotation.

Apply thermoplastic in a single uniform layer by spray or extrusion methods.

Completely coat and fill voids in the pavement surface with the thermoplastic.

Apply recessed thermoplastic at a thickness so that the top is 0 to 1/16 inch below the pavement surface.

**84-2.03B(2)(b) Extruded Thermoplastic**

Apply extruded thermoplastic at a temperature of 400 to 425 degrees F or as recommended by the manufacturer.

Apply extruded thermoplastic for a traffic stripe at a rate of at least 0.36 lb of thermoplastic per foot of 6-inch-wide solid stripe. The applied traffic stripe must be at least 0.060 inch thick.

Apply extruded thermoplastic pavement markings at a thickness from 0.100 to 0.150 inch.

Apply Type 2 glass beads to the surface of the molten thermoplastic at a rate of at least 8 lb of beads per 100 sq ft.

**84-2.03B(2)(c) Sprayable Thermoplastic**

Apply sprayable thermoplastic at a temperature of 350 to 400 degrees F.

Apply sprayable thermoplastic for a traffic stripe at a rate of at least 0.24 lb of thermoplastic per foot of 6-inch-wide solid stripe. The applied stripe must be at least 0.040 inch thick.

**84-2.03B(2)(d) Thermoplastic with Enhanced Wet-Night Visibility**

Apply a thermoplastic traffic stripe or pavement marking with enhanced wet-night visibility in a single pass and in the following order:

1. Uniform layer of extruded thermoplastic
2. Layer of high-performance glass beads
3. Layer of Type 2 glass beads

Apply thermoplastic with enhanced wet-night visibility at a maximum speed of 8 mph.

Apply thermoplastic with enhanced wet-night visibility for a traffic stripe at a rate of at least 0.47 lb of thermoplastic per foot of 6-inch-wide solid stripe. The applied stripe must be at least 0.090 inch thick.

Apply thermoplastic with enhanced wet-night visibility for a pavement marking at a rate of at least 1.06 lb of thermoplastic per square foot of marking. The applied pavement marking must be at least 0.100 inch thick.

Apply high-performance glass beads at a rate of at least 6 lb of glass beads per 100 sq ft of stripe or marking. Apply Type 2, glass beads at a rate of at least 8 lb of glass beads per 100 sq ft of stripe or marking.

**84-2.03B(3) Methyl Methacrylate**

Apply the methyl methacrylate when the pavement surface and atmospheric temperatures are from 40 to 104 degrees F.

Apply methyl methacrylate paint at a minimum thickness of 0.090 inch.

Apply recessed methyl methacrylate paint at a minimum thickness of 0.200 inch.

Apply the glass beads recommended by the methyl methacrylate manufacturer.

**84-2.03B(4) Traffic Striping and Pavement Marking Tape**

Do not use traffic stripe and pavement marking tape on existing open graded friction course or chip seal.

Prepare pavement surface and use primer under the traffic tape manufacturer's written instructions. Apply tape to clean and dry pavement surface. Roll or tamp the traffic tape in place.

**84-2.03B(5) Two-Component Paint**

Apply a two-component painted traffic stripe or pavement marking in a single pass and in the following order:

1. Coat of two-component paint
2. Application of large gradation glass beads recommended by the two-component paint manufacturer
3. Application of Type 1 glass beads

Apply two-component paint when the pavement surface temperature is above 39 degrees F and the atmospheric temperature is above 36 degrees F. The temperature of the paint must comply with the paint manufacturer's instructions.

Apply two-component paint and glass beads at a maximum speed of 10 mph.

Apply large-gradation glass beads at a minimum rate of 11.7 lb of beads per gallon of paint.

Apply Type 1 glass beads at a minimum rate of 8.3 lb of beads per gallon of paint.

Apply two-component paint for the traffic stripes and pavement markings at the thickness and application rates shown in the following table:

Type of pavement	Stripe thickness (min, inch)	Application rate (min, sq ft/gal)
HMA open graded/chip seal	0.025	64
HMA dense graded	0.020	80
Concrete	0.020	80

Apply recessed two-component paint at a thickness between 0.020 and 0.025 inch.

**84-2.03B(6) Paint**

Do not apply paint if:

1. Fresh paint could become damaged by rain, fog, or condensation
2. Atmospheric temperature could drop below 50 degrees F during the drying period

Do not thin paint.



Use mechanical means to paint traffic stripes and pavement markings and to apply glass beads for traffic stripes.

The striping machine must be capable of superimposing successive coats of paint on the 1st coat and on existing stripes at a minimum speed of 5 mph.

Where the configuration or location of a traffic stripe is such that the use of a striping machine is not practicable, you may apply the traffic paint and glass beads by other methods and equipment if authorized.

Apply traffic stripes and pavement markings in 1 coat on existing pavement surfaces, at an approximate rate of 107 sq ft/gal.

Apply traffic stripes and pavement markings in 2 coats on a new pavement surface. The 1st coat of paint must be dry before applying the 2nd coat.

Apply 2-coat paint at the approximate rate of 215 sq ft/gal for each coat.

Paint a 1-coat, 3-inch-wide black stripe between the two 6-inch-wide yellow stripes of a double traffic stripe. If the two 6-inch-wide yellow stripes are applied in 2 coats, apply the black stripe concurrently with the 2nd coat of the yellow stripes.

On 2-lane highways:

1. If the 1st coat of the centerline stripe is applied in the same direction as increasing post miles, use the right-hand spray gun of the 3 spray guns to apply a single yellow stripe
2. If the 1st coat of the centerline stripe is applied in the same direction as decreasing post miles, use the left-hand spray gun of the 3 spray guns to apply a single yellow stripe
3. Apply the 2nd coat of centerline striping in the opposite direction of the 1st coat

Apply glass beads at an approximate rate of 5 lb of beads per gallon of paint.

Verify the application rate of paint by stabbing the paint tank with a calibrated rod. If the striping machine has paint gauges, the Engineer may measure the volume of paint using the gauges instead of stabbing the paint tank with a calibrated rod.

#### **84-2.03B(7) Contrast Striping**

04-19-19

Contrast striping consists of black striping placed on each side of a white stripe.

10-19-18

You may use permanent tape instead of paint or thermoplastic.

Apply contrast stripe paint in one coat.

Do not use glass beads or other reflective elements in contrast striping material.

04-19-19

#### **84-2.03B(8)–84-2.03B(10) Reserved**

10-19-18

#### **84-2.04 PAYMENT**

The payment quantity for a traffic stripe is the length measured along the line of the traffic stripe without deductions for gaps in the broken traffic stripe.

The payment quantity for a pavement marking is the area covered.

A double traffic stripe consisting of two-6-inch-wide yellow stripes are measured as 2 traffic stripes except for painted traffic stripes and sprayable thermoplastic traffic stripes.

A double sprayable thermoplastic traffic stripe consisting of two 6-inch-wide yellow stripes are measured as single traffic stripe.

A double painted traffic stripe consisting of two 6-inch-wide yellow stripes separated by a 3-inch-wide black stripe is measured as a single traffic stripe.

The payment quantity for contrast striping is the length measured along the line of the traffic stripe without deductions for gaps in the broken traffic stripe.

**Replace section 84-9 with:**

**84-9 EXISTING MARKINGS**

10-19-18

**84-9.01 GENERAL**

**84-9.01A Summary**

Section 84-9 includes specifications for removing existing markings.

Work performed on existing markings must comply with section 15.

**84-9.01B Definitions**

Reserved

04-19-19

**84-9.01C Submittals**

10-19-18

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.

**84-9.02 MATERIALS**

Not Used

**84-9.03 CONSTRUCTION**

**84-9.03A General**

Remove existing traffic stripes before making any changes to the traffic pattern.

Remove existing traffic stripes and pavement markings before applying the following materials:

1. Traffic stripe and pavement marking tape
2. Two component traffic stripes and pavement markings
3. Methyl methacrylate traffic stripes and pavement markings

04-19-19

Remove contrast stripes, 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.

10-19-18

Remove pavement markings such that the old message cannot be identified. Make any area removed by grinding rectangular. Water must not puddle in the ground areas. Fog seal ground areas on asphalt concrete pavement.

Sweep up or vacuum any residue before it can (1) be blown by traffic or wind, (2) migrate across lanes or shoulders, or (3) enter a drainage facility.

**84-9.03B Remove Traffic Stripes and Pavement Markings Containing Lead**

Reserved

**84-9.03C–84-9.03J Reserved**

**84-9.04 PAYMENT**

The payment quantity for remove traffic stripe is the measured length multiplied by:

1. 0.67 for a single 4-inch-wide traffic stripe



**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.

**link:** Part of a system which provides a data connection between a transmitter and receiver.

**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.

**mid-span access method:** Procedure in which fibers from a single buffer tube are accessed and spliced to a multi buffer tube cable without cutting the unused fibers in the buffer tube, or disturbing the remaining buffer tubes in the cable.

**National Voluntary Laboratory Accreditation Program:** U.S. Department of Energy program that accredits independent testing laboratories.

**optical time domain reflectometer:** Fiber optic test equipment that is used to measure the total amount of power loss between two points and over the corresponding distance. It provides a visual and printed display of the relative location of system components such as fiber sections, splices and connectors as well as the losses that are attributed to each component and or defects in the fiber.

**pedestrian change interval:** Pedestrian change interval as defined in the *California MUTCD*.

**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.

**power meter:** Portable fiber optic test equipment that, when coupled with a light source, is used to perform end-to-end attenuation testing. Its display indicates the amount of power injected by the light source at the designed wavelength of the system under testing that arrives at the receiving end of the link.

**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*.

**segment:** Continuous cable terminated by 2 splices, 2 connectors or 1 splice and 1 connector.

**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*.

**Delete the 9th and 10th paragraphs of section 86-1.01C(1).**

10-19-18

**Replace section 86-1.01C(3) with:**

10-19-18

**86-1.01C(3) Luminaires**

Submit for a 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 luminaires as an informational submittal.

**Replace section 86-1.01C(4) with:**

10-19-18

**86-1.01C(4) Reserved**

**Replace the 3rd paragraph of section 86-1.02B(1) with:**

04-19-19

Conduit used for horizontal directional drilling must be high density polyethylene Type IPS, SDR 9 and comply with ASTM F2160.

**Replace the 8th paragraph of section 86-1.02B(1) with:**

10-19-18

High density polyethylene for innerduct must:

1. Comply with ASTM D3485, D3035, D2239, and D2447, and NEMA TC7 and TC2

2. Have a minimum tensile yield strength of 3300 psi under ASTM D638
3. Have a density of 59.6187 lb/ft<sup>3</sup> ± 0.3121 lb/ft<sup>3</sup> under ASTM D1505

04-19-19

**Replace the 9th paragraph of section 86-1.02B(1) with:**

Tracer wire must be a minimum no. 12 solid copper conductor with orange insulation Type TW, THW, RHW, or USE. For direct burial, the tracer wire insulation must be Type UF.

04-19-19

**Replace section 86-1.02C with:**

10-18-19

**86-1.02C Pull Boxes**

**86-1.02C(1) General**

A pull box cover must have a marking on the top that is:

1. Clearly defined
2. Uniform in depth
3. Parallel to the longer side
4. From 1 to 3 inches in height

The cover marking must include *CALTRANS* and one of the following:

1. *SERVICE* for service circuits from a service equipment enclosure to a subpanel
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
13. *FIBER OPTIC* for fiber optic cable system
14. *ELECTRICAL SYSTEMS* if more than one system is shared in the same pull box

The cover marking must not include *CALTRANS*, only the following:

1. *ELECTRICAL SERVICE* for circuits from an electrical utility to a service equipment enclosure
2. *TELEPHONE SERVICE* for circuits from a telephone utility to a telephone demarcation cabinet

A metal pull box cover must include a fitting for a bonding conductor.

The hardware must be stainless steel containing 18 percent chromium and 8 percent nickel.

**86-1.02C(2) Roadway Pull Boxes**

**86-1.02C(2)(a) General**

A pull box cover must have a nonskid surface.

The pull boxes and covers must not have exposed fibers or reinforcement on the finish surfaces that are exposed.

The load rating must be:

1. Stenciled or stamped on the inside and outside of the pull box
2. Stamped on the outside of the cover

If a transformer or other device is to be placed in the pull box, include recesses for a hanger.

Hold-down bolts must:

1. Be a Penta Head 1/2-13UNC
2. Have a thread lock material
3. Withstand a torque from 55 to 60 ft-lb
4. Withstand a minimum pull-out strength of 750 lb

The opening in which the cover sets must have length and width dimensions 1/8 inch greater than the cover.

#### **86-1.02C(2)(b) 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.

An extended pull box must be a minimum 22 inches deep and may be a single box or a box with an extension 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 hold down bolts, nuts, and washers must be a captive design.

The pull box must have a 1/2-13 coarse-thread insert with drainage hole, to secure the hold down bolts.

The cover must have a 1/2 inches by 4 inches pull slot with a 3/16-inch center pin.

The cover markings must be cast in the mold of the cover or be engraved on a metal or UV resistant ABS plate secured to the cover with stainless steel screws.

#### **86-1.02C(2)(c) Traffic Pull Boxes**

A traffic pull box and cover must comply with AASHTO HS20-44 and load tested under AASHTO M 306.

A traffic pull box must be reinforced with a galvanized steel Z bar welded frame. The frame must be anchored to the box with 2-1/4-inch-long concrete anchors with a 1/4-inch diameter. The pull box must have 4 concrete anchors, one in each corner, and two near the middle one on each of the longer sides, except for a no. 3-1/2(T) pull box.

The frame must have nuts fabricated with the frame or spot welded to the underside of the frame, to secure the hold down bolts.

The nuts must be zinc-plated carbon steel, vibration-resistant, and have a wedge ramp at the root of the thread.

The cover must:

1. Be steel, reinforced and galvanized post fabrication.
2. Be countersunk approximately 1/4 inch to accommodate the bolt head. When tightened, the hold down bolt head must be no more than 1/8 inch above the top of the cover.
3. Have a 1/2-inch by 2-inch pull slot with a guard under the cover to prevent entry of more than 3 inches below the bottom surface of the cover without deflection.

Before galvanizing a steel 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.
3. Bead weld the letters on the cover such that the letters are raised a minimum of 3/32 inch.

**86-1.02C(2)(d) Tamper Resistant Pull Boxes**

**86-1.02C(2)(d)(i) General**

Not Used

**86-1.02C(2)(d)(ii) Tamper-Resistant Nontraffic Pull Box**

**86-1.02C(2)(d)(ii)(A) General**

A tamper resistant nontraffic pull box must include a pull box with one of the following:

1. Anchored cover
2. Lockable cover
3. Pull box insert

**86-1.02C(2)(d)(ii)(B) Anchored Cover**

The anchored cover must:

1. Be of 1/2-inch-thick mild steel, hot dip galvanized, post fabrication.
2. Have spikes removed from the galvanized surfaces.
3. Have a center space for a top lock nut that must be torqued to 200 ft-lb.
4. Have a center opening for a stainless-steel threaded cap to cover the lock nut.
5. Weigh a minimum of 85 lb.
6. Include an all-around security skirt of 1/4-inch thick steel. The skirt must be sized to encase a nontraffic pull box or sized to fit within a traffic pull box.
7. Be welded to the skirt.

**86-1.02C(2)(d)(ii)(C) Lockable Cover**

The lockable cover must:

1. Be manufactured from minimum 3/16-inch-thick galvanized steel or a polymer of minimum strength equal to 3/16-inch steel.
2. Be secured to the pull box with a locking mechanism of equal or greater strength than the manufactured material.
3. Have 1/2-by-2-inch slot holes for lifting.
4. Have dimensions complying with one of the following:
  - 4.1. Department's standards for pull box covers as shown if the lockable cover is secured to the inside lip of the pull box.
  - 4.2. Department's standards for the length and width as shown for pull box covers if the lockable cover is secured to the top of the pull box.

**86-1.02C(2)(d)(ii)(D) Pull Box Insert**

The pull box insert must:

1. Be made of minimum 3/16-inch-thick or 10 gauge mild hot-dipped galvanized steel
2. Have a minimum of 2 mounting brackets that rest under the side or end wall
3. Be lockable with a padlock having a minimum 3/8-inch shackle
4. Have dimensions complying with the Department's standards for the length and width as shown for pull box covers

**86-1.02C(2)(d)(iii) Tamper Resistant Traffic Pull Box**

A tamper resistant traffic pull box must include a pull box with an anchored cover.

**86-1.02C(3) Structure Pull Boxes**

A no. 7 pull box must:



1. Be 12 by 12 by 12 inches.
2. Be manufactured with 0.075-inch sheet steel.
3. Have 3/4-inch flanges on the top and bottom.
4. Have one 1-inch and one 1-1/2-inch knockouts on each side, except for the covers
5. Have drilled and taped holes on the top and the bottom flanges for the cover screws. The hole pattern and spacing must be the same on the top and bottom.
6. Have covers that secure to the box with eight 1/4-inch diameter, 20NC brass machine screws.

A no. 8 pull box must:

1. Be 12 by 12 by 12 inches.
2. Be manufactured with 0.135-inch sheet steel.
3. Mount to the structure with three 3/8-inch diameter machine screws per side.
4. Have 1-1/2-inch knockouts on each side, except the cover.
5. Have drilled and taped holes on the sides and the bottom for the cover screws. The holes must be reinforced with a 1-by-1-by-0.135-inch bar inside the box.
6. Have a cover with 3/4-inch flanges on the sides and bottom with the corners welded at the bottom. The cover must secure to the box with, three 1/4-inch diameter by 1/2-inch long cadmium plated brass or stainless steel, machine screws.

A no. 9 pull box must:

1. Be 24 by 9-1/2 by 6-1/4 inches.
2. Be manufactured with 0.075-inch sheet steel.
3. Have a rain tight hood.
4. Have a 1-1/2-by-4-1/2-by-0.135-inch strap welded to the back of the box at each corner, parallel to the long side. The strap must have a 1/4-inch hole on the exposed end.
5. Have a 1-inch lip around the opening.
6. Have drilled and taped holes with a minimum 1/4-inch thread length, on the ends of the bottom lip for the cover screws.
7. Have a 3-inch knockout on each side at the bottom and at the center of the bottom.
8. Have a 2-inch knockout on each side at the top and at both ends of the bottom.
9. Have an L 5/8-by-7/8-by-0.075-inch formed angle spot welded to the inside of the top on both sides and on the bottom.
10. Have a cover manufactured with 0.125-inch steel, that secures to the box with two 3/8-inch diameter by 3/4-inch long stainless-steel flathead screws with 11/16-inch diameter countersink holes. The cover must include a 1/16-inch neoprene gasket.

A no. 9A pull box must:

1. Be 20 by 8 by 8-1/2 inches.
2. Be manufactured with 0.075-inch sheet steel.
3. Have 3/4-inch flanges on the top.
4. Have drilled holes on the short sides for the cover screws. The holes must have a stainless-steel hex nut or a 1/4-by-5/8-by-8-inch bar spot welded to the bottom of the flange.
5. Have a 3-inch knockout on each side at the top and at the center of the bottom.
6. Have a 2-inch knockout on each side at the bottom and at both ends of the bottom.
7. Have a cover manufactured with 0.105-inch steel, that secures to the box with four 3/8-inch diameter stainless steel hex head cap screws, two on each short side. The cover must have a rain tight hood and include a 1/16-inch neoprene gasket.

Pull box corner joints must be lapped and spot welded or riveted.

Concentric and eccentric multiple size knockouts are not be allowed.

Replace section 86-1.02D(3) with:

10-19-18

**86-1.02D(3) Warning Tape**

Warning tape must be orange color polyolefin film, minimum elongation of 500 percent before breakage, water and corrosion resistant, and comply with requirements shown in the following table:

**Warning Tape Requirements**

Quality characteristic	Requirement
Thickness (min, mil)	4
Width (in)	4
Tensile strength of material (min, psi)	2800
Message spacing intervals (ft)	3

The warning tape must have a printed message that reads: CAUTION: CALTRANS FACILITIES BELOW.

The printed text height and color must be 1 inch, black color text over bright orange background.

Replace the 2nd paragraph of section 86-1.02E with:

10-19-18

Each sensor must:

1. Have a dissipation factor less than 0.04 nF when measured in the 20 nF range
2. Have resistance greater than 20 Megaohms
3. Be 1/4 inch wide by 6 feet long by 1/16 inch thick
4. Have a RG-58C/U coaxial screen transmission cable, jacketed with high-density polyethylene, rated for direct burial and resistant to nicks and cuts
5. Operate over a temperature range from -40 to 160 degrees F
6. Have a signal to noise ratio equal to or greater than 10 to 1
7. Have an output signal of a minimum 250 mV  $\pm$  20 percent for a wheel load of 400 lb at 55 mph and 70 degrees F
8. Have an insulation resistance greater than 500 M $\Omega$
9. Have a life cycle of a minimum 25 million equivalent single axle loadings

Replace section 86-1.02F(1) with:

10-19-18

**86-1.02F(1) General**

Conductors and cables must be clearly and permanently marked the entire length of their outer surface with:

1. Manufacturer's name or trademark
2. Insulation-type letter designation
3. Conductor size
4. Voltage
5. Number of conductors for a cable

The minimum insulation thickness and color code requirements must comply with NEC.

Replace the 2nd paragraph of section 86-1.02F(2)(a) with:

10-19-18

Conductors must be identified as shown in the following table:

**Conductor Identification**

04-17-20

Circuit	Signal phase or function	Identification			Copper size
		Insulation color		Band symbols	
		Base	Stripe <sup>a</sup>		

Signals (vehicle) <sup>a,b</sup>	2, 6	Red, yellow, brown	Black	2, 6	14
	4, 8	Red, yellow, brown	Orange	4, 8	14
	1, 5	Red, yellow, brown	None	1, 5	14
	3, 7	Red, yellow, brown	Purple	3, 7	14
	Ramp meter 1	Red, yellow, brown	None	No band required	14
	Ramp meter 2	Red, yellow, brown	Black	No band required	14
Pedestrian signals	2p, 6p	Red, brown	Black	2p, 6p	14
	4p, 8p	Red, brown	Orange	4p, 8p	14
	1p, 5p	Red, brown	None	1p, 5p	14
	3p, 7p	Red, brown	Purple	3p, 7p	14
Push button assembly or accessible pedestrian signal	2p, 6p	Blue	Black	P-2, P-6	14
	4p, 8p	Blue	Orange	P-4, P-8	14
	1p, 5p	Blue	None	P-1, P-5	14
	3p, 7p	Blue	Purple	P-3, P-7	14
Traffic signal controller cabinet	Ungrounded circuit conductor	Black	None	CON-1	6
	Grounded circuit conductor	White	None	CON-2	6
Highway lighting pull box to luminaire	Ungrounded - line 1	Black	None	No band required	14
	Ungrounded - line 2	Red	None	No band required	14
	Grounded	White	None	No band required	14
Multiple highway lighting	Ungrounded - line 1	Black	None	ML1	10
	Ungrounded - line 2	Red	None	ML2	10
	Ungrounded - line 3	White	None	ML3	10
Lighting control	Ungrounded - Photoelectric unit	Black	None	C1	14
	Switching leg from Photoelectric unit or SM transformer	Red	None	C2	14
Service	Ungrounded - line 1 (signals)	Black	None	No band required	6
	Ungrounded - line 2 (lighting)	Red	None	No band required	8
Sign lighting	Ungrounded - line 1	Black	None	SL-1	10
	Ungrounded - line 2	Red	None	SL-2	10
Flashing beacons	Ungrounded between flasher and beacons	Red or yellow	None	FB-Location. <sup>c</sup>	14
Grounded circuit conductor	Push button assembly or accessible pedestrian signal	White	Black	No band required	14
	Signals and multiple lighting	White	None	No band required	10
	Flashing beacons and sign lighting	White	None	No band required	12
	Lighting control	White	None	C-3	14
	Service	White	None	No band	14

				required	
Spares		Black	None	No band required	14

Notes:

<sup>a</sup>On overlaps, the insulation is striped for the 1st phase in the designation, e.g., phase (2+3) conductor is striped as for phase 2.

<sup>b</sup>Band for overlap and special phases as required

<sup>c</sup>Flashing beacons having separate service do not require banding.

**Delete the 4th paragraph of section 86-1.02F(2)(a).**

10-19-18

**Replace the 2nd paragraph of section 86-1.02F(2)(c)(ii) with:**

An equipment grounding conductor must be insulated.

10-19-18

**Replace the 3rd paragraph of section 86-1.02F(3)(d)(ii) with:**

Cable must comply with the requirements shown in the following table:

10-19-18

Cable type	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 stripe, blue/orange stripe, white/black stripe
5CSC	5 no. 14	44	36	0.50	Red, yellow, brown, black, white
9CSC	1 no. 12 8 no. 14	60	48	0.65	No. 12 - white, No. 14 - red, yellow, brown, black, red/black stripe, yellow/black stripe, brown/black stripe, white/black stripe
12CSC	1 no. 12 11 no. 14	60	48	0.80	No. 12 - white No. 14 - red, yellow, brown, black, red/black stripe, yellow/black stripe, brown/black stripe, black/red stripe, black/white stripe, red/white stripe, brown/white stripe
28CSC	1 no. 10 27 no. 14	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

**Replace section 86-1.02F(3)(d)(iv) with:**

04-17-20

**86-1.02F(3)(d)(iv) Railroad Preemption Cables**

A railroad preemption cable must be a 19-conductor cable having a polyvinyl chloride or polyethylene jacket. The cable jacket must be rated for 600 V(ac) and 75 degrees C.

The railroad preemption cable color code must be as shown in the following table:

Conductor no.	Color Code
1	Black
2	White
3	Red
4	Green
5	Orange
6	Blue
7	White/black stripe
8	Red/black stripe
9	Green/black stripe
10	Orange/black stripe
11	Blue/black stripe
12	Black/white stripe
13	Red/white stripe
14	Green/white stripe
15	Blue/white stripe
16	Black/red stripe
17	White/red stripe
18	Orange/red stripe
19	Blue/red stripe

The individual conductors in the cable must:

1. Be stranded and comply with ASTM B286
2. Have Type THW insulation
3. Be 16 AWG

**Replace the 3rd paragraph of section 86-1.02G with:**

10-19-18

The self-adhesive reflective labels must:

1. Be from 3 to 5 mils thick
2. Have all black capital characters on a white background
3. Extend beyond the character by a minimum of 1/4 inch

**Replace the 4th paragraph of section 86-1.02H with:**

10-19-18

PVC electrical tape must have a minimum thickness of 6 mils.

**Replace section 86-1.02K with:**

04-17-20

**86-1.02K Luminaires**

**86-1.02K(1) General**

A luminaire must:

1. Be self-contained, not requiring assembly.
2. Comply with UL 1598 for luminaires in wet locations.
3. Have a power supply with ANSI/IEC 60529 rating of at least IP65.
4. Weigh less than 35 lb.
5. Have a minimum 60,000 hours L70 rating under LM-80 and TM-21 at an ambient temperature of 25 degrees C.
6. Operate over a temperature range from -40 to 130 degrees F.
7. Be operationally compatible with photoelectric controls.
8. Have a nominal correlated color temperature of 3000 K under ANSI C78.377 and a color rendering index of 70 or greater.
9. Have a maximum effective projected area of 1.4 sq ft when viewed from either side or end.
10. Comply with ANSI C136.31.
11. 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. Test voltage will be at 120 V(ac), 240 V(ac), or 480 V(ac).
12. Comply with the maximum power consumption and isofootcandle curves as shown.
13. Be on the Authorized Material List for LED luminaires or must be submitted and passed testing for addition to the AML.

A luminaire must include a surge protection device to withstand high-repetition noise transients caused by utility line switching, 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.

The luminaire must operate over the voltage range:

1. From 95 to 277 V(ac) for luminaires rated 120, 240, or 277 V(ac)
2. From 347 to 480 V(ac) for luminaires rated 480 V(ac)

The fluctuations of line voltage must have no visible effect on the luminous output.

The luminaire's housing, external bolts, screws, hinges, hinge pins, and door closure devices must withstand a 1008 hour cyclic salt fog spray/UV test under ASTM D5894 and an evaluation under ASTM D714 with a blister rating of 8 or greater and no more than medium density.

The luminaire's housing must be marine-grade alloy with less than 0.2 percent copper or die cast aluminum.

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 ANSI/IEC 60529 rating of IP66. The power supply enclosure must be protected to at least an ANSI/IEC 60529 rating of IP43.

If the components are mounted on a down-opening door, the door must be hinged and secured to the luminaire's housing separately from other components. The door must be secured to the housing to prevent accidental opening. A safety cable must mechanically connect the door to the housing.

A 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.

Terminals must be identified and marked.



If needed, 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.

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 must:

1. Comply with Class A emission limits under 47 CFR 15(B) for unintentional radiators.
2. Have a power supply with:
  - 2.1. 2 leads to accept standard 0-10 V(dc) control.
  - 2.2. 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.
  - 2.3. Case temperature self-rise of 77 degrees F or less above ambient temperature in free air with no additional heat sinks.
3. Not be cooled by fans or other mechanical devices.

#### **86-1.02K(2) Roadway Luminaires**

A roadway luminaire must:

1. Have a housing color that matches a color no. 26152 to 26440, 36231 to 36375, or 36440 of AMS-STD-595
2. Have an ANSI C136.41-compliant, locking-type, photocontrol receptacle with dimming connections and a watertight shorting cap
3. Have an upright rating of "U0" per IES TM-15-11
4. Have equipment identification character labels outside the unit on the side that will face the road. Equipment identification characters consist of:
  - 4.1. R1 for Roadway 1, R2 for Roadway 2, R3 for Roadway 3, and R4 for Roadway 4
  - 4.2. Rated wattage

The luminaire's housing must have a slip fitter that 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  $\pm 5$  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 more than 1/32 inch when tightened

#### **86-1.02K(3) Overhead Sign Luminaires**

An overhead sign luminaire must:

1. Have a uniformity average to minimum ratio of 10:1 for the distribution of light reflected on a 16' wide by 12' high sign panel
2. Not allow more than 2.5 percent of the rated lumens to project above 65 degrees measured up from the horizontal plane in the direction of the sign panel
3. Mount at a maximum height of 12 inches above the top of the mounting rails
4. Mount directly to the sign structure as shown or with a mounting adapter that meets the material requirements of the luminaire's housing

Replace section 86-1.02M with:

10-19-18

**86-1.02M Photoelectric Controls**

Photoelectric control types are as shown in the following table:

<b>Photoelectric Control Types</b>	
Control type	Description
I	Pole-mounted photoelectric unit. Test switch and a 15-A circuit breaker per ungrounded conductor, housed in an enclosure.
II	Pole-mounted photoelectric unit. Contactor, a 15-A circuit breaker per ungrounded conductor, and test switch located in a service equipment enclosure.
III	Pole-mounted photoelectric unit. Contactor, a 15-A circuit breaker per ungrounded conductor, 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, a 15-A circuit breaker per ungrounded conductor, 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.

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 *EEL-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. 15 A, 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.

Replace section 86-1.02N with:

10-19-18

**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 13/32 by 1-1/2 inches

Fuse ratings for luminaires are shown in the following table:

Circuit voltage	Fuse voltage rating	Soffit and roadway luminaires
120 V(ac)	250 V(ac)	5 A
240 V(ac)	250 V(ac)	5 A
480 V(ac)	500-600 V(ac)	5 A

Fuse ratings for transformers are shown in the following table:

Circuit voltage	Fuse voltage rating	Fuse current rating for Single phase (two wires) Transformers (primary side)		
		1 kVA	2 kVA	3 kVA
120 V(ac)	250 V(ac)	10 A	20 A	30 A
240 V(ac)	250 V(ac)	6 A	10 A	20 A
480 V(ac)	500-600 V(ac)	3 A	6 A	10 A

Replace section 86-1.02P(1) with:

10-19-18

**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.

Except for a service equipment enclosure, an enclosure must:

1. Be manufactured from steel and either galvanized, cadmium plated, or powder coated
2. Mount to a standard, pole, post, or sign structural frame
3. Provide a minimum space of 2-1/2 inches between the internal components and the enclosure's sides

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.

Replace the 1st paragraph of section 86-1.02P(2) with:

04-19-19

Service equipment enclosure must:

1. Comply with the Electric Utility Service Equipment Requirements Committee
2. Meet the requirements of the service utility

3. Be watertight
4. Be factory wired and manufactured from steel and galvanized or have factory-applied, rust-resistant prime and finish coats, except Types II and III
5. Be marked as specified in NEC to warn of potential electric-arc flash hazards

**Delete the 5th paragraph of 86-1.02P(2).**

04-19-19

**Add between 6th and 7th paragraphs of section 86-1.02P(2):**

Service equipment enclosure must have the meter view windows located on the front side of the enclosure for Types III-AF, BF, CF and DF.

10-19-18

Service equipment enclosure must have the meter view windows located on the back side of the enclosure for Types III-AR, BR, CR and DR.

**Replace the 7th paragraph of section 86-1.02P(2) with:**

The meter area must have a sealable, lockable, weather-tight cover that can be removed without the use of tools.

04-19-19

**Delete the 2nd sentence of the 9th paragraph of section 86-1.02P(2).**

04-19-19

**Delete section 86-1.02P(3).**

10-19-18

**Replace the 1st paragraph of section 86-1.02Q(2) with:**

A Department-furnished controller assembly consists of a controller cabinet with a controller unit and all auxiliary equipment required to operate the system. The Department does not furnish anchor bolts.

04-17-20

**Replace section 86-1.02Q(4)(a) with:**

**86-1.02Q(4)(a) General**

The doors of a telephone demarcation cabinet must be attached using continuous aluminum steel piano hinges.

10-19-18

**Add between the 2nd and 3rd paragraphs of section 86-1.02R(2):**

Bracket arms must be long enough to allow proper alignment of signals and backplate installation.

10-19-18

**Add to the end of section 86-1.02R(3):**

04-17-20

Backplates for signal and lighting systems must have a 2-inch retroreflective strip on the face around the perimeter. The strip must be Type XI fluorescent yellow retroreflective sheeting on the Authorized Material List for signing and delineation materials.

**Replace item 2 in the list in the 5th paragraph of section 86-1.02R(4)(a)(iii) with:**

10-19-18

2. Be a black color throughout, including the door, matching color no. 17038, 27038, or 37038 of AMS-STD-595

**Replace section 86-1.02S(3)(c) with:**

04-17-20

**86-1.02S(3)(c) LED Countdown Pedestrian Signal Face Modules**

An LED countdown PSF module must:

1. Comply with ITE publication ST-055-E, Pedestrian Traffic Control Signal Indicators: Light Emitting Diode (LED) Signal Modules.
2. Be manufactured with materials that comply with ASTM D3935.
3. Have circuit boards that comply with TEES, chapter 1, section 6.
4. Have symbols that are at least 9 inches high and 5-1/4 inches wide each. The 2-digit countdown display, *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.
5. Use ultra-bright-type LED rated for 60,000 hours of continuous operation. 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.
6. Have a manual control to turn on and off the 2-digit countdown display.
7. Have the lot number, month, and year of manufacture permanently marked on the back.
8. Have prominent and permanent vertical markings for accurate indexing and orientation within the pedestrian signal housing. Markings must be a minimum of 1 inch in height and include an up arrow and the word *up* or *top*.

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 (fL)
Upraised hand and 2-digit countdown timer	1,094
Walking person	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

If the pedestrian change interval is interrupted, then the 2-digit countdown timer and display must reset to the full pedestrian change interval before being initiated the next time. The 2-digit countdown display on the PSF module must go dark within a second after displaying "0".

**Add to the beginning of section 86-1.02T:**

Accessible pedestrian signal must be on the Authorized Material List for Accessible Pedestrian Signals.

04-19-19

**Delete the 2nd paragraph of section 86-1.02T.**

04-17-20

**Replace the 5th and 6th paragraphs of section 86-1.02T with:**

The color of a metallic housing must match color no. 33538 of AMS-STD-595.

10-19-18

The color of a plastic housing must match color no. 17038, 27038, or 37038 of AMS-STD-595.

**Replace the 7th paragraph of section 86-1.02T with:**

Accessible pedestrian signal must:

04-19-19

1. Have controllable and programmable volume level and messaging
2. Be weatherproof and shockproof

**Replace the 11th paragraph of section 86-1.02T with:**

The cable between the accessible pedestrian signal assembly and the pedestrian signal head must be rated for outdoor use and have a:

10-19-18

1. Minimum four no. 18 stranded or larger tinned copper conductors with a minimum insulation thickness of 15 mils
2. Cable jacket with a minimum thickness of 20 mils and rated for a minimum:
  - 2.1. 300 V(ac)
  - 2.2. 80 degrees C
3. Nominal outside diameter less than 350 mils
4. Conductor color code of black, white, red and green

**Replace the 1st paragraph of section 86-1.02U with:**

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.

10-19-18

The housing must have a uniform color that matches color no. 17038, 27038, or 37038 of AMS-STD-595.

**Replace the 2nd paragraph of section 86-1.02W(4) with:**

The cured hot-melt rubberized asphalt sealant must comply with the requirements shown in the following table:

10-19-18

**Cured Hot-Melt Rubberized Asphalt Sealant Requirements**

Quality characteristic	Test method	Requirement
Cone penetration, 25 °C, 150 g, 5 s (max, 1/10 mm)	ASTM D5329	35
Flow, 60 °C, 5 hr (max, mm)		5
Resilience, 25 °C (min, %)		25
Softening point (min, °C)	ASTM D36	82
Ductility, 25 °C, 5 cm/min (min, cm)	ASTM D113	30
Flash point, Cleveland Open Cup (min, °C)	ASTM D92	288
Viscosity, no. 27 spindle, 20 rpm, 190 °C (Pa*s)	ASTM D4402	2.5–3.5

Replace the 2nd paragraph of section 86-1.02Y with:

10-19-18

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))	120/240, 120/480, 240/120, 240/480, 480/120, or 480/240
Efficiency (%)	> 95
Secondary voltage regulation and tolerance from half load to full load (%)	±3

AA

**87 ELECTRICAL SYSTEMS**

04-17-20

Replace *Reserved* in section 87-1.01C with:

10-19-18

Submit a digital file for geographic information system mapping for:

1. Conduit
2. Pull boxes
3. Cabinets
4. Service equipment enclosures
5. Standards

The digital file must consist of:

1. Longitudinal and latitude coordinates, under the WGS84 reference coordinate system. The coordinates must be in decimal format having 6 significant figures after the decimal point. Coordinates must be read at the center of pull boxes, cabinet, standards, and service equipment enclosures; and on top of conduit at 20-foot intervals before backfill.
2. Type, depth and size for conduits.
3. Type for pull boxes, standards, cabinets, and service equipment enclosures.

Replace item 4 in the list in the 1st paragraph of section 87-1.01D(2)(a) with:

10-19-18

4. Luminaires

Replace the 2nd paragraph of section 87-1.01D(2)(a) with:

10-18-19

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

Replace section 87-1.01D(2)(d) with:

10-19-18

**87-1.01D(2)(d) Piezoelectric Axle Sensors**

Piezoelectric axle sensors test consists of:

1. Demonstrating for each sensor:
  - 1.1. Capacitance is within 20 percent of the value shown on the sensor's data sheet
  - 1.2. Dissipation factor is less than 0.04 nF when measured in the 20 nF range
  - 1.3. Resistance is greater than 20 Megaohms
2. Collecting a minimum of 100 vehicle records for each lane and demonstrating:
  - 2.1. Volume is within  $\pm 3$  percent accuracy
  - 2.2. Vehicle classification is within 95 percent accuracy by type

Replace the 7th paragraph of section 87-1.03A with:

10-19-18

Notify the Engineer immediately if an existing facility is damaged by your activities:

1. Damaged existing traffic signal systems must be repaired or replaced within 24 hours. If the system cannot be fixed within 24 hours or it is located on a structure, provide a temporary system until the system can be fixed.
2. Damaged existing lighting systems must be repaired or replaced by nightfall. If the system cannot be fixed by nightfall, provide a temporary system until the system can be fixed.

Add to the end of section 87-1.03A:

10-19-18

Collect the geographic information system mapping data.



**Replace the 12th paragraph of section 87-1.03B(1) with:**

10-19-18

For Type 1, 2, and 5 conduits, use threaded bushings and bond them using a jumper. For other types of conduit, use nonmetallic bushings or end bell.

**Replace the 3rd paragraph of section 87-1.03B(3)(a) with:**

10-19-18

Place a minimum of 2 inches of sand bedding in a trench before installing the conduit and 18 inches of slurry cement over the conduit before placing additional backfill material.

10-18-19

The slurry must be pigmented to match color no. 21105 of AMS-STD-595.

**Replace the 1st sentence in the 6th paragraph of section 87-1.03B(3)(c) with:**

10-19-18

Backfill trench with slurry concrete under section 19-3.02E.

**Replace the 9th paragraph of section 87-1.03B(3)(c) with:**

10-19-18

Install innerducts as one continuous unit between vaults. Innerducts may be interrupted inside pull boxes located between vaults and cabinets.

**Replace section 87-1.03C with:**

10-18-19

**87-1.03C Installation of Pull Boxes**

**87-1.03C(1) General**

Install pull boxes no more than 200 feet apart.

Place the cover on the box when not working in it.

**87-1.03C(2) Roadway Pull Boxes**

**87-1.03C(2)(a) General**

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 minimum 6-inch deep 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.

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)(b) Nontraffic Pull Boxes**

For a buried nontraffic pull box, install the electronic marker and set the box such that the top is from 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.

When a pull box is in a structure, modify the base as required.

Place mortar between a nontraffic pull box and a pull box extension.

Where a nontraffic pull box is in the vicinity of a 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 downstream from traffic if practical.

If you replace the cover on a nontraffic pull box, anchor it to the box.

Perform the electronic marker test.

**87-1.03C(2)(c) Traffic Pull Boxes**

Place minor concrete around and under a traffic pull box as shown.

Bolt the steel cover to the box when not working in it.

Bond the steel cover to the conduit with a minimum 3-foot-long jumper and bolt it down after installing the conductors and cables.

**87-1.03C(2)(d) Tamper-Resistant Pull Boxes**

Install the tamper-resistant pull boxes under the manufacturer's instructions.

**87-1.03C(3) Structure Pull Boxes**

Install structure pull boxes parallel to the structure.

After removing the knockouts, flatten the surrounding area.

Bond conduit to a structure pull box using locknuts on the inside and outside of the box.

Cover pull boxes with a 1/4-inch plywood during pouring of PCC. For a no. 9 pull box, the upper edge of the plywood must fit against the lower edge of the rain tight hood.

Install no. 7 pull box with bottom flanges flush with the bottom of the box girder. Place top and bottom covers and seal the pull box during PCC pouring.

For no. 9 and 9A pull boxes:

1. Form a 1:1 chamfer around the cover
2. Use the drain hole in the center if the box is horizontal and the low end drain hole if the box is inclined
3. Mounted in a sloping parapet, drill a 1/2-inch elongated drain hole in the center if the box is horizontal or the low end if the box is inclined

**Replace section 87-1.03D with:**

**87-1.03D Reserved**

10-19-18

**Replace section 87-1.03E(2) with:**

Dig a trench for the electrical conduits or direct burial cables. Do not excavate until the installation of the conduit or direct burial cables.

04-19-19

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.

Compact the backfill to a minimum relative compaction of:

1. 95 percent when placed within the hinge points and in areas where pavement is to be constructed
2. 90 percent when placed outside the hinge points and not under pavement

Restore the sidewalks, pavement, and landscaping at a location before starting excavation at another location.

**Replace section 87-1.03E(3) with:**

10-19-18

**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.

Construct a pad in front of a Type III service equipment enclosure. The pad must be 24 inches in length, 4 inches in thickness, and must match the width of the foundation.

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 336L cabinets
2. 1 foot 8 inches above the grade for Type C telephone demarcation cabinets
3. 2 inches above the grade for Type III service equipment enclosures

The pad must be 2 inches above the surrounding grade in unpaved areas.

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 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 in paved areas.

Apply an ordinary surface finish under section 51-1.03F.

Allow the foundation to cure for at least 7 days before installing any equipment.

**Add between the 3rd and 4th paragraphs of section 87-1.03F(1):**

04-17-20

Provide conductor and cable slack to comply with the requirements shown in the following table:

**Conductor and Cable Slack Requirements**

Location	Slack (feet)
Signal standard	1
Lighting standard	1
Signal and lighting standard	1
Pull box	3
Splice	3
Controller cabinet	6
Standards with slip base	0

**Replace the last paragraph of section 87-1.03F(1) with:**

Install a tracer wire.

04-19-19

**Replace section 87-1.03F(2) with:**

**87-1.03F(2) Cables**

04-17-20

**87-1.03F(2)(a) General**

Reserved

**87-1.03F(2)(b) Communication Cables**

**87-1.03F(2)(b)(i) General**

Terminate the ends of the communication cables as shown.

**87-1.03F(2)(b)(ii) Category 5E and 6 Cables**

Do not splice category 5E and 6 cables.

**87-1.03F(2)(b)(iii) Telephone Cables**

Do not splice telephone cables between the telephone demarcation point and the controller cabinet.

**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.

Seal 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 when connecting to loop wire.

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 <sup>a</sup> , OLC <sup>a</sup>
Brown/2 silver stripes	Overlap A, C	OLA <sup>c</sup> , OLC <sup>c</sup>
Red/2 purple stripes	Overlap B, D	OLB <sup>a</sup> , OLD <sup>a</sup>
Brown/2 purple stripes	Overlap B, D	OLB <sup>c</sup> , OLD <sup>c</sup>
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 <sup>b</sup> , OLC <sup>b</sup>
Blue/purple stripe	Overlap B, D	OLB <sup>b</sup> , OLD <sup>b</sup>
White/black stripe	Pedestrian push button common	--
Black/red stripe	Spare	--
Black	Spare	--
White	Terminal block	Neutral

OL = Overlap; A, B, C, and D = Overlapping phase designation

<sup>a</sup>For red phase designation

<sup>b</sup>For yellow phase designation

<sup>c</sup>For 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**

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(2)(c)(v) Railroad Preemption Cables**

Do not splice railroad preemption cable from controller cabinet to railroad cabinet.

Terminate individual conductors with ferrule connectors in the controller cabinet.

Provide identification on both ends of the cable and connect the cable end in the controller cabinet as shown in the following table:

**Color Code and Functional Connection**

Conductor no.	Color Code	Controller Cabinet Field Terminal Connections	Conductor Identification
1	Black	Not Used	Spare
2	White	Not Used	Spare
3	Red	FT8-A145	Health Status DC+
4	Green	Not Used	Spare
5	Orange	FT7-A134	Simultaneous DC-
6	Blue	FT7-A131	Advance DC-
7	White/black stripe	Not Used	Spare
8	Red/black stripe	FT8-A144	Gate Down/Island
9	Green/black stripe	Feld Terminal FT8-A142	Advance Pedestrian Preemption
10	Orange/black stripe	FT7-A135	Simultaneous Primary
11	Blue/black stripe	FT7-A132	Advance Primary
12	Black/white stripe	Not Used	Spare
13	Red/white stripe	FT8-A143	Gate Down/Island DC-
14	Green/white stripe	FT8-A141	Advance Pedestrian Preemption DC-
15	Blue/white stripe	FT7-A133	Advance Secondary
16	Black/red stripe	Not Used	Spare
17	White/red stripe	FT8-A146	Health Status DC-
18	Orange/red stripe	FT7-A136	Simultaneous Secondary
19	Blue/red stripe	Not Used	Spare

Keep all exposed conductors the same length and individually insulate spare conductors against each other.

Provide a minimum 6 feet of slack in the pull box adjacent to the railroad cabinet.

Connect the cable end in the railroad cabinet as directed by the railroad agency representative.

**Delete the 4th paragraph of 87-1.03F(3)(a).**

04-17-20

**Replace the 1st paragraph of section 87-1.03F(3)(c)(ii) with:**

Install a Type 1 or 2 inductive loop conductor except use Type 2 for Type E and F loop detectors.

10-19-18

**Delete the last paragraph of section 87-1.03G.**

10-19-18

**Replace the 4th paragraph of section 87-1.03H(2) with:**

Use Method B as follows:

10-19-18

1. Cover the splice area completely with an electrical insulating coating and allow it to dry.
2. Apply 3 layers of half-lapped, PVC electrical tape.
3. Apply 2 layers of butyl-rubber, stretchable tape with liner.
4. Apply 3 layers of half-lapped, PVC, pressure-sensitive, adhesive tape.
5. Cover the entire splice with an electrical insulating coating and allow it to dry.

**Replace section 87-1.03N with:**

10-19-18

**87-1.03N Fused Splice Connectors**

Install a fuse splice connector with a fuse in each ungrounded conductor for luminaires, except for overhead sign luminaires. The connector must be located in the pull box adjacent to the luminaires.

If the pull box for the roadway luminaire is tamper resistant, install a fuse splice connector with 10 A fuse in the pull box and an additional fuse splice connector with a 5 A fuse in the handhole.

Install a fuse splice connector with a fuse on primary side of transformer.

Crimp the connector terminals onto the ungrounded conductors using a tool under the manufacturer's instructions. Insulate the terminals and make them watertight.

**Add to the end of section 87-1.03T:**

10-19-18

When replacing an existing accessible pedestrian signal, the housing color must match the color of the existing housing.

**Add to the end of section 87-1.03U:**

10-19-18

When replacing an existing push button assembly, the housing color must match the color of the existing housing.

**Delete the 9th paragraph for section 87-1.03V(2).**

04-17-20

**Add between the 1st and 2nd paragraphs of section 87-1.03Y:**

04-19-19

Use a submersible type transformer inside pull boxes.

**Replace the 2nd paragraph of section 87-2.03A with:**

10-19-18

Tighten the cap screws of the luminaire's clamping bracket to 10 ft-lb for roadway luminaires.

**Replace section 87-3 with:**

10-19-18

**87-3 SIGN ILLUMINATION SYSTEMS**

**87-3.01 GENERAL**

Section 87-3 includes specifications for constructing sign illumination systems.

Sign illumination system includes:

1. Foundations
2. Pull boxes
3. Conduit



4. Conductors
5. Overhead sign luminaires
6. Service equipment enclosure
7. Photoelectric control

The components of a sign illumination system are shown on the project plans.

#### **87-3.02 MATERIALS**

Reserved

#### **87-3.03 CONSTRUCTION**

Perform the conductor test.

Install overhead sign luminaires under the manufacturer's instructions.

Do not modify the sign structure or mounting channels.

Perform the operational tests for the system.

#### **87-3.04 PAYMENT**

Not Used

**Replace section 87-4 with:**

### **87-4 SIGNAL AND LIGHTING SYSTEMS**

04-17-20

#### **87-4.01 GENERAL**

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 and cables
5. Standards
6. Signal heads
7. Service equipment enclosure
8. Department-furnished controller assembly
9. Detectors
10. Telephone demarcation cabinet
11. Accessible pedestrian signals
12. Push button assemblies
13. Pedestrian signal heads
14. Luminaires
15. Photoelectric control
16. Fuse splice connectors
17. Battery backup system
18. Flashing beacons
19. Flashing beacon control assembly

The components of a signal and lighting system are shown on the project plans.

#### **87-4.02 MATERIALS**

##### **87-4.02A General**

Not used

**87-4.02B Railroad Preemption**

A wire jumper for railroad preemption must be:

1. Stranded
2. 14 AWG
3. White with red stripes

**87-4.03 CONSTRUCTION**

**87-4.03A General**

Set the foundation for a standard such that the mast arm is perpendicular to the centerline of the roadway.

Tighten the cap screws of the roadway luminaire's clamping bracket to 10 ft-lb.

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 Railroad Preemption**

Connect the C16 harness plug to the C16 socket on the Output File no. 2LX in the controller cabinet.

Connect the terminated conductors of the C16 harness to terminal block TB9 on input panel no.1 in the controller cabinet as shown in the following table:

**Input Panel No. 1 Connections**

Pin	Label	TB9
1	J-12D	4
2	J-12J	5
3	J-13D	7
4	J-13J	8
5	J-14D	10
6	J-14J	11

Terminate wire jumpers with spade connectors on both ends.

Connect three wire jumpers approximately 4 feet in length as show in the following table:

**Jumper Connections**

Jumper	Bus	TB9
1	DC-	6
2	DC-	9
3	DC-	12

Connect three wire jumpers approximately 2 inches in length as show in the following table:

**Jumper Connections**

Jumper	Terminal Block	Pin	Pin
1	TB-12	5	7
2	TB-13	5	7
3	TB-14	5	7

**87-4.04 PAYMENT**

Not Used

Replace section 87-7.02 with:

10-19-18

### 87-7.02 MATERIALS

Flashing beacon control assembly includes:

1. Enclosure.
2. 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. Solid state flasher complying with section 8 of NEMA standards publication no. TS 1 for 10 A, dual circuits.
4. 15-A, circuit breaker per ungrounded conductor.
5. Single-hole-mounting toggle type, single-pole, single-throw switches rated at 12-A, 120 V(ac). Switches must be furnished with an indicating nameplate reading *Auto - Test*. A 15-A circuit breaker may be used in place of the toggle switch.

Replace 87-8 with:

10-19-18

## 87-8 PEDESTRIAN HYBRID BEACON SYSTEMS

### 87-8.01 GENERAL

#### 87-8.01A Summary

Section 87-8 includes specifications for constructing pedestrian hybrid beacon system.

A pedestrian hybrid beacon system includes:

1. Foundations
2. Pull boxes
3. Conduit
4. Conductors and cables
5. Standards
6. Pedestrian hybrid beacon face
7. Pedestrian signal heads
8. Service equipment enclosure
9. Department-furnished controller assembly
10. Accessible pedestrian signals
11. Push button assemblies
12. Luminaires
13. Fuse splice connectors
14. Battery backup system

The components of a pedestrian hybrid beacon system are shown on the project plans.

#### 87-8.01B Definitions

Reserved

#### 87-8.01C Submittals

Reserved

#### 87-8.01D Quality Assurance

##### 87-8.01D(1) General

Reserved

##### 87-8.01D(2) Quality Control

04-17-20

Verify the sequence for the pedestrian hybrid beacon system per California *MUTCD*, Chapter 4F, Figure 4F-3 "Sequence for a Pedestrian Hybrid Beacon" during the operational test.

10-19-18

Test the battery backup system under section 87-1.01D(2)(c).

### **87-8.02 MATERIALS**

#### **87-8.02A General**

The system must comply with California *MUTCD*, Chapter 4F.

The battery backup system must comply with section 87-4.02B.

#### **87-8.02B Pedestrian Hybrid Beacon Face**

A pedestrian hybrid beacon face consists of three 12-inch signal heads.

### **87-8.03 CONSTRUCTION**

Install pedestrian hybrid beacon system under sections 87-4.03A and 87-4.03B.

### **87-8.04 PAYMENT**

Not Used

### **Replace the 1st paragraph of section 87-12.03 with:**

Install changeable message sign on sign structure under section 56-2.

10-19-18

### **Replace section 87-14.02 with:**

### **87-14.02 MATERIALS**

#### **87-14.02A General**

Vehicle speed feedback sign consists of a housing, display window, and radar unit.

Sign must:

1. Comply with the California *MUTCD*, Chapter 2B
2. Have an operating voltage of 120 V(ac) for permanent installations
3. Have a maximum weight of 45 lb
4. Have a wind load rating of 90 mph
5. Have an operating temperature range from -34 to 165 degrees F
6. Have a retroreflective white sheeting background

10-19-18

#### **87-14.02B Housings**

Housing must:

1. Be weatherproof (NEMA 3R or better) and vandal resistant
2. Be made of 0.09-inch-gauge welded aluminum with the outer surfaces being UV resistant
3. Have the manufacturer's name, model number, serial number, date of manufacture, rated voltage and rated current marked inside
4. Have the internal components easily accessible for field repair without removal of the sign

#### **87-14.02C Display Windows**

Display window consists of a cover, LED character display, and dimming control. Character display and cover must deflect together without damage to the internal electronics and speed detection components.

Cover must be:

1. Vandal resistant and shock absorbent
2. Field replaceable with the removal of external stainless-steel, tamper proof fasteners

Cover must be made of a minimum 0.25-inch-thick, shatter-resistant polycarbonate.

LED character display must:

1. Consist of two 7-segment, solid-state, numeric characters, which must:
  - 1.1. Be a minimum 15 inches in height
  - 1.2. Be visible from a minimum distance of 1500 feet and legible from a minimum distance of 750 feet
  - 1.3. Consist of a minimum 16 LEDs, which must:
    - 1.3.1. Be amber and have a wavelength from 590 to 600 nm and rated for minimum 60,000 hours
    - 1.3.2. Maintain a minimum 85 percent of the initial light output after 48 months of continuous use over the temperature range
2. Be capable of displaying the detected vehicle speed within 1 second
3. Remain blank when no vehicles are detected within the radar detection zone
4. Have the option to flash the pre-set speed limit when the detected vehicle speed is 5 miles higher than the pre-set speed
5. Be viewable only by the approaching traffic

Dimming control must:

1. Automatically adjust the character light intensity to provide optimum character visibility and legibility under all ambient lighting conditions
2. Have minimum 3 manual dimming modes of different intensities

#### 87-14.02D Radar Units

Radar unit must:

1. Be able to detect up to 3 lanes of approaching traffic
2. Operate with an internal, low power, 24.159 GHz (K-band)
3. Be FCC approved Part 15 certified
4. Have a speed accuracy of  $\pm 1$  mph
5. Have a maximum 15 W power consumption

**Add to the list in the 2nd paragraph of section 87-18.01:**

4. 12 position terminal block

**Replace section 87-18.02 with:**

#### 87-18.02 MATERIALS

Terminal block must comply with TEES, chapter 1, section 3.

**Replace the 2nd paragraph of section 87-18.03 with:**

Install the terminal block on the input panel in the controller cabinet.

Connect the signal interconnect cable to the terminal block as shown on the following table:

**Signal Interconnect Termination**

Terminal Block	Color
1	BLUE
2	BLACK
3	RED
4	BLACK
5	BROWN
6	BLACK
7	GREEN
8	BLACK
9	YELLOW
10	BLACK
11	WHITE
12	BLACK

**Replace 87-19 with:**

10-19-18

**87-19 FIBER OPTIC CABLE SYSTEMS**

**87-19.01 GENERAL**

**87-19.01A Summary**

Section 87-19 includes specifications for constructing fiber optic cable systems.

A fiber optic cable system includes:

1. Conduit and accessories
2. Vaults
3. Warning tape
4. Fiber optic cables
5. Fiber optic splice enclosures
6. Fiber distribution units
7. Fiber optic markers
8. Fiber optic connectors and couplers

The components of a fiber optic system are shown on the project plans.

**87-19.01B Definitions**

Reserved

**87-19.01C Submittals**

At least 15 days before cable installation, submit:

1. Manufacturer's procedures for pulling fiber optic cable
2. Test reports from a laboratory accredited to International Standards Organization/International Electrotechnical Commission 17025 by the American Association for Laboratory Accreditation (A2LA) or the ANSI-ASQ National Accreditation Board (ANAB) for:
  - 2.1. Water penetration
  - 2.2. Cable temperature cycling
  - 2.3. Cable impact
  - 2.4. Cable tensile loading and fiber strain
  - 2.5. Cable compressive loading
  - 2.6. Compound flow
  - 2.7. Cyclic flexing
3. Proof of calibration for the test equipment including:
  - 3.1. Name of calibration facility

- 3.2. Date of calibration
- 3.3. Type of equipment, model number and serial number
- 3.4. Calibration result

Submit optical time-domain reflectometer data files for each test in a Microsoft Excel format.

After performing the optical time-domain reflectometer test and the power meter and light source test, submit within 4 business days a hard copy and electronic format:

1. Cable Verification Worksheet
2. Segment Verification Worksheet
3. Link Loss Budget Worksheet

The worksheets are available at the Division of Construction website.

### **87-19.01D Quality Assurance**

#### **87-19.01D(1) General**

Reserved

#### **87-19.01D(2) Quality Control**

Notify the Engineer 4 business days before performing field tests. Include exact location of the system or components to be tested. Do not proceed with the testing until authorized. Perform each test in the presence of the Engineer.

The optical time-domain reflectometer test consists of:

1. Inspecting the cable segment for physical damage.
2. Measuring the attenuation levels for wavelengths of 1310 and 1550 nm in both directions for each fiber using the optical time-domain reflectometer.
3. Comparing the test results with the data sheet provided with the shipment. If there are attenuation deviations greater than 5 percent, the test will be considered unsatisfactory and the cable segment will be rejected. The failure of any single fiber is a cause for rejection of the entire segment. Replace any rejected cable segments and repeat the test.

The power meter and light source test consists of:

1. Testing each fiber in a link using a light source at one end of the link and a power meter at the other end
2. Measuring and recording the power loss for wavelengths of 1310 and 1550 nm in both directions

Index matching gel is not allowed.

Installation and splicing of the fiber optic cable system must be performed by a certified fiber optic installer.

The optical time-domain reflectometer test and the power meter and light source test must be performed by a certified fiber optic technician.

The certification for the fiber optic installer and fiber optic technician must be from an organization recognized by the International Certification Accreditations Council and must be current throughout the duration of the project.

### **87-19.02 MATERIALS**

#### **87-19.02A General**

All metal components of the fiber optic cable system must be corrosion resistant.

All connectors must be factory-installed and tested.

Patch cords, pigtails, and connectors must comply with ANSI/TIA-568.

Pigtails must have a minimum 80 N pull out strength.

A splice cassette may be used in place of a pigtail and a splice tray.

Each cable reel must have a weatherproof label or tag with information specified in ANSI/ICEA S-87-640 including:

1. Contractor's name
2. Contract number
3. Number of fibers
4. Cable attenuation loss per fiber at 1310 and 1550 nm

The labeled or tagged information must also be in a shipping record in a weatherproof envelope. The envelope must be removed only by the Engineer.

#### **87-19.02B Vaults**

A vault must:

1. Comply with section 86-1.02C and AASHTO HS 20-44, and load tested under AASHTO M 306.
2. Be a minimum:
  - 2.1. 4 feet wide by 4 feet high by 4 feet long nominal inside dimensions for box type.
  - 2.2. 4 feet high by 4 feet outside diameter for round type.
3. Have a minimum access of:
  - 3.1. 30 inches diameter for round type.
  - 3.2. 3 feet wide by 3 feet long for box type.
4. Be precast either modular or monolithic.
5. Have cable racks installed on the interior sides. A rack must:
  - 5.1. Be fabricated from ASTM A36 steel plate.
  - 5.2. Support a minimum of 100 pounds per rack arm.
  - 5.3. Support a minimum of 4 splice enclosures and a minimum of 4 cables with a minimum slack of 50 feet each.
  - 5.4. Be hot-dip galvanized after manufacturing.
  - 5.5. Be bonded and grounded.
6. Have a minimum:
  - 6.1. Two 4-inch diameter knockouts on each side for box type.
  - 6.2. Two 4-inch diameter knockouts placed every 90 degrees for round type.
7. Have a minimum 2-inch-diameter drain hole at the center of base.

Entry points for knockouts must not cause the cable to exceed its maximum bend radius.

The access cover must:

1. Be a two-piece torsion-assisted sections or a minimum 30-inch-diameter cast iron.
2. Have inset lifting pull slots.
3. Have markings *CALTRANS* and *FIBER OPTIC*.

#### **87-19.02C Fiber Optic Cable**

The fiber optic cable must:

1. Comply with 7 CFR parts 1755.900, 1755.901, and 1755.902, and ANSI/ICEA S-87-640
2. Be a singlemode, zero-dispersion, and have non-gel loose type buffer tubes
3. Have no splices
4. Have a Type H or Type M outer jacket
5. Be shipped on a reel
6. Have 10 feet of length on each end of the cable accessible for testing

#### **87-19.02D Fiber Optic Splice Enclosures**

A fiber optic splice enclosure must:

1. Not exceed 36 inches in length, 8 inches in width, and 8 inches in height
2. Be made of thermoplastic material, weather proof, chemical and UV resistant, and re-sealable



3. Accommodate a minimum of 8 internal splice trays
4. Have from 1/4 to 1 inch in diameter cable entry ports
5. Have brackets, clips and cable ties
6. Have means to anchor the dielectric member of the fiber optic cable
7. Include grounding hardware

#### **87-19.02E Fiber Distribution Units**

The fiber distribution unit consists of a housing, a patch panel, a 12-multicolor pigtail, and a splice tray.

The fiber distribution unit must be self-contained and pre-assembled.

The housing must:

1. Be a 19-inch rack-mountable modular-metal enclosure
2. Be a one rack unit
3. Have cable clamps to secure buffer tube to the chassis
4. Have cable accesses with rubber grommets or similar material to prevent the cable from coming in contact with the bare metal
5. Be weatherproof
6. Have a hinged top door with a latch or thumbscrew to hold it in the closed position

A patch panel must have a minimum of 12-singlefiber type connector sleeves.

A pigtail must:

1. Be a simplex single mode fiber in a 900  $\mu\text{m}$  tight buffer with a 12-inch-outer-diameter PVC jacket
2. Have a fiber optic connector attached on one end and bare fiber on the other end
3. Be at least 3 feet in length
4. Have the manufacturer's part number on the jacket

Pigtails must be single-fiber or ribbon type.

#### **87-19.02F Patch Cords**

Patch cords must:

1. Be a singlemode fiber in a 900  $\mu\text{m}$  tight buffer with a 0.12-inch-outer-diameter PVC jacket
2. Have fiber optic connectors attached on both ends
3. Be at least 6 feet in length
4. Have manufacturer's part number on the jacket

Duplex patch cords must be of round cable structure, and not have zip-cord structure.

#### **87-19.02G Splice Trays**

Splice trays must:

1. Have brackets to spool incoming fibers a minimum of 2 turns.
2. Have means to secure and protect incoming buffer tubes, pigtails, and a minimum of 12 heat shrink fusion splices.
3. Be stackable.
4. Have a snap-on or hinged cover. The cover may be transparent.

#### **87-19.02H Fiber Optic Markers**

Fiber optic markers must be:

1. Type K-2 (CA) object markers for vaults or pull boxes.
2. Disk markers for paved areas and transition points from unpaved to paved areas. The disk marker must be metallic, lead free and 4 inches in diameter, and must have a mounting stem at the center of the disk. The mounting stem must be a minimum 3 inches long and a minimum 0.70 inch in diameter.
3. Non-reflective Class 1, Type F, flexible post delineators for unpaved areas.

### **87-19.02I Fiber Optic Connectors and Couplers**

Connectors must be:

1. 0.1-inch ceramic ferrule pre-radiused type
2. Capped when not used

Couplers must be made of the same material as the connector's housing and have ceramic sleeves.

Singlemode fiber optic connectors must have a yellow strain relief boot or a yellow base.

### **87-19.03 CONSTRUCTION**

#### **87-19.03A General**

Perform the optical time-domain reflectometer test:

1. On the fiber optic cable upon its arrival to the job site and before its installation. Complete the Cable Verification Worksheet. Do not install the fiber optic cable until the Engineer's written approval is received.
2. After the fiber optic cable segments have been pulled, but before breakout and termination. Complete the Segment Verification Worksheet.
3. Once the passive cabling system has been installed and is ready for activation. If the measured individual fusion splice losses exceed -0.30 dB, re-splice and retest. At the conclusion of the optical time-domain reflectometer test, perform the power meter and light source test. If the measured link loss exceeds the calculated link loss, replace the unsatisfactory cable segments or splices and retest. Complete the Link Loss Budget Worksheet.

#### **87-19.03B Vaults Installation**

Install a vault as shown and with the side facing the roadway a minimum of 2 feet from the edge of pavement or back of dike, away from traffic.

Install the top of the vault flush with surrounding grade in paved areas and 2 inches above the surrounding grade in unpaved areas.

Place 6 inches of minor concrete around vaults. In unpaved areas, finish top of concrete at a 2 percent slope away from cover. In paved areas, finish top of concrete to match existing slope.

Bolt the steel cover to the vault when not working in it.

#### **87-19.03C Fiber Optic Cable Installation**

Install fiber optic cable by a certified installer or a representative from the fiber optic cable manufacturer during installation.

When using mechanical aids to install fiber optic cable:

1. Maintain a cable bend radius at least twenty times the outside diameter of the cable
2. Use cable grips having a ball bearing swivel
3. Use a pulling force on a cable not to exceed 500 pound-foot or manufacturer's recommended pulling tension, whichever is less

When installing the cable using the air blown method, the cable must withstand a static air pressure of 110 psi.

Lubricate the cable using a lubricant recommended by the cable manufacturer.

Install fiber optic cable without splices except where shown.

Provide a minimum of 65 feet of slack for each fiber optic cable at each vault. Divide the slack equally on each side of the splice enclosure.

04-17-20

Install tracer wires in the fiber optic conduits and innerducts as shown. Provide a minimum 3 feet of slack tracer wire in each pull box and splice vault from each direction. You may splice tracer wire at intervals of not less than 500 feet and only inside splice vaults or pull boxes.

10-19-18

If a fiber optic cable and tracer wire is installed in an innerduct, pulling a separate fiber optic cable into a spare duct to replace damaged fiber will not be allowed.

Apply a non-hygroscopic filling compound to fiber optic cable openings.

Seal the ends of conduit and innerducts after cables are installed.

Install strain relief for fiber optic cable entering a fiber optic enclosure.

Identify fibers and cables by direct labeling, metal tags, or bands fastened in such a way that they will not move. Use mechanical methods for labeling.

Provide identification on each fiber optic cable or each group of fiber optic cables in each vault and at the end of terminated fibers. Fiber optic cable must be identified as shown in the following table:

**Cable Identification<sup>a</sup>**

Sequence order	Description	Code	Numbers of characters
1	Fiber type	S: Singlemode	1
2	Fiber count	###: Example 048	3
3	Begin point	T: TMC H: Hub V: Video Node D: Data Node C: Cable Node TV: Camera CM: CMS E: Traffic Signal RM: Ramp Meter TM: Traffic Monitoring/ Count Station/Vehicle Count Station (VDS, TMS) HA: Highway Advisory Radio EM: Extinguishable Message Sign RW: Roadway Weather Information System WM: Weigh In Motion WS: Weigh-Station Bypass System SV: Vault SC: Splice Cabinet	1 or 2
4	Begin point county abbreviation	AA or AAA: Examples: Orange (ORA), San Mateo (SM)	2 or 3
5	Begin point route number	###: Examples: 005, 082, 114	3
6	Begin point post mile	#####: 02470 (example 024.70): Actual PM value to the 1/100 value	5
7	End Point	In the same way as for Begin Point	1 or 2
8	End point county abbreviation	In the same way as for Begin Point County Abbreviation	2 or 3
9	End point route number	In the same way as Begin Point Route Number	3
10	End point post mile	In the same way as Begin Point Post Mile	5

<sup>a</sup>Cable identification example: The cable code S 048 SV SM 084 02470 SV SC 082 02510 describes a singlemode, 48 strand, cable starting at a fiber optic vault in San Mateo County on Route 84 at post mile 24.70, and ending at another fiber optic vault in Santa Clara County on Route 82 at post mile 25.10.

Place labels on the cables at the following points:

1. Fiber optic vault and pull box entrances and exits
2. Splice enclosures entrance and exit
3. Fiber distribution unit entrance

Lace fiber optic cable inside controller cabinets and secure to the cage.

Support the fiber optic cable within 6 inches from a termination and every 2 feet.

Secure fiber optic cables to the cable racks. Store excess cable in a figure 8 fashion.

#### **87-19.03D Fiber Optic Cable Splices**

Use fusion splicing for fiber optic cables.

Splice single-buffer tube cable to multi-buffer tube cable using the mid-span access method under manufacturer's instructions. Any mid-span access splice or fiber distribution unit termination must involve only those fibers being spliced as shown.

Place fiber splices in the splice enclosures installed in the vaults.

#### **87-19.03E Splice Enclosures Installation**

Maintain an equal amount of slack on each side of the splice enclosure.

Secure the fiber optic splices in splice tray.

Secure the splice trays to the inner enclosure.

Label cables and buffer tubes.

Do not seal fiber splice enclosure until authorized and the power meter and light source test is performed. Seal the enclosure under manufacturer's instructions.

Flash test the outer enclosure under manufacturer's instructions in the presence of the Engineer. Visually inspect the enclosure. If bubbles are present, identify the locations where the bubbles are present, take corrective actions and repeat the flash test until no bubbles are present.

Attach the splice enclosure to the side wall of a vault or hub with a minimum 2 feet distance between the ground and the bottom of the enclosure.

Secure fiber optic cables to the chassis using cable clamps for fiber optic units.

Connect a minimum of one bonding conductor to a grounding electrode after mounting the fiber optic enclosure to the wall. If there are multiple bonding conductors, organize the conductors in a neat way.

#### **87-19.03F Fiber Optic Distribution Unit Installation**

Spool incoming buffer tubes 2 feet in the splice tray and expose 1 foot of individual fibers.

Maintain a minimum 2-inch-bend radius during and after installation in the splice tray.

Splice incoming fibers in the splice tray.

Restrain each fiber in the splice tray. Do not apply stress on the fiber when located in its final position.

Secure buffer tubes near the entrance of the splice tray.

Secure splice trays under manufacturer's instructions.

Label splice tray after splicing is completed.

Install patch cords in fiber distribution units and patch panels. Permanently label each cord and each connector in the panel with the system as shown.

#### **87-19.03G Fiber Optic Markers Installation**

Install fiber optic markers at 12-inch offset on the side furthest away from the edge of travel way:

1. For fiber optic cable at 500 feet apart in areas where the distance between vaults or pull boxes is greater than 500 feet
2. Adjacent to vaults and pull boxes
3. For fiber optic cable turns at:
  - 3.1. Beginning of the turn
  - 3.2. Middle of the arc

### 3.3. End of the turn

When a fiber optic cable crosses a roadway or ramp, install a disk marker over the conduit trench on:

1. Every shoulder within 6 inches from the edge of pavement
2. Delineated median
3. Each side of a barrier

Install markers under section 81 except each retroreflective face must be parallel to the road centerline and facing away from traffic.

#### **87-19.04 PAYMENT**

Not Used

Replace section 87-20 with:

04-17-20

### **87-20 TEMPORARY ELECTRICAL SYSTEMS**

#### **87-20.01 GENERAL**

Section 87-20 includes specifications for providing, maintaining, and removing temporary electrical systems.

Temporary systems may be mounted on wood posts or trailers.

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.

A temporary electrical system must have a primary power source and a back-up power source from:

1. Commercial utility company
2. Generator system
3. Photovoltaic system

#### **87-20.02 MATERIALS**

##### **87-20.02A General**

Temporary wood poles must comply with section 48-6.

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.

A back-up power source must:

1. Have an automatic transfer switch
2. Start automatically and transfer the system load upon reaching the operating voltage in the event of a power source failure

A trailer must be equipped with devices to level and plumb the temporary system.

##### **87-20.02B Generators**

A generator must:

1. Be 120 V(ac) or 120/240 V(ac), 60 Hz, 2.5 kW minimum, continuous-duty type
2. Be powered by a gasoline, LPG, or diesel engine operating at approximately 1,800 rpm with an automatic oil feed
3. Be equipped to provide automatic start-stop operation with a 12 V starting system
4. Have generator output circuits that have overcurrent protection with a maximum setting of 15 A

5. Have a spark arrester complying with Pub Cont Code § 4442

#### **87-20.02C Automatic Transfer Switches**

An automatic transfer switch must provide:

1. Line voltage monitoring in the event of a power outage that signals the back-up power source to start
2. Start delay, adjustable from 0 to 6 seconds, to prevent starting if the power outage is only momentary and a stop delay, adjustable from 0 to 8 minutes, to allow the back-up power source to unload
3. Transfer delay from 0 to 120 seconds to allow the back-up power source to stabilize before connecting to the load and retransfer delay from 0 to 32 minutes to allow the line voltage to stabilize
4. Mechanical interlock to prevent an application of power to the load from both sources and to prevent backfeeding from the back-up power source to the primary power source

#### **87-20.02D–87-20.02G Reserved**

#### **87-20.02H Temporary Flashing Beacon Systems**

A temporary flashing beacon system consists of a flashing beacon system, wood pole, and a power source.

The system must comply with the specifications for flashing beacon systems in section 87-7.

#### **87-20.02I Temporary Lighting Systems**

A temporary lighting system consists of a lighting system, a power source, and wood poles.

The system must comply with the specifications for lighting systems in section 87-2.

#### **87-20.02J Temporary Signal Systems**

A temporary signal system consists of a signal and lighting system, wood poles and posts, and a power source.

The system must comply with the specifications for signal and lighting systems in section 87-4, except signal heads may be mounted on a wood pole, mast arm, tether wire, or a trailer.

#### **87-20.02K Temporary Radar Speed Feedback Sign Systems**

A temporary radar speed feedback sign system must comply with the specifications for a radar speed feedback sign system in section 87-14, except, the LED character display must remain blank when no vehicles are detected or when the detected vehicle speed is 10 miles less than the preset speed.

### **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.

Commercial power must be 120 V(ac) or 120/240 V(ac) single phase. Make arrangements with the utility company for providing service. Protect the power source in a locked enclosure. Provide keys to all locks to the Engineer.

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.

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–87-20.03G Reserved**

**87-20.03H Temporary Flashing Beacon Systems**

Protect each flashing beacon with a fused splice connector on the line side. Wherever conductors are run overhead, install the fused splice connector in the line side outside of the control assembly.

**87-20.03I Temporary Lighting Systems**

Protect each luminaire with a fused splice connector on the line side. Wherever conductors are run overhead, install the fused splice connectors in the line side before entering the mast arm.

**87-20.03J 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.

**87-20.03K Reserved**

**87-20.04 PAYMENT**

Not Used

**Add between the 1st and 2nd paragraphs of section 87-21.03A:**

Remove foundation under section 56-3.01C(2)(a).

04-17-20

**Add to section 87-21.03A:**

Remove electrical equipment, designated as a hazardous waste.

04-17-20

**Replace item 7 in the list in the 2nd paragraph of section 87-21.03B(2) with:**

7. Camera system

10-19-18

\*\*\*\*\*



## DIVISION XI MATERIALS

### 90 CONCRETE

10-18-19

**Add to section 90-1.01B:**

**CIP structural concrete members:** CIP components of bridge structures, piling, retaining walls, sound walls, box culverts, drainage inlets, approach slabs, bridge railing, and bridge barriers. 10-18-19

**Replace section 90-1.01C(6) with:**

10-18-19

#### **90-1.01C(6) Mix Design**

##### **90-1.01C(6)(a) General**

Submit the concrete mix design before using the concrete in the work and before changing the mix proportions or an aggregate source.

##### **90-1.01C(6)(b) Cast-In-Place Structural Concrete Members**

For CIP structural concrete members, submit with your mix design results from the tests specified in 90-1.01D(10)(d) and the results from the tests shown in the following table:

Quality characteristic	Test method
Specific gravity and absorption of coarse aggregate	ASTM C127
Specific gravity and absorption of fine aggregate	ASTM C128
Durability index for fine aggregate	California Test 229
Soundness	California Test 214
Resistance to degradation	ASTM C131
Organic impurities	California Test 213
Chloride concentration of water for washing aggregates and mixing concrete	California Test 422
Sulfate concentration of water for washing aggregates and mixing concrete	California Test 417
Impurities in water for washing aggregates and mixing concrete	ASTM C191 or ASTM C266 and ASTM C109

**Replace section 90-1.01C(8) with:**

10-18-19

#### **90-1.01C(8) Testing**

##### **90-1.01C(8)(a) General**

If the concrete is tested for shrinkage, submit the test data with the mix design.

If prequalification is specified, submit certified test data or trial batch test reports under section 90-1.01D(5)(b).

If 56 days are allowed for the concrete to attain the compressive strength described, submit test results under section 90-1.01D(5)(a).

##### **90-1.01C(8)(b) Cast-In-Place Structural Concrete Members**

For CIP structural concrete members, submit test results within 3 business days after completing each QC test. For submittal of test results, go to:

<http://dime.dot.ca.gov/>

For CIP structural concrete members, include the following with the test results:

1. Contract number
2. Mix design number
3. Test sample identification number
4. Date and time of test
5. Batch plant
6. Batch number
7. Bridge number and description of element
8. Supporting data and calculations
9. Name, certification number, and signature of the QC tester

If additional compressive strength test results are needed for CIP structural concrete members to facilitate your schedule, submit a plot of the strength projection curve.

**Add to the end of section 90-1.01C:**

10-18-19

**90-1.01C(11) Quality Control Plan for Cast-In-Place Structural Concrete Members**

Section 90-1.01C(11) applies to CIP structural concrete members.

Submit 3 copies of the QC plan for review.

Submit an amended QC plan or an addendum to the QC plan when there are any changes to:

1. Concrete plants
2. Testing laboratories
3. Plant certification or laboratory accreditation status
4. Tester or inspector qualification status
5. QC personnel
6. Procedures and equipment
7. Material sources
8. Material testing

Allow the Department 5 business days to review an amended QC plan or an addendum to the QC plan.

**90-1.01C(12) Concrete Materials Quality Control Summary Report for Cast-In-Place Structural Concrete Members**

Section 90-1.01C(12) applies to CIP structural concrete members.

During concrete production for CIP structural concrete members, submit a concrete materials QC summary report at least once a month. The report must include:

1. Inspection reports.
2. Test results.
3. Documentation of:
  - 3.1. Test result evaluation by the QC manager
  - 3.2. Any discovered problems or deficiencies and the corrective actions taken
  - 3.3. Any testing of repair work performed
  - 3.4. Any deviations from the specifications or regular practices with explanation
4. Certificate of compliance for the structural concrete material signed by the QC manager. The certificate must state that the information contained in the report is accurate, the minimum testing frequencies specified in section 90-1.01D(10)(d) are met, and the materials comply with the Contract.

**90-1.01C(13) Polymer Fibers**

For concrete used in concrete bridge decks or PCC deck overlays, submit:

1. Fiber manufacturer's product data and application instructions
2. Certificate of compliance for each shipment and type of fiber

**Replace the 3rd paragraph of section 90-1.01D(5)(a) with:**

10-18-19

If the concrete is designated by compressive strength, the strength of concrete that is not steam cured is determined from cylinders cured under Method 1 of California Test 540.

**Add to the end of section 90-1.01D:**

10-18-19

**90-1.01D(7) Qualifications for Cast-In-Place Structural Concrete Members**

Section 90-1.01D(7) applies to CIP structural concrete members.

QC laboratory testing personnel must have an ACI Concrete Laboratory Testing Technician, Level 1 certification or an ACI Aggregate Testing Technician, Level 2 certification, whichever certification includes the test being performed.

QC field testing personnel and field and plant inspection personnel must have an ACI Concrete Field Testing Technician, Grade I certification.

**90-1.01D(8) Certifications for Cast-In-Place Structural Concrete Members**

Each concrete plant used for CIP structural concrete members must have a current:

1. Certification for ready mixed concrete production facilities from the National Ready Mixed Concrete Association. Plant Certification Checklist and supporting documentation must be available upon request.
2. Authorization under the Department's MPQP.

Each QC testing laboratory must be an authorized laboratory with current accreditation from the AASHTO Accreditation Program for the tests performed.

**90-1.01D(9) Preconstruction Meeting for Cast-In-Place Structural Concrete Members**

Section 90-1.01D(9) applies to CIP structural concrete members.

Before concrete placement, hold a meeting to discuss the requirements for structural concrete QC. The meeting attendees must include the Engineer, the QC manager, and at least 1 representative from each concrete plant performing CIP structural concrete activities for the Contract.

**90-1.01D(10) Quality Control**

**90-1.01D(10)(a) General**

Reserved

**90-1.01D(10)(b) Cast-In-Place Structural Concrete Members**

**90-1.01D(10)(b)(i) General**

Section 90-1.01D(10)(b) applies to CIP structural concrete members.

Develop, implement, and maintain a QC program that includes inspection, sampling, and testing of structural concrete materials for CIP structural concrete members.

Perform all sampling, testing, and inspecting required to control the process and to demonstrate compliance with the Contract and the authorized QC plan.

Provide a QC field inspector at the concrete delivery point while placement activities are in progress.

Provide a testing laboratory and the testing personnel for QC testing.

The QC inspector and the QC manager must be fully authorized by the Contractor to reject material.

QC testers and inspectors must be your employees or must be hired by a subcontractor providing only QC services. QC testers and inspectors must not be employed or compensated by a subcontractor or by other persons or entities hired by subcontractors who will provide other services or materials for the project.

If lightweight concrete, RSC, or SCC is used as structural concrete, you must also comply with the sampling and testing specifications of that section.

#### **90-1.01D(10)(b)(ii) Quality Control Plan**

The QC plan must detail the methods used to ensure the quality of the work and provide the controls to produce concrete. The QC plan must include:

1. Names and documentation of certification or accreditation of the concrete plants and testing laboratories to be used
2. Names, qualifications, and copies of certifications for the QC manager and all QC testing and inspection personnel to be used
3. Organization chart showing QC personnel and their assigned QC responsibilities
4. Example forms, including forms for certificates of compliance, hard copy test result submittals, and inspection reports
5. Methods and frequencies for performing QC procedures, including inspections and material testing
6. Procedures to control quality characteristics, including standard procedures to address properties outside of the specified operating range or limits, and example reports to document nonconformances and corrective actions taken
7. Procedures for verifying:
  - 7.1. Materials are properly stored during concrete batching operations
  - 7.2. Batch plants have the ability to maintain the concrete consistency during periods of extreme heat and cold
  - 7.3. Admixture dispensers deliver the correct dosage within the accuracy requirements specified
  - 7.4. Delivery trucks have a valid National Ready Mixed Concrete Association certification card
8. Procedures for verifying that the weighmaster certificate for each load of concrete shows:
  - 8.1. Concrete as batched complies with the authorized concrete mix design weights
  - 8.2. Moisture corrections are being accurately applied to the aggregates
  - 8.3. Cementitious materials are from authorized sources
  - 8.4. Any water that is added after batching at the plant
9. Procedures for visually inspecting the concrete during discharge operations

Allow the Department 5 business days to review an amended QC plan or an addendum to the QC plan.

#### **90-1.01D(10)(b)(iii) Quality Control Manager**

Assign a QC manager. The QC manager must have one of the following qualifications:

1. Civil engineering license in the State
2. ACI Concrete Laboratory Testing Technician, Level 1 certification
3. NICET Level II concrete certification
4. ICC Reinforced Concrete Special Inspector certification
5. ASQ Certified Manager of Quality/Organizational Excellence with the qualifying 10 years of experience and body of knowledge in the field of concrete

During concrete placement, the QC manager must be at the plant or job site within 3 hours of receiving notification from the Engineer.

#### **90-1.01D(10)(b)(iv) Quality Control Testing Frequencies**

For each mix design used to produce CIP structural concrete, perform sampling and testing in compliance with the following tables:

**Aggregate QC Tests**

Quality characteristic	Test method	Minimum testing frequency
Aggregate gradation	California Test 202	Once per each day of pour
Sand equivalent	California Test 217	
Cleanness value	California Test 227	
Moisture content of fine aggregate	California Test 226	1–2 times per each day of pour, depending on conditions

**Concrete QC Tests**

Quality characteristic	Test method	Minimum testing frequency
Slump	ASTM C143/C143M	Once per 100 cu yd or each day of pour, whichever is more frequent, and when requested by the Engineer
Uniformity <sup>a</sup>	ASTM C143/C143M, California Test 533, and California Test 529	When ordered by the Engineer
Air content, (freeze-thaw area)	California Test 504 <sup>b</sup>	If concrete is air entrained, once per 30 cu yd or each day of pour, whichever is more frequent
Air content, (non-freeze-thaw area)	California Test 504 <sup>b</sup>	If concrete is air entrained, once per 100 cu yd or each day of pour, whichever is more frequent
Temperature	California Test 557	Once per 100 cu yd or each day of pour, whichever is more frequent
Density	California Test 518	
Compressive strength <sup>c,d</sup>	California Test 521	

<sup>a</sup>As specified in section 90-1.01D(4).

<sup>b</sup>Use ASTM C173/C173M for lightweight concrete.

<sup>c</sup>Mark each cylinder with the Contract number, the date and time of sampling, and the weighmaster certificate number.

<sup>d</sup>You may need additional test samples to facilitate your schedule.

**90-1.01D(10)(b)(v) Inspection Reports**

Document each inspection performed by a QC inspector in an inspection report that includes:

1. Contract number
2. Mix design number
3. Date and time of inspection
4. Plant location
5. Concrete placement location
6. Batch number
7. Reviewed copies of weighmaster certificates
8. Description of the inspection performed
9. Name, certification number, and signature of the QC inspector

**90-1.01D(10)(b)(vi) Rejection of Material**

If any of the QC concrete test results fail to comply with the specified requirements, the batch of concrete must not be incorporated in the work. Notify the Engineer. Repeat the QC concrete tests on each subsequent batch until the test results comply with the specified requirements.

If 3 consecutive batches fail to comply with the specified requirements, (1) revise concrete operations as necessary to bring the concrete into compliance and (2) increase the frequency of QC testing. The revisions must be authorized before resuming production. After production resumes, you must receive authorization before returning to the QC testing frequency authorized in the QC plan.

**90-1.01D(11) Department Acceptance**

**90-1.01D(11)(a) General**

Reserved

**90-1.01D(11)(b) Cast-In-Place Structural Concrete Members**

The Department accepts concrete incorporated into CIP structural concrete members based on only the Department's test results. QC test results will not be used for Department acceptance.

**Replace the table in the 1st paragraph of section 90-1.02A with:**

10-18-19

Type of work	Maximum length change of laboratory cast specimens at 28 days drying (average of 3) (percent)
Paving and approach slab concrete	0.050
Bridge deck concrete	0.032

**Add to the end of section 90-1.02A:**

10-18-19

For new bridge decks or PCC deck overlays, fibers must comply with ASTM D7508. Microfibers must be from 1/2 to 2 inches long. Macrofibers must be from 1 to 2-1/2 inches long.

**Replace the table in section 90-1.02G(6) with:**

04-19-19

Type of work	Nominal		Maximum	
	Penetration (in)	Slump (in)	Penetration (in)	Slump (in)
Concrete pavement	0-1	--	1.5	--
Nonreinforced concrete members	0-1.5	--	2	--
Reinforced concrete structures with:				
Sections over 12 inches thick	0-1.5	1-3	2.5	5
Sections 12 inches thick or less	0-2	1-4	3	6
Concrete placed under water	--	6-8	--	9
CIP concrete piles	2.5-3.5	5-7	4	8

**Replace the introductory clause of the 6th paragraph of section 90-1.02H with:**

04-19-19

For pavement, the total cementitious material must be composed of one of the following options, by weight:

**Add after the 6th paragraph of section 90-1.02H:**

04-19-19

For structures, the total cementitious material must be composed of one of the following options, by weight:

1. 25 percent natural pozzolan or fly ash with a CaO content of up to 10 percent and 75 percent portland cement.



## 94 ASPHALTIC EMULSIONS

04-17-20

Replace section 94 with:

04-17-20

### 94-1.01 GENERAL

#### 94-1.01A Summary

Section 94 includes specifications for furnishing asphaltic emulsions.

#### 94-1.01B Definitions

Reserved

#### 94-1.01C Submittals

Submit an SDS for each shipment of asphaltic emulsion to the job site.

If you use the asphaltic emulsion before the Department's sampling and testing is complete, submit a certificate of compliance for each shipment to the job site. The certificate of compliance must include:

1. Shipment number and date
2. Source asphalt emulsion plant, consignee, and destination
3. Type and description of material with specific gravity and quantity
4. Contract or purchase order number
5. Signature by the manufacturer of the material
6. Certified test results

If no certificate of compliance is submitted, do not use asphaltic emulsion until authorized.

#### 94-1.01D Quality Assurance

Sample asphaltic emulsion under AASHTO T 40.

Store samples in clean and airtight sealed containers. Samples taken must be placed in wide mouth plastic containers and taken in the presence of the Engineer. Samples must be stored at temperatures from 40 to 120 degrees F until submitted for testing.

### 94-1.02 MATERIALS

#### 94-1.02A General

Asphaltic emulsions must be composed of a bituminous material uniformly emulsified with water and an emulsifying or a stabilizing agent. Polymer-modified asphaltic emulsion must contain a polymer.

Rapid-setting asphaltic emulsions must be tested within 7 days after delivery to job site. All other asphaltic emulsions must be tested within 14 days of delivery to job site. The asphaltic emulsion must be homogeneous after thorough mixing and not separated by freezing. Asphaltic emulsion separated by freezing will not be tested.

#### 94-1.02B Slow-Setting Anionic Asphaltic Emulsions

Slow-setting anionic asphaltic emulsion must comply with the requirements shown in the following table:



**Slow-Setting Anionic Asphaltic Emulsion Requirements**

Quality characteristic	Test method	Requirement	
		Grade SS-1	Grade SS-1h
Saybolt Furol viscosity, at 25 °C (Saybolt Furol seconds)	AASHTO T 59	20–100	
Storage stability test, 1 day (max, %)		1	
Cement mixing test (max, %)		2.0	
Sieve test (max, %)		0.10	
Residue from distillation or evaporation test (min, %) <sup>a</sup>		57	
Tests on residue:			
Penetration, 25 °C (dmm)	AASHTO T 49	100–200	40–90
Ductility, 25 °C (min, mm)	AASHTO T 51	400	400
Solubility in trichloroethylene (min, %)	AASHTO T 44	97.5	97.5

<sup>a</sup>Distillation is the defining test if there is a conflict with evaporation.

**94-1.02C Slow-Setting Cationic Asphaltic Emulsions**

Slow-setting cationic asphaltic emulsion must comply with the requirements shown in the following table:

**Slow-Setting Cationic Asphaltic Emulsion Requirements**

Quality characteristic	Test method	Requirement	
		Grade CSS-1	Grade CSS-1h
Saybolt Furol viscosity, at 25 °C (Saybolt Furol seconds)	AASHTO T 59	20–100	
Storage stability test, 1 day (max, %)		1	
Particle charge <sup>a</sup>		Positive	
Cement mixing test (max, %)		2.0	
Sieve test (max, %)		0.10	
Residue from distillation or evaporation test (min, %) <sup>b</sup>		57	
Tests on residue:			
Penetration, 25 °C (dmm)	AASHTO T 49	100–250	40–90
Ductility, 25 °C (min, mm)	AASHTO T 51	400	400
Solubility in trichloroethylene (min, %)	AASHTO T 44	97.5	97.5

<sup>a</sup>Must comply with a pH requirement of 6.7 maximum under ASTM E70 if the particle charge test result is inconclusive.

<sup>b</sup>Distillation is the defining test if there is a conflict with evaporation.

**94-1.02D Rapid-Setting Cationic Asphaltic Emulsions**

Rapid-setting cationic asphaltic emulsion must comply with the requirements shown in the following table:

**Rapid-Setting Cationic Asphaltic Emulsion Requirements**

Quality characteristic	Test method	Requirement			
		Grade CRS-1	Grade CRS-2	Grade CRS-1h	Grade CRS-2h
Saybolt Furol viscosity, at 50 °C (Saybolt Furol seconds)	AASHTO T 59	20–100	100–400	20–100	100–400
Storage stability test, 1 day (max, %)		1			
Demulsibility (min, %) <sup>a</sup>		40			
Particle charge <sup>b</sup>		Positive			
Sieve test (max, %)		0.10			
Residue from distillation or evaporation test (min, %) <sup>c</sup>		60	65	60	65
Tests on residue:					
Penetration, 25 °C (dmm)	AASHTO T 49	100–250		40–90	
Ductility, 25 °C, 50 mm/minute (min, mm)	AASHTO T 51	400		400	
Solubility in trichloroethylene (min, %)	AASHTO T 44	97.5		97.5	

<sup>a</sup>Use 35 ml of 0.8% sodium dioctyl sulfosuccinate solution.

<sup>b</sup>Must comply with a pH requirement of 6.7 maximum under ASTM E70 if the particle charge test result is inconclusive.

<sup>c</sup>Distillation is the defining test if there is a conflict with evaporation.

**94-1.02E Cationic Emulsified Recycling Agent**

Cationic emulsified recycling agent for cold-in-place recycling must comply with the requirements shown in the following table:

**Cationic Emulsified Asphalt Requirements**

Quality characteristic	Test method	Requirement Emulsified recycling agent
Sieve test (max, %)	AASHTO T 59	0.10
Residue from distillation or evaporation test (min, %) <sup>a</sup>		63
Sieve test (max, %)		Positive
Tests on residue:		
Penetration, 25 °C (dmm)	AASHTO T 49	40–120
Ductility, 25 °C (min, mm)	AASHTO T 51	400
Creep stiffness:	AASHTO T 313	
Test temperature (°C)		-12
S-value (max, MPa)		300
M-value (min)		0.300

<sup>a</sup>Distillation is the defining test if there is a conflict with evaporation.

<sup>b</sup>Must comply with a pH requirement of 6.7 maximum under ASTM E70 if the particle charge test result is inconclusive.

**94-1.02F Rapid-Setting Polymer-Modified Asphaltic Emulsions**

Rapid-setting polymer-modified asphaltic emulsion must comply with the requirements shown in the following table:

**Rapid-Setting Polymer-Modified Asphaltic Emulsion Requirements**

Quality characteristic	Test method	Requirement	
		Grade PMCRS-2	Grade PMCRS-2h
Saybolt Furol viscosity, at 50 °C (Saybolt Furol seconds)	AASHTO T 59 <sup>e</sup>	100–400	
Storage stability test, 1 day (max, %)		1	
Sieve test (max, %)		0.30	
Demulsibility (min, %) <sup>a</sup>		40 <sup>b</sup>	
Particle charge <sup>b</sup>		Positive	
Residue from distillation or evaporation test (min, %) <sup>c</sup>		65	
Tests on residue:			
Penetration, 25 °C (dmm)	AASHTO T 49	100–200	40–90
Ductility, 25 °C (min, mm)	AASHTO T 51	400	400
Torsional recovery (min, %) <sup>d</sup> or Elastic recovery, 25 °C (min, %) <sup>d</sup>	California Test 332	20	20
Penetration, 4 °C, 200 g for 60 seconds (min, dmm)	AASHTO T 49	6	6
Ring and Ball Softening Point (min, °C)	AASHTO T 53	57	57

<sup>a</sup>Use 35 ml of 0.8% sodium dioctyl sulfosuccinate solution.

<sup>b</sup>Must comply with a pH requirement of 6.7 maximum under ASTM E70 if the particle charge test result is inconclusive.

<sup>c</sup>Distillation is the defining test if there is a conflict with evaporation.

<sup>d</sup>Elastic recovery is the defining test if there is a conflict with torsional recovery.

<sup>e</sup>Distillation temperature of 350 °F.

**94-1.02G Bonded Wearing Course Asphaltic Emulsions**

Bonded wearing course asphaltic emulsion must comply with the requirements shown in the following table:

**Bonded Wearing Course Asphaltic Emulsion Requirements**

Quality characteristic	Test method	Requirement
Saybolt Furol viscosity, at 25 °C (Saybolt Furol seconds)	AASHTO T 59 <sup>c</sup>	20–100
Storage stability test, 1 day (max, %)		1
Sieve test (max, %)		0.05
Particle charge <sup>a</sup>		Positive
Residue from distillation or evaporation test (min, %) <sup>b</sup>		63
Tests on residue:		
Penetration, 25 °C (dmm)	AASHTO T 49	70–150
Torsional recovery (min, %) <sup>d</sup>	California Test 332	40

<sup>a</sup>Must comply with a pH requirement of 6.7 maximum under ASTM E70 if the particle charge test result is inconclusive.

<sup>b</sup>Distillation is the defining test if there is a conflict with evaporation.

<sup>c</sup>Distillation temperature of 350 °F.

<sup>d</sup>Measure the entire arc of recovery at 25 °C.

**94-1.02H Rapid-Setting Polymer-Modified Rejuvenating Asphaltic Emulsions**

Rapid-setting polymer-modified rejuvenating asphaltic emulsion must comply with the requirements shown in the following table:

**Rapid-Setting Polymer-Modified Rejuvenating Asphaltic Emulsion Requirements**

Quality characteristic	Test method	Requirement Grade PMRE
Saybolt Furol viscosity, at 50 °C (Saybolt Furol seconds)	AASHTO T 59 <sup>d</sup>	50–350
Storage stability test, 1 day (max, %)		1
Sieve (max, %)		0.30
Oil distillate (max, %)		0.5
Particle charge <sup>a</sup>		Positive
Demulsibility (min, %) <sup>b</sup>		40
Residue from distillation or evaporation test (min, %) <sup>c</sup>		65
pH	ASTM E70	2.0–5.0
Tests on residue: Viscosity, at 60 °C (max, Pa-s) Penetration, 4 °C (dmm) Elastic recovery, 25 °C (min, %)	AASHTO T 202 <sup>e, f</sup> AASHTO T 49 AASHTO T 301 <sup>g</sup>	5000 40–70 60

<sup>a</sup>Must comply with a pH requirement of 6.7 maximum under ASTM E70 if the particle charge test result is inconclusive.

<sup>b</sup>If the product is to be diluted, demulsibility is waived.

<sup>c</sup>Distillation is the defining test if there is a conflict with evaporation.

<sup>d</sup>Distillation temperature of 350 °F.

<sup>e</sup>If it is suspected that a sample may contain solid material, strain the melted sample into the container through a No. 50 (300- $\mu$ m) sieve conforming to Specification E 11.

<sup>f</sup>Use an AI- 200 glass capillary tube to run the test. If the viscosity is 4000 or above, use an AI 400 instead.

<sup>g</sup>Elastic recovery, hour glass sides, pull to 20 cm, hold 5 minutes then cut, let sit 1 hour.

Rejuvenating agent for rapid-setting polymer-modified rejuvenating asphaltic emulsion must comply with the requirements shown in the following table:

**Rejuvenating Agent Requirements**

Quality characteristic	Test method	Requirement
Tests on rejuvenating agent: Viscosity, at 60 °C (cSt) Flash point (min, °C) Saturate (max, % by weight) Asphaltenes (max)	AASHTO T 201 AASHTO T 48 ASTM D2007 ASTM D2007	50–175 193 30 1.0
Tests on rejuvenating agent Rolling Thin-Film Oven Test residue: Weight change (max, %) Viscosity ratio (max) <sup>a</sup>	AASHTO T 240	6.5 3

<sup>a</sup>Rolling Thin-Film Oven Test (RTFOT) viscosity divided by the original viscosity.

**94-1.02I Quick-Setting Asphaltic Emulsions**

Quick-setting asphaltic emulsion must comply with the requirements shown in the following table:

**Quick-Setting Asphaltic Emulsion Requirements**

Quality characteristic	Test method	Requirement			
		Anionic		Cationic	
		Grade QS-1	Grade QS-1h	Grade CQS-1	Grade CQS-1h
Saybolt Furol viscosity, at 25 °C (Saybolt Furol seconds)	AASHTO T 59	15–90			
Storage stability test, 1 day (max, %)		1			
Particle charge <sup>a</sup>		--		Positive	
Sieve test (max, %)		0.30			
Residue from distillation or evaporation test (min, %) <sup>b</sup>		57			
Tests on residue:					
Penetration, 25 °C (dmm)	AASHTO T 49	100–200	40–90	100–200	40–90
Ductility, 25 °C (min, mm)	AASHTO T 51	400	400	400	400
Solubility in trichloroethylene (min, %)	AASHTO T 44	97.5	97.5	97.5	97.5

<sup>a</sup>If the result of the particle charge test is inconclusive; the asphaltic emulsion must be tested for pH under ASTM E70. Grade QS-1h asphaltic emulsion must have a minimum pH of 7.3. Grade CQS-1h asphaltic emulsion must have a maximum pH of 6.7.

<sup>b</sup>Distillation is the defining test if there is a conflict with evaporation.

**94-1.02J Quick-Setting Polymer-Modified Cationic Asphaltic Emulsions**

Quick-setting polymer-modified cationic asphaltic emulsion must comply with the requirements shown in the following table:

**Quick-Setting Polymer-Modified Cationic Asphaltic Emulsions**

Quality characteristic	Test method	Requirement Grade PMCQS-1h
Saybolt Furol viscosity, at 25 °C (Saybolt Furol seconds)	AASHTO T 59 <sup>d</sup>	15–90
Storage stability test, 1 day (max, %)		1
Sieve test (max, %)		0.30
Particle charge <sup>a</sup>		Positive
Residue from distillation or evaporation test (min, %) <sup>b</sup>		60
Tests on residue:		
Penetration, 25 °C (dmm)	AASHTO T 49	40–90
Ductility, 25 °C (min, mm)	AASHTO T 51	400
Torsional recovery (min, %) <sup>c</sup>	California Test 332	18
or		
Elastic recovery, 25 °C (min, %) <sup>c</sup>	AASHTO T 301	60

<sup>a</sup>If the result of the particle charge test is inconclusive; the asphaltic emulsion must be tested for pH under ASTM E70.

<sup>b</sup>Distillation is the defining test if there is a conflict with evaporation.

<sup>c</sup>Elastic recovery is the defining test if there is a conflict with torsional recovery.

<sup>d</sup>Distillation temperature of 350 °F.

**94-1.02K Micro Surfacing Emulsions**

Micro surfacing emulsion must comply with the requirements shown in the following table:

**Micro Surfacing Emulsion Requirements**

Quality characteristic	Test method	Requirement Grade MSE
Saybolt Furol viscosity, at 25 °C (Saybolt Furol seconds)	AASHTO T 59 <sup>c</sup>	15–90
Storage stability test, 1 day (max, %)		1
Sieve test (max, %)		0.30
Particle charge <sup>a</sup>		Positive
Residue from distillation or evaporation test (min, %) <sup>b</sup>		62
Tests on residue:		
Penetration, 25 °C (dmm)	AASHTO T 49	40–90
Softening point (min, °C)	AASHTO T 53	57
Torsional recovery (min, %) <sup>d</sup>	California Test 332	20
or		
Elastic recovery, 25 °C (min, %) <sup>d</sup>	AASHTO T 301	65

<sup>a</sup>If the result of the particle charge test is inconclusive; the asphaltic emulsion must be tested for pH under ASTM E70.

<sup>b</sup>Distillation is the defining test if there is a conflict with evaporation.

<sup>c</sup>Distillation temperature of 350 °F.

<sup>d</sup>Elastic recovery is the defining test if there is a conflict with torsional recovery.

**94-1.03 CONSTRUCTION**

Not Used

**94-1.04 PAYMENT**

The quantity of asphaltic emulsion is the weight determined before the addition of any water.

The weight of asphaltic emulsion is determined from volumetric measurements if:

1. Partial loads are used
2. Scale is not available within 20 miles
3. Asphaltic emulsion is delivered in:
  - 3.1. Trucks with each tank calibrated and accompanied by its measuring stick and calibration card
  - 3.2. Trucks equipped with a vehicle tank meter and a calibrated thermometer that determines the asphalt temperature at delivery

For volumetric measurements, the measured volume of asphaltic emulsion is reduced to the volume the material would occupy at 60 degrees F. One ton of asphaltic emulsion at 60 degrees F equals 240 gal. One gallon of asphaltic emulsion at 60 degrees F equals 8.33 lb.

Convert volume to weight using the factors shown in the following table:



Replace section 95-1.02H with:

04-17-20

**95-1.02H Epoxy Resin Adhesive for Pressure Injection Grouting of Concrete Pavement**

Epoxy resin pressure injected into concrete must comply with ASTM C881/C881M, Type IV, Grade 1 except the epoxy must have a minimum bond strength of 3000 psi at 14 days.

AA

**96 GEOSYNTHETICS**

04-17-20

Replace the row for *Apparent opening size* in the table in the 2nd paragraph of section 96-1.02B with:

04-17-20

Apparent opening size, average roll value (max, $\mu\text{m}$ (US Sieve))	ASTM D4751	425(40)	250(60)	212(70)
---	------------	---------	---------	---------

Replace the row for *Apparent opening size* in the table in the 1st paragraph of section 96-1.02E with:

04-17-20

Apparent opening size, average roll value (max, $\mu\text{m}$ (US Sieve))	ASTM D4751	600(30)	300(50)
---	------------	---------	---------

Replace the row for *Apparent opening size* in the table in the 1st paragraph of section 96-1.02F with:

04-17-20

Apparent opening size, average roll value (max, $\mu\text{m}$ (US Sieve))	ASTM D4751	425(40)
---	------------	---------

Replace the row for *Apparent opening size* in the table in the 1st paragraph of section 96-1.02G with:

04-17-20

Apparent opening size, average roll value (max, $\mu\text{m}$ (US Sieve))	ASTM D4751	600(30)	300(50)
---	------------	---------	---------

Replace the row for *Apparent opening size* in the table in the 1st paragraph of section 96-1.02H with:

04-17-20

Apparent opening size, average roll value (max, $\mu\text{m}$ (US Sieve))	ASTM D4751	600(30)	300(50)
---	------------	---------	---------



Replace the row for *Apparent opening size* in the table in the 3rd paragraph of section 96-1.02I with:

04-17-20

Apparent opening size (min and max, $\mu\text{m}$ (US Sieve))	ASTM D4751	150(100)–212(70)	150(100)–212(70)
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Replace the row for *Apparent opening size* in the table in the 2nd paragraph of section 96-1.02O with:

04-17-20

Apparent opening size (max, $\mu\text{m}$ (US Sieve))	ASTM D4751	300(50)	300(50)	600(30)	300(50)	300(50)
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Replace the 3rd table in the 3rd paragraph of section 96-1.02R with:

10-19-18

**Cushion Fabric**

Quality characteristic	Test method	Requirement					
		Class 10	Class 12	Class 16	Class 24	Class 32	Class 60
Mass per unit area (oz/sq yd)	ASTM D5261	10	12	16	24	32	60
Grab tensile break strength (min, lb)	ASTM D4632	230	300	370	450	500	630
Grab tensile break elongation (min, %)	ASTM D4632	50					
Puncture strength (min, lb)	ASTM D6241	700	800	900	1100	1700	2400
Trapezoidal tear strength (min, lb)	ASTM D4533	95	115	145	200	215	290
UV resistance (min, %)	ASTM D7238	70					

**EXHIBIT D**

**REQUIRED FEDERAL-AID CONTRACT LANGUAGE**

**EXHIBIT 12-G REQUIRED FEDERAL-AID CONTRACT LANGUAGE**  
(For Local Assistance Construction Projects)

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

**MAINTAIN RECORDS AND SUBMIT REPORTS DOCUMENTING YOUR PERFORMANCE UNDER THIS SECTION**

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## 1. DISADVANTAGED BUSINESS ENTERPRISES (DBE)

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

The prime contractor shall meet the DBE goal shown elsewhere in these special provisions or demonstrate that they made adequate good faith efforts to meet this goal.

It is the prime contractor's responsibility to verify that the DBE firm is certified as DBE at date of bid opening and document the record by printing out the California Unified Certification Program (CUCP) data for each DBE firm. A list of DBEs certified by the CUCP can be found [here](#).

All DBE participation will count toward the California Department of Transportation's federally mandated statewide overall DBE goal.

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

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

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

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

**b. Contract Assurance**

Under 49 CFR 26.13(b):

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

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible.

**c. Prompt Progress Payment**

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

In any action for the collection of funds wrongfully withheld, the prevailing party shall be entitled to his or her attorney's fees and costs. The sanctions authorized under this requirement shall be separate from, and in addition to, all other remedies, either civil, administrative, or criminal. This clause applies to both DBE and non-DBE subcontractors.

**d. Prompt Payment of Withheld Funds to Subcontractors**

The Agency may hold retainage from the prime contractor and shall make prompt and regular incremental acceptances of portions, as determined by the Agency, of the contract work, and pay retainage to the prime contractor based on these acceptances. The Agency shall designate one of the methods below in the contract to ensure prompt and full payment of any retainage kept by the prime contractor or subcontractor to a subcontractor. The Agency shall include either Method 1, Method 2, or Method 3 below and delete the other two.

**Method 1:** No retainage will be held by the Agency from progress payments due to the prime contractor. Prime contractors and subcontractors are prohibited from holding retainage from subcontractors. Any delay or postponement of payment may take place only for good cause and with the Agency's prior written approval. Any violation of these provisions shall subject the violating contractor or subcontractor to the penalties, sanctions, and other remedies specified in Section 7108.5 of the California Business and Professions Code and Section 10262 of the California Public Contract Code. This requirement shall not be construed to limit or impair any contractual, administrative or judicial remedies, otherwise available to the contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the contractor, deficient subcontractor performance and/or noncompliance by a subcontractor. This clause applies to both DBE and non-DBE subcontractors.

**Method 2:** No retainage will be held by the Agency from progress payments due to the prime contractor. Any retainage kept by the prime contractor or by a subcontractor must be paid in full to the earning subcontractor within seven (7) days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment may take place only for good cause and with the Agency's prior written approval. Any violation of these provisions shall subject the violating contractor or subcontractor to the penalties, sanctions, and remedies specified in Section 7108.5 of the California Business and Professions Code and Section 10262 of the California Public Contract Code. This requirement shall not be construed to limit or impair any contractual, administrative or judicial remedies, otherwise available to the contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the contractor, deficient subcontractor performance and/or noncompliance by a subcontractor. This clause applies to both DBE and non-DBE subcontractors.

**Method 3:** The Agency shall hold retainage from the prime contractor and shall make prompt and regular incremental acceptances of portions, as determined by the Agency of the contract work and pay retainage to the prime contractor based on these acceptances. The prime contractor or subcontractor shall return all monies withheld in retention from all subcontractors within seven (7) days after receiving payment for work satisfactorily completed and accepted including incremental acceptances of portions of the contract work by the Agency. Any delay or postponement of payment may take place only for good cause and with the Agency's prior written approval. Any violation of these provisions shall subject the violating prime contractor or subcontractor to the penalties, sanctions, and other remedies specified in Section 7108.5 of the California Business and Professions Code and Section 10262 of the California Public Contract Code. This requirement shall not be construed to limit or impair any contractual, administrative or judicial remedies otherwise available to the contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the contractor; deficient subcontractor performance and/or noncompliance by a subcontractor. This clause applies to both DBE and non-DBE subcontractors.

Any violation of these provisions shall subject the violating prime contractor or subcontractor to the penalties, sanctions and other remedies specified therein. These requirements shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the prime contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor, deficient subcontract performance, or noncompliance by a subcontractor.

**e. Termination and Substitution of DBE Subcontractors**

The prime contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the contractor obtains the Agency's written consent. The prime contractor shall **not terminate or substitute a listed DBE for convenience and perform the work with their own forces or obtain materials from other sources without prior written authorization from the Agency.** Unless the Agency's prior written consent is provided, the contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE on the Exhibit 15-G Construction Contract DBE Commitment form, included in the Bid.

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. The Local Agency stipulated that a bond is a condition of executing the subcontract and the listed DBE fails to meet the Local Agency's bond requirements.
3. Work requires a contractor's license and listed DBE does not have a valid license under Contractors License Law.
4. Listed DBE fails or refuses to perform the work or furnish the listed materials (failing or refusing to perform is not an allowable reason to remove a DBE if the failure or refusal is a result of bad faith or discrimination).
5. Listed DBE's work is unsatisfactory and not in compliance with the contract.
6. Listed DBE is ineligible to work on the project because of suspension or debarment.
7. Listed DBE becomes bankrupt or insolvent.
8. Listed DBE voluntarily withdraws with written notice from the Contract
9. Listed DBE is ineligible to receive credit for the type of work required.
10. Listed DBE owner dies or becomes disabled resulting in the inability to perform the work on the Contract.
11. The Agency determines other documented good cause.

The prime contractor shall **notify the original DBE of the intent to use other forces or material sources and provide the reasons, allowing the DBE 5 days to respond to the notice and advise the prime contractor and the Agency of the reasons why the use of other forces or sources of materials should not occur.**

The prime contractor's 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 the prime contractor to the DBE regarding the request.
3. Notices from the DBEs to the prime contractor regarding the request.

If a listed DBE is terminated or substituted, the prime contractor 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.

**f. Commitment and Utilization**

Note: In the Agency's reports of DBE participation to Caltrans, the Agency must display both commitments and attainments.

The Agency's DBE program must include a monitoring and enforcement mechanism to ensure that DBE commitments reconcile to DBE utilization.

The bidder shall submit the Exhibit 15-G Construction Contract DBE Commitment, included in the Bid book. This exhibit is the bidder's DBE commitment form. If the form is not submitted with the bid, the bidder must remove the form from the Bid book before submitting their bid.

The bidder shall complete and sign Exhibit 15-G Construction Contract DBE Commitment included in the contract documents regardless of whether DBE participation is reported. The bidder shall provide written confirmation from each DBE that the DBE is participating in the Contract. A copy of a DBE's quote serves as written confirmation. If a DBE is participating as a joint venture partner, the bidder shall submit a copy of the joint venture agreement.

If the DBE Commitment form, Exhibit 15-G, is not submitted with the bid, it must be completed and submitted by all bidders to the Agency within five (5) days of bid opening. If the bidder does not submit the DBE Commitment form within the specified time, the Agency will find the bidder's bid nonresponsive.

The prime contractor shall use each DBE subcontractor as listed on Exhibit 12-B Bidder's List of Subcontractors (DBE and Non-DBE), and Exhibit 15-G Construction Contract DBE Commitment form unless they receive authorization for a substitution.

The Agency shall request the prime contractor to:

1. Notify the Resident Engineer or Inspector of any changes to its anticipated DBE participation
2. Provide this notification before starting the affected work
3. Maintain records including:
  - Name and business address of each 1<sup>st</sup>-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 the prime contractor is a DBE contractor, they shall include the date of work performed by their own forces and the corresponding value of the work.

Before the 15th of each month, the prime contractor shall submit a Monthly DBE Trucking Verification (LAPM Exhibit 16-Z1) form.

If a DBE is decertified before completing its work, the DBE must notify the prime contractor in writing of the decertification date. If a business becomes a certified DBE before completing its work, the business must notify the prime contractor in writing of the certification date. The prime contractor shall submit the notifications. Upon work completion, the prime contractor shall complete a Disadvantaged Business Enterprises (DBE) Certification Status Change, Exhibit 17-O, form and submit the form within 30 days of contract acceptance.

Upon work completion, the prime contractor shall complete Exhibit 17-F Final Report – Utilization of

Disadvantaged Business Enterprises (DBE), First-Tier Subcontractors and submit it within 90 days of contract acceptance. The Agency will withhold \$10,000 until the form is submitted. The Agency releases the withhold upon submission of the completed form.

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 Local Agency uses a Quality Assurance Program (QAP) to ensure a material is produced to comply with the Contract. The Local Agency may examine the records and reports of tests the prime contractor performs if they are available at the job site. Schedule work to allow time for QAP.

**10. PROMPT PAYMENT FROM THE AGENCY TO THE CONTRACTORS**

The Agency shall make any progress payment within 30 days after receipt of an undisputed and properly submitted payment request from a contractor on a construction contract. If the Agency fails to pay promptly, the Agency shall pay interest to the contractor, which accrues at the rate of 10 percent per annum on the principal amount of a money judgment remaining unsatisfied. Upon receipt of a payment request, the Agency shall act in accordance with both of the following:

1. Each payment request shall be reviewed by the Agency as soon as practicable after receipt for the purpose of determining that it is a proper payment request.
2. Any payment request determined not to be a proper payment request suitable for payment shall be returned to the contractor as soon as practicable, but not later than seven (7) days, after receipt. A request returned pursuant to this paragraph shall be accompanied by a document setting forth in writing the reasons why the payment request is not proper.

**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)

**12. DBE RUNNING TALLY OF ATTAINMENTS**

After submitting an invoice for reimbursement that includes a payment to a DBE, but no later than the 10<sup>th</sup> of the following month, the prime contractor/consultant shall complete and email the Exhibit 9- F: Disadvantaged Business Enterprise Running Tally of Payments to [business.support.unit@dot.ca.gov](mailto:business.support.unit@dot.ca.gov) with a copy to the Agency.

[The following 12 pages must be physically inserted into the contract without modification.]

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

- 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."

**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.

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**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.

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**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.

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**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.

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**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.

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**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 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.

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**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.

**13. 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	19.6
	CA Santa Clara, CA 7485 Santa Cruz, CA	14.9
	CA Santa Cruz 7500 Santa Rosa	9.1
	CA Sonoma 8720 Vallejo-Fairfield-Napa, CA	17.1
	CA Napa; CA Solano 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 Non-SMSA Counties CA Butte; CA Colusa; CA El Dorado; CA Glenn; CA Nevada; CA Sierra; CA Sutter; CA Yuba	16.1
		14.3
178	Stockton-Modesto, CA: SMSA Counties: 5170 Modesto, CA	12.3
	CA Stanislaus 8120 Stockton, CA	24.3
	CA San Joaquin 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	19.1
	CA Kern 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	
	CA Los Angeles	21.5
	6000 Oxnard-Simi Valley-Ventura, CA	
	CA Ventura	19.0
	6780 Riverside-San Bernardino-Ontario, CA	
	CA Riverside; CA San Bernardino	19.7
181	7480 Santa Barbara-Santa Maria-Lompoc, CA	
	CA Santa Barbara	24.6
	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	18.2
	Non-SMSA Counties	
	CA Imperial	

For the last full week of July during which work is performed under the contract, the prime contractor and each non material-supplier subcontractor with a subcontract of \$10,000 or more must complete Form FHWA PR-1391 (Appendix C to 23 CFR 230). Submit the forms by August 15.

**14. 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:

- a. Compliance with Regulations: CONTRACTOR shall comply with the regulations relative to nondiscrimination in federally assisted programs of the Department of Transportation, Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the REGULATIONS), which are herein incorporated by reference and made a part of this agreement.
- b. Nondiscrimination: CONTRACTOR, with regard to the work performed by it during the AGREEMENT, shall not discriminate on the grounds of race, color, sex, national origin, religion, age, or disability in the selection and retention of sub-applicants, including procurements of materials and leases of equipment. CONTRACTOR shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the agreement covers a program set forth in Appendix B of the Regulations.
- c. Solicitations for Sub-agreements, Including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by CONTRACTOR for work to be performed under a Sub- agreement, including procurements of materials or leases of equipment, each potential sub-applicant or supplier shall be notified by CONTRACTOR of the CONTRACTOR'S obligations under this Agreement and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.
- d. Information and Reports: CONTRACTOR shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the 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.

- e. **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:
  - i. withholding of payments to CONTRACTOR under the Agreement within a reasonable period of time, not to exceed 90 days; and/or
  - ii. cancellation, termination or suspension of the Agreement, in whole or in part.
- f. **Incorporation of Provisions:** CONTRACTOR shall include the provisions of paragraphs (1) through (6) in every sub-agreement, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto.

CONTRACTOR shall take such action with respect to any sub-agreement or procurement as the 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.

## 15. 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 carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.
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)

## 16. 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 the prime contractor's equal opportunity affirmative action program, provide on-the-job training to develop full journeymen in the types of trades or job classifications involved.

The prime contractor has primary responsibility for meeting this training requirement.

If the prime contractor subcontracts a contract part, they shall determine how many trainees or apprentices are to be trained by the subcontractor. Include these training requirements in each subcontract.

Where feasible, 25 percent of apprentices or trainees in each occupation must be in their 1st year of apprenticeship or training.

Distribute the number of apprentices or trainees among the work classifications on the basis of the prime contractor's needs and the availability of journeymen in the various classifications within a reasonable recruitment area.

Before starting work, the prime contractor shall submit to the City/County of \_\_\_\_\_ :

1. Number of apprentices or trainees to be trained for each classification
2. Training program to be used
3. Training starting date for each classification

The prime contractor shall obtain the City/County of \_\_\_\_\_ approval for this submitted information before the prime contractor starts work. The City/County of \_\_\_\_\_ credits the prime contractor for each apprentice or trainee the prime contractor employs on the job who is currently enrolled or becomes enrolled in an approved program.

The primary objective of this section is to train and upgrade minorities and women toward journeyman status. The prime contractor shall make every effort to enroll minority and women apprentices or trainees, such as conducting systematic and direct recruitment through public and private sources likely to yield minority and women apprentices or trainees, to the extent they are available within a reasonable recruitment area and show that they have made the efforts. In making these efforts, the prime contractor shall not discriminate against any applicant for training.

The prime contractor shall not employ as an apprentice or trainee an employee:

1. In any classification in which the employee has successfully completed a training course leading to journeyman status or in which the employee has been employed as a journeyman
2. Who is not registered in a program approved by the US Department of Labor, Bureau of Apprenticeship and Training

The prime contractor shall ask the employee if the employee has successfully completed a training course leading to journeyman status or has been employed as a journeyman. The prime contractor's records must show the employee's answers to the questions.

In the training program, the prime contractor shall establish the minimum length and training type for each classification. The City/County of \_\_\_\_\_ and FHWA approves a program if one of the following is met:

1. It is calculated to:
  - Meet the 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

The prime contractor shall obtain the State's approval for their training program before they start work involving the classification covered by the program.

The prime contractor shall provide training in the construction crafts, not in clerk-typist or secretarial-type positions. Training is allowed in lower level management positions such as office engineers, estimators, and timekeepers if the training is oriented toward construction applications. Training is allowed in the laborer classification if significant and meaningful training is provided and approved by the division office. Off-site training is allowed if the training is an integral part of an approved training program and does not make up a significant part of the overall training.

The City/County of \_\_\_\_\_ reimburses the prime contractor 80 cents per hour of training given an employee on this contract under an approved training program:

1. For on-site training
2. For off-site training if the apprentice or trainee is currently employed on a Federal-aid project and prime contractor does at least one of the following:
  - a. Contribute to the cost of the training
  - b. Provide the instruction to the apprentice or trainee
  - c. Pay the apprentice's or trainee's wages during the off-site training period
3. If the prime contractor complies with this section.

Each apprentice or trainee must:

1. Begin training on the project as soon as feasible after the start of work involving the apprentice's or trainee's skill
2. Remain on the project as long as training opportunities exist in the apprentice's or trainee's work classification or until the apprentice or trainee has completed the training program

The prime contractor shall furnish the apprentice or trainee with a copy of the program that the prime contractor will comply with in providing the training

**EXHIBIT E**

**APPENDIX E OF THE TITLE VI ASSURANCES**

## **Appendix E of the Title VI Assurances**

### **(US DOT Order 1050.2A)**

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following nondiscrimination statutes and authorities; including but not limited to:

#### **Pertinent Nondiscrimination Authorities:**

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 U.S.C. § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, subrecipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;

- The Federal Aviation Administration's Nondiscrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

**EXHIBIT F**

**BONDS**

THE FINAL PREMIUM IS  
PREDICATED ON THE  
FINAL CONTRACT AMOUNT

This bond was issued in three (3)  
original counterparts

Bond Number 7664179

FAITHFUL PERFORMANCE BOND  
PUBLIC WORK

(The premium charge on this bond is \$ 6,395.00 , being at  
the rate of \$ 7.28, \$5.34, \$4.84 per thousand of the contract price)

KNOW ALL MEN BY THESE PRESENTS:

THAT, WHEREAS the CITY OF COSTA MESA, 77 Fair Drive, Costa Mesa, California 92626, has  
entered into a contract dated \_\_\_\_\_, 20 \_\_\_\_\_, which is hereby incorporated by reference  
herein, with Hardy & Harper, Inc.

hereinafter designated as the "Principal," for the work described as follows:

Fairview Road HSIP Improvement Project (Admas Ave. To Baker St.), Federal Project No. HSIPL-5312 (102), City Project No. 19-10

\_\_\_\_\_ ; and  
WHEREAS, said Principal is required by the terms of said contract to furnish a bond for the  
faithful performance of said contract.

NOW, THEREFORE, We the Principal, and Fidelity and Deposit Company of Maryland  
a corporation organized and existing under the laws of the State of Illinois and duly  
authorized to transact business under the laws of the State of California, as Surety, are held and  
firmly bound unto the CITY OF COSTA MESA in the penal sum of One Million Two Hundred Thirty Thousand  
and 00/100 Dollars (\$ 1,230,000.00 ), lawful money of the United States, for the payment of  
which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and  
successors, jointly and severally, firmly by these presents.

The Condition Of This Obligation Is Such, That, if the above bounden Principal, his or 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, condition and agreements in the said contract and any alteration  
thereof made as therein provided, or 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 true intent and meaning, and shall  
indemnify and save harmless the CITY OF COSTA MESA, its officers and agents, as therein stipulated,  
then this obligation shall become null and void; otherwise it shall be and remain in full force and virtue.

And the said Surety, for value received, hereby stipulates and agrees that no change, extension of  
time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the  
specifications accompanying the same shall in any wise affect its obligations on this bond, and it does hereby  
waive notice of any such change, extension of time, alteration or addition to the terms of the contract or the  
work or to the specifications.

IN WITNESS WHEREOF, We have hereunto set our hands and seals this 3rd  
day of September, 2020

Hardy & Harper, Inc.

Michael Murray - V.P.  
Fidelity and Deposit Company of Maryland

City of Costa Mesa Form — Public Work 2/00

Dwight Reilly, Attorney-in-Fact



## ACKNOWLEDGMENT

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

State of California  
County of Orange

On 09/03/2020 before me, Melissa Ann Vaccaro, Notary Public  
(insert name and title of the officer)

personally appeared Dwight Reilly  
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 Melissa Ann Vaccaro (Seal)  
Melissa Ann Vaccaro



ZURICH AMERICAN INSURANCE COMPANY  
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY  
FIDELITY AND DEPOSIT COMPANY OF MARYLAND  
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Illinois, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Illinois (herein collectively called the "Companies"), by Robert D. Murray, Vice President, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint Daniel HUCKABAY, Dwight REILLY, Arturo AYALA, Shaunna ROZELLE OSTROM, Frank MORONES, Ben STONG, Michael D. STONG and R. NAPPI, all of Orange, California, EACH its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: any and all bonds and undertakings, and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND, this 15th day of January, A.D. 2020.



ATTEST:  
ZURICH AMERICAN INSURANCE COMPANY  
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY  
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: Robert D. Murray  
Vice President

By: Dawn E. Brown  
Secretary

State of Maryland  
County of Baltimore

On this 15th day of January, A D. 2020, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, Robert D. Murray, Vice President and Dawn E. Brown, Secretary of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

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



Constance A. Dunn, Notary Public  
My Commission Expires July 9, 2023

**CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT**

**CIVIL CODE § 1189**

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

State of California )  
County of Orange )

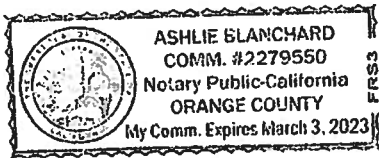
On September 3, 2020 before me, Ashlie Blanchard, Notary Public,  
*Date Here Insert Name and Title of the Officer*

personally appeared Michael Murray  
*Name(s) of Signer(s)*

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

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

WITNESS my hand and official seal.



Signature Ashlie Blanchard  
*Signature of Notary Public*

*Place Notary Seal Above*

**OPTIONAL**

*Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.*

**Description of Attached Document**

Title or Type of Document: \_\_\_\_\_ Document Date: \_\_\_\_\_

Number of Pages: \_\_\_\_\_ Signer(s) Other Than Named Above: \_\_\_\_\_

**Capacity(ies) Claimed by Signer(s)**

Signer's Name: \_\_\_\_\_

Corporate Officer — Title(s): \_\_\_\_\_

Partner —  Limited  General

Individual  Attorney in Fact

Trustee  Guardian or Conservator

Other: \_\_\_\_\_

Signer Is Representing: \_\_\_\_\_

Signer's Name: \_\_\_\_\_

Corporate Officer — Title(s): \_\_\_\_\_

Partner —  Limited  General

Individual  Attorney in Fact

Trustee  Guardian or Conservator

Other: \_\_\_\_\_

Signer Is Representing: \_\_\_\_\_

THE FINAL PREMIUM IS  
PREDICATED ON THE  
FINAL CONTRACT AMOUNT

This bond was issued in three (3)  
original counterparts

Bond No. 7664179

**LABOR AND MATERIALS PAYMENT BOND  
TO ACCOMPANY CONTRACT PUBLIC WORK**

WHEREAS, the City of Costa Mesa, State of California, has awarded to Hardy & Harper, Inc.,  
hereinafter designated as the "Principal", a contract for the project known as: \* \_\_\_\_\_ in the  
City of Costa Mesa, in strict conformity with the contract on file with the Costa Mesa City Clerk, which is incorporated herein  
by this reference.

\*Fairview Road HSIP Improvement Project (Admas Ave. To Baker St.), Federal Project No. HSIPL-5312 (102), City Project No. 19-10

WHEREAS, Principal has executed or is about to execute the contract and the terms thereof and California Civil  
Code section 9554 require the furnishing of a bond, providing that if Principal or any of Principal's subcontractors fails to  
pay for any materials, provisions, or other supplies used in, upon, for, or about the performance of the work agreed to be  
done, or for any work or labor done thereon of any kind, the Surety on this bond will pay the same to the extent hereinafter  
set forth.

NOW, THEREFORE, We, the undersigned Principal, and Fidelity and Deposit Company of Maryland, duly  
authorized to transact business under the laws of the State of California, as Surety (referred to herein as "Surety"), are held  
and firmly bound unto the City of Costa Mesa, in the sum of \*\* \_\_\_\_\_ Dollars (\$1,230,000.00) lawful  
money of the United States of America, said sum being equal to 100% of the estimated amount payable to the City of Costa  
Mesa under the terms of the contract, for which payment well and truly to be made, we bind ourselves, our heirs, executors,  
executors, and administrators, successors and assigns, jointly and severally, firmly by these present.

\*\*One Million Two Hundred Thirty Thousand and 00/100

THE CONDITION OF THIS OBLIGATION IS SUCH, that, if the Principal or the Principal's subcontractors  
fail to pay for any materials, provisions, or other supplies, implements or machinery used in, upon, for, or about the  
performance of the work contracted to be done, or for any other work or labor thereon of any kind, or for amounts due  
under the Unemployment Insurance Code with respect to such work or labor, or for any amounts required to be deducted,  
withheld and paid over to the Employment Development Department from the wages of employees of the Principal and  
subcontractors pursuant to Section 13020 of the Unemployment Insurance Code with respect to such work and labor,  
then the Surety will pay for the same, in an amount not exceeding the sum specified in this Bond, and also, in case suit  
is brought to enforce the obligations of this Bond, a reasonable attorneys' fees, to be fixed by the Court as required by  
the provisions of Section 9554 of the California Civil Code.


This bond shall inure to the benefit of any and all persons, companies and corporations entitled to file claims  
under Section 9100 of the California Civil Code, so as to give a right of action to them or their assigns in any suit brought  
upon this bond. And the Surety, for value received, hereby stipulates and agrees that no change, extension of time,  
alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications  
accompanying the same shall in any way affect its obligations on this Bond, and it does hereby waive notice of any such  
change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

IN WITNESS WHEREOF, this instrument has been duly executed by the above-named Principal and Surety, on  
the 3rd day of September, 2020.

Hardy & Harper, Inc.  
Name of Contractor (Principal)

  
Authorized Signature/Title Michael Murray - V.P.

Fidelity and Deposit Company of Maryland  
Name of Surety  
777 South Figueroa Street, Suite 3900  
Los Angeles, CA 90017  
Address of Surety

  
Authorized Agent Signature  
Dwight Reilly, Attorney-in-Fact  
Print Name and Title

## ACKNOWLEDGMENT

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

State of California  
County of Orange

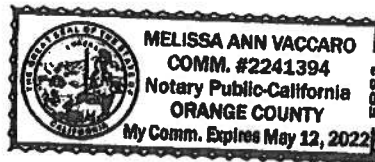
On 09/03/2020 before me, Melissa Ann Vaccaro, Notary Public  
(insert name and title of the officer)

personally appeared Dwight Reilly  
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 Melissa Ann Vaccaro (Seal)  
Melissa Ann Vaccaro



ZURICH AMERICAN INSURANCE COMPANY  
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY  
FIDELITY AND DEPOSIT COMPANY OF MARYLAND  
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Illinois, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Illinois (herein collectively called the "Companies"), by Robert D. Murray, Vice President, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint Daniel HUCKABAY, Dwight REILLY, Arturo AYALA, Shaunna ROZELLE OSTROM, Frank MORONES, Ben STONG, Michael D. STONG and R. NAPPI, all of Orange, California, EACH its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: any and all bonds and undertakings, and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND, this 15th day of January, A.D. 2020.



ATTEST:  
ZURICH AMERICAN INSURANCE COMPANY  
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY  
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: Robert D. Murray  
Vice President

By: Dawn E. Brown  
Secretary

State of Maryland  
County of Baltimore

On this 15th day of January, A.D. 2020, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, Robert D. Murray, Vice President and Dawn E. Brown, Secretary of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposed and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

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



Constance A. Dunn, Notary Public  
My Commission Expires: July 9, 2023

**CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT**

**CIVIL CODE § 1189**

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

State of California )  
County of Orange )

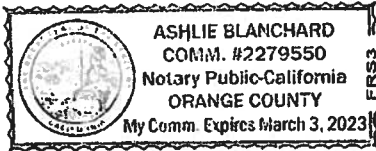
On September 3, 2020 before me, Ashlie Blanchard, Notary Public  
*Date Here Insert Name and Title of the Officer*

personally appeared Michael Murray  
*Name(s) of Signer(s)*

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

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

WITNESS my hand and official seal.



Signature Ashlie Blanchard  
*Signature of Notary Public*

*Place Notary Seal Above*

**OPTIONAL**

*Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.*

**Description of Attached Document**

Title or Type of Document: \_\_\_\_\_ Document Date: \_\_\_\_\_

Number of Pages: \_\_\_\_\_ Signer(s) Other Than Named Above: \_\_\_\_\_

**Capacity(ies) Claimed by Signer(s)**

Signer's Name: \_\_\_\_\_

Corporate Officer — Title(s): \_\_\_\_\_

Partner —  Limited  General

Individual  Attorney in Fact

Trustee  Guardian or Conservator

Other: \_\_\_\_\_

Signer Is Representing: \_\_\_\_\_

Signer's Name: \_\_\_\_\_

Corporate Officer — Title(s): \_\_\_\_\_

Partner —  Limited  General

Individual  Attorney in Fact

Trustee  Guardian or Conservator

Other: \_\_\_\_\_

Signer Is Representing: \_\_\_\_\_

**EXHIBIT G**

**SUMMARY OF PUBLIC CONTRACT CODE SECTION 9204**



## **SUMMARY OF PUBLIC CONTRACT CODE § 9204**

The following procedure will apply to any claims by the Contractor on the City:

A “claim” is a separate demand on the City by a contractor on a public works project and sent by registered mail or certified mail with return receipt requested, for one or more of the following:

- A time extension, including relief from penalties for delay
- Payment by the City of money damages under the terms of the contract
- Payment of an amount that is disputed by the City

### **Initial Review**

The claim must be supported by appropriate documentation. The City has 45 days within which to review the claim and provide the contractor with a written statement identifying the disputed and undisputed portions of the claim. If the City does not issue a written statement, the claim is deemed rejected in its entirety. The City will pay any undisputed portion of the claim within 60 days of issuing the statement.

### **Meet & Confer**

If the contractor disputes the City’s written response, or if the City does not issue one, the contractor may request in writing an informal conference to meet and confer for possible settlement of the claim. The City will schedule the meet and confer conference within 30 days of this request and provide a written statement identifying the remaining disputed and undisputed portions of the claim within 10 business days of the meet and confer. The City will pay the undisputed portion within 60 days of issuing this statement.

### **Mediation**

With respect to any disputed portion remaining after the meet and confer, the City and contractor will submit the matter to nonbinding mediation, agree to a mediator within 10 business days after issuing the written statement, and share mediation costs equally. If mediation is unsuccessful, then the terms of the public works agreement and applicable law will govern resolution of the dispute.

### **Miscellaneous Provisions**

Amounts not paid by the City in a timely manner bear interest at 7% per annum. Subcontractors may submit claims via this procedure through the general contractor. The City and contractor may waive the requirement to mediate, but cannot otherwise waive these claim procedures.

**EXHIBIT H**

**DRUG-FREE WORKPLACE POLICY**

**CITY OF COSTA MESA, CALIFORNIA**

**COUNCIL POLICY**

<b>SUBJECT</b>	<b>POLICY NUMBER</b>	<b>EFFECTIVE DATE</b>	<b>PAGE</b>
DRUG-FREE WORKPLACE	100-5	8-8-89	1 of 3

**BACKGROUND**

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Under the Federal Drug-Free Workplace Act of 1988, passed as part of omnibus drug legislation enacted November 18, 1988, contractors and grantees of Federal funds must certify that they will provide drug-free workplaces. At the present time, the City of Costa Mesa, as a sub-grantee of Federal funds under a variety of programs, is required to abide by this Act. The City Council has expressed its support of the national effort to eradicate drug abuse through the creation of a Substance Abuse Committee, institution of a City-wide D.A.R.E. program in all local schools and other activities in support of a drug-free community. This policy is intended to extend that effort to contractors and grantees of the City of Costa Mesa in the elimination of dangerous drugs in the workplace.

**PURPOSE**

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It is the purpose of this Policy to:

1. Clearly state the City of Costa Mesa's commitment to a drug-free society.
2. Set forth guidelines to ensure that public, private, and nonprofit organizations receiving funds from the City of Costa Mesa share the commitment to a drug-free workplace.

**POLICY**

The City Manager, under direction by the City Council, shall take the necessary steps to see that the following provisions are included in all contracts and agreements entered into by the City of Costa Mesa involving the disbursement of funds.

1. Contractor or Sub-grantee hereby certifies that it will provide a drug-free workplace by:
  - A. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in Contractor's and/or sub-grantee's workplace, specifically the job site or location included in this contract, and specifying the actions that will be taken against the employees for violation of such prohibition;
  - B. Establishing a Drug-Free Awareness Program to inform employees about:

SUBJECT	POLICY NUMBER	EFFECTIVE DATE	PAGE
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1. The dangers of drug abuse in the workplace;
  2. Contractor's and/or sub-grantee's policy of maintaining a drug-free workplace;
  3. Any available drug counseling, rehabilitation and employee assistance programs; and
  4. The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;
- C. Making it a requirement that each employee to be engaged in the performance of the contract be given a copy of the statement required by subparagraph A;
- D. Notifying the employee in the statement required by subparagraph 1 A that, as a condition of employment under the contract, the employee will:
1. Abide by the terms of the statement; and
  2. Notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after such conviction;
- E. Notifying the City of Costa Mesa within ten (10) days after receiving notice under subparagraph 1 D 2 from an employee or otherwise receiving the actual notice of such conviction;
- F. Taking one of the following actions within thirty (30) days of receiving notice under subparagraph 1 D 2 with respect to an employee who is so convicted:
1. Taking appropriate personnel action against such an employee, up to and including termination; or
  2. Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health agency, law enforcement, or other appropriate agency;

SUBJECT	POLICY NUMBER	EFFECTIVE DATE	PAGE
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- G. Making a good faith effort to maintain a drug-free workplace through implementation of subparagraphs 1 A through 1 F, inclusive.
2. Contractor and/or sub-grantee shall be deemed to be in violation of this Policy if the City of Costa Mesa determines that:
    - a. Contractor and/or sub-grantee has made a false certification under paragraph 1 above;
    - b. Contractor and/or sub-grantee has violated the certification by failing to carry out the requirements of subparagraphs 1 A through 1 G above;
    - c. Such number of employees of Contractor and/or sub-grantee have been convicted of violations of criminal drug statutes for violations occurring in the workplace as to indicate that the contractor and/or sub-grantee has failed to make a good faith effort to provide a drug-free workplace.
  3. Should any contractor and/or sub-grantee be deemed to be in violation of this Policy pursuant to the provisions of 2 A, B, and C, a suspension, termination or debarment proceeding subject to applicable Federal, State, and local laws shall be conducted. Upon issuance of any final decision under this section requiring debarment of a contractor and/or sub-grantee, the contractor and/or sub-grantee shall be ineligible for award of any contract, agreement or grant from the City of Costa Mesa for a period specified in the decision, not to exceed five (5) years. Upon issuance of any final decision recommending against debarment of the contractor and/or sub-grantee, the contractor and/or sub-grantee shall be eligible for compensation as provided by law.

