CITY OF COSTA MESA
PUBLIC WORKS AGREEMENT FOR
CITY PROJECT NO. 22-07

THIS PUBLIC WORKS AGREEMENT ("Agreement"), dated January 17, 2023 ("Effective Date"), is made by the CITY OF COSTA MESA, a political subdivision of the State of California ("CITY"), and Elecnor Belco Electric, Inc., a California corporation ("CONTRACTOR").

WHEREAS, CITY desires to construct the public improvements described below under Paragraph 1, Scope of Work (the "Project"); and

WHEREAS, CITY has determined that CONTRACTOR is the lowest responsible bidder; and

WHEREAS, CITY now desires to contract with CONTRACTOR to furnish construction and related services for the Project; and

WHEREAS, CITY and CONTRACTOR desire to set forth their rights, duties and liabilities in connection with the services to be performed.

NOW, THEREFORE, for and in consideration of the covenants and conditions contained herein, the parties hereby agree as follows:

1. SCOPE OF WORK.

The scope of work generally consists of the Citywide New Traffic Signal and HAWK Signal Installation Project (the "Work").

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

The Project is known as City Project No. 22-07 (the "Project").

2. CONTRACT DOCUMENTS.

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

(a) This Agreement;

(b) CONTRACTOR's bid, attached hereto as Exhibit A and incorporated herein;

(c) Bid package, including, but not limited to, notice inviting bids, complete plans, profiles, detailed drawings and specifications, general provisions and special provisions. The bid package is attached hereto as Exhibit B and incorporated herein;

(d) Faithful Performance Bond and Labor and Material Bond, including agent's Power of Attorney for each bond, attached hereto as Exhibit C;

(e) Drug-Free Workplace Policy, attached hereto as Exhibit D and incorporated herein; and

(f) Provisions of the most current edition of The Greenbook: Standard Specifications for Public Works Construction ("The Greenbook"). Provisions of The Greenbook are incorporated by this 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 Seung Yang, 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 11 (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 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. COMPENSATION.

CITY shall pay CONTRACTOR in accordance with the fee schedule set forth in CONTRACTOR's bid. CONTRACTOR's total compensation shall not exceed Seven Hundred and Eighty-Four Thousand Eight Hundred and Seventy-Seven Dollars ($784,877.00).

8. 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.

9. 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 CITY with the Orange County Clerk-Recorder and after CONTRACTOR has 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).

10. PROMPT PAYMENT OF SUBCONTRACTORS.

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.

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.

11. 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 One-Hundred and Fifty (150) working days from the first day of commencement of the Work.

12. 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.

13. LIQUIDATED DAMAGES.

In the event the range upgrades scope of work or restroom improvements scope of 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 12 (Termination) of this Agreement, charge to CONTRACTOR or its sureties, or deduct from payments or credits due CONTRACTOR, a sum equal to Three Thousand Five Hundred Dollars ($3,500.00) as liquidated damages for each calendar 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.

14. 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 12 (Termination), of this Agreement. 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 13 (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.

15. 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.

16. 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.

17. 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.

18. 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.

19. CONTRACT SECURITY AND GUARANTEE.

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/or standard specifications; provided, however, that CONTRACTOR shall be obligated under this provision only to the extent of those failures or defects of which CONTRACTOR 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.

20. 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 attorneys' 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 21 (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 attorneys' 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.

21. INSURANCE.

(a) Minimum Scope and Limits of Insurance. CONTRACTOR shall not commence work under this Agreement until it has obtained all insurance required under this Paragraph 21 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.

CONTRACTOR shall obtain, maintain, and keep in full force and effect during the life of this Agreement all of the following minimum scope of insurance coverages with an insurance company admitted to do business in California, rated "A," Class X, or better in the most recent Best's Key Insurance Rating Guide, and approved by CITY:

(i) Commercial general liability, including premises-operations, products/completed operations, broad form property damage, blanket contractual liability, independent contractors, personal injury or bodily injury with a policy limit of not less than One Million Dollars ($1,000,000.00) per occurrence. If such insurance contains a general aggregate limit, it shall apply separately to this Agreement or shall be twice the required occurrence limit.

(ii) Business automobile liability for owned vehicles, hired, and non-owned vehicles, with a policy limit of not less than One Million Dollars ($1,000,000.00) combined single limit per accident for bodily injury and property damage.

(iii) Workers' compensation insurance as required by the State of California, with Statutory Limits, and Employer's Liability insurance with a limit of no less than One Million Dollars ($1,000,000.00) per accident for bodily injury or disease. CONTRACTOR agrees to waive, and to obtain endorsements

from its workers' compensation insurer waiving subrogation rights under its workers' compensation insurance policy against the CITY, its officers, agents, employees, and volunteers arising from work performed by CONTRACTOR for the CITY and to require each of its subcontractors, if any, to do likewise under their workers' compensation insurance policies.

(iv) Umbrella or excess liability insurance that will provide bodily injury, personal injury and property damage liability coverage at least as broad as the primary coverages set forth above, including commercial general liability, automobile liability, and employer's liability. Such policy or policies shall include the following terms and conditions:

(1) A drop down feature requiring the policy to respond in the event that any primary insurance that would otherwise have applied proves to be uncollectable in whole or in part for any reason;
(2) Pay on behalf of wording as opposed to reimbursement;
(3) Concurrency of effective dates with primary policies;
(4) Policies shall "follow form" to underlying primary policies; and
(5) Insureds under primary policies shall also be insureds under the umbrella or excess policies.

(b) Endorsements. The commercial general liability insurance policy and business automobile liability policy shall contain or be endorsed to contain the following provisions:

(i) Additional insureds: The City of Costa Mesa and its elected and appointed boards, officers, officials, agents, employees, and volunteers are additional insureds with respect to: liability arising out of activities performed by or on behalf of the CONTRACTOR pursuant to its contract with the City; products and completed operations of the CONTRACTOR; premises owned, occupied or used by the CONTRACTOR; automobiles owned, leased, hired, or borrowed by the CONTRACTOR."

(ii) 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."

(iii) Other Insurance: "CONTRACTOR's insurance coverage shall be primary insurance as respects the City of Costa Mesa, its officers, officials, agents, employees, and volunteers. Any other insurance maintained by the City of Costa Mesa shall be excess and not contributing with the insurance provided by this policy."

(c) Reporting Provisions. Any failure of CONTRACTOR to comply with the reporting provisions of the policies shall not affect coverage provided to the City of Costa Mesa, its officers, officials, agents, employees, and volunteers.

(d) Insurance Applies Separately. CONTRACTOR's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

(e) Deductible or Self-Insured Retention. 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.

(f) 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 City's Risk Management.

(g) Non-Limiting. Nothing in this Paragraph 21 shall be construed as limiting in any way, the indemnification provision contained in this Agreement, or the extent to which Consultant may be held responsible for payments of damages to persons or property.

22. PREVAILING WAGE REQUIREMENTS.

(a) Prevailing Wage Laws. CONTRACTOR is aware of the requirements of Chapter 1 (beginning at Section 1720 et seq.) of Part 7 of Division 2 of the California Labor Code, as well as Title 8, Section 16000 et seq. of the California Code of Regulations ("Prevailing Wage Laws"), which require the payment of prevailing wage rates and the performance of other requirements on "public works" and "maintenance" projects. This Project is a "public works" project and requires compliance with the Prevailing Wage Laws. CONTRACTOR shall defend, indemnify and hold the CITY, its elected officials, officers, employees and agents free and harmless from any claim or liability arising out of any failure or alleged failure to comply with the Prevailing Wage Laws.

(b) Payment of Prevailing Wages. CONTRACTOR shall pay the prevailing wage rates for all work performed under this Agreement. When any craft or classification is omitted from the general prevailing wage determinations, CONTRACTOR shall pay the wage rate of the craft or classification most closely related to the omitted classification. A copy of the general prevailing wage rate determination is on file in the Office of the City Clerk and is incorporated into this Agreement as if fully set forth herein. CONTRACTOR shall post a copy of such wage rates at all times at the project site(s).

(c) Legal Working Day. In accordance with the provisions of Labor Code Section 1810 et seq., eight (8) hours is the legal working day. CONTRACTOR and any subcontractor(s) of CONTRACTOR shall comply with the provisions of the Labor Code regarding eight (8)-hour work day and 40-hour work week requirements, and overtime, Saturday, Sunday, and holiday work. Work performed by CONTRACTOR's or any subcontractor's employees in excess of eight (8) hours per day, and 40 hours during any one week, must include compensation for all hours worked in excess of eight (8) hours

per day, or 40 hours during any one week, at not less than one and one-half times the basic rate of pay. CONTRACTOR shall forfeit as a penalty to CITY Twenty-Five Dollars ($25.00), or any greater penalty set forth in the Labor Code, for each worker employed in the execution of the Work by CONTRACTOR or by any subcontractor(s) of CONTRACTOR, for each calendar day during which such worker is required or permitted to the work more than eight (8) hours in one calendar day or more than 40 hours in any one calendar week in violation of the Labor Code.

(d) Apprentices. CONTRACTOR shall comply with the provisions of Labor Code Section 1777.5 concerning the employment of apprentices on public works projects. CONTRACTOR shall be responsible for ensuring compliance by its subcontractors with Labor Code Section 1777.5.

(e) Payroll Records. Pursuant to Labor Code Section 1776, CONTRACTOR and any subcontractor(s) shall keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by CONTRACTOR or any subcontractor in connection with this Agreement. Each payroll record shall contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following: (1) The information contained in the payroll record is true and correct; and (2) The employer has complied with the requirements of Sections 1771, 1881, and 1815 of the Labor Code for any work performed by his or her employees on this Project. The payroll records shall be certified and shall be available for inspection at all reasonable hours in accordance with the requirements of Labor Code Section 1776. CONTRACTOR shall also 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.

(f) Registration with DIR. CONTRACTOR and any subcontractor(s) of CONTRACTOR shall comply with the provisions of Labor Code Section 1771 and Labor Code Section 1725.5 requiring registration with the DIR.

23. 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.

24. 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. 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.

25. 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.

26. 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.

27. 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:

Elecnor Belco Electric, Inc.
14320 Albers Way
Chino, CA 91710
Attn: John Wong

28. 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.

29. 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.

30. 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.

31. 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.

32. 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.

33. ASSIGNABILITY.

This Agreement may not be 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 transfer or assignment, or attempted 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.

34. 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.

35. 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.

36. CONSTRUCTION.

The parties have participated jointly in the negotiation and drafting of this Agreement and have had an adequate opportunity to review each and every provision of the Agreement and submit the same to counsel or other consultants for review and comment. In the event an ambiguity or question of intent or interpretation arises with respect to this Agreement, this Agreement shall be construed as if drafted jointly by the parties and in accordance with its fair meaning. There shall be no presumption or burden of proof favoring or disfavoring any party by virtue of the authorship of any of the provisions of this Agreement.

37. 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.

38. 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.

[Signature page follows.]

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

_____ Date: _____
Lori Ann Farrell Harrison
City Manager

CONTRACTOR

_____ Date: _____
Signature

_____
Name and Title

ATTEST:

_____ Date: _____
Brenda Green
City Clerk

APPROVED AS TO FORM:

_____ Date: _____
Kimberly Hall Barlow
City Attorney

APPROVED AS TO INSURANCE:

_____ Date: _____
Ruth Wang
Risk Management

APPROVED AS TO PURCHASING:

_____ Date: _____
Carol Molina
Finance Director

DEPARTMENTAL APPROVAL:

_____ Date: _____
Raja Sethuraman
Public Works Director

_____ Date: _____
Seung Yang
Project Manager

EXHIBIT A

CONTRACTOR'S BID

SECTION C

PROPOSAL

FOR THE

CITYWIDE NEW TRAFFIC SIGNAL AND HAWK SIGNAL INSTALLATION PROJECT, CITY PROJECT NO. 22-07

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 **CITYWIDE NEW TRAFFIC SIGNAL AND HAWK SIGNAL INSTALLATION PROJECT, CITY PROJECT NO. 22-07,** 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 ONE HUNDRED FIFTY (150) 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:

BID SCHEDULE PROPOSAL

ITEM #	BID ITEM DECRIPTION	QTY.	UNIT	UNIT PRICE (in figures)	ITEMS TOTAL (in figures)
Project "A": NEW TRAFFIC SIGNAL AT W. 19TH STREET & WALLACE AVENUE					
1A	Mobilization and Demobilization	1	L.S.	12,000	12,000
2A	Implement Traffic Control, including all Equipment, Material, Labor, and Set Up (includes removal at the end of project)	1	L.S.	12,518	12,518
3A	Furnish and Install New Traffic Signal, including all Appurtenant Material, Equipment, Labor, and Construction to Produce a Full Functioning Traffic Signal that is Connected and Fully Communicates with the City's Traffic Management Center (TMC)	1	L.S.	336,000	336,000
4A	Complete Signing, Striping, and Markings per Plan	1	L.S.	9,673	9,673
5A	Implement Traffic Signal Interconnect and Full Functionality with the City's Traffic Management Center (TMC)	1	L.S.	17,879	17,879
6	Construct Two (2) Intersection "Bulb-Outs" at the Northerly Intersection of West 19th St. and Wallace Ave., including All Demolition & Haul Away, Construction of Concrete Sidewalk (4-inch Concrete over 4-inch C.M.B.), A.D.A. Curb Ramps per Plan, Curb & Gutter per Plan, Asphalt Concrete (A.C.) Slot Pave, and All Other Ancillary Work Needed for Completion per Engineer's Direction.				
6A	Asphalt Slot Paving (per Item #6 above)	25	TON	456	11,400
6B	Demolish Existing and Construct New C-6 Curb & Gutter [6-inch Portland Cement Concrete (PCC) over 6-inch Crushed Miscellaneous Base (CMB)] (per Item #6 above)	150	L.F.	137	20,550
6C	Demolish Existing and Construct New C-8 Curb & Gutter [6-inch Portland Cement Concrete (PCC) over 6-inch Crushed Miscellaneous Base (CMB)] (per Item #6 above)	40	L.F.	171	6,840
6D	Demolish Existing and Construct New Sidewalk [4-inch Portland Cement Concrete (PCC) over 4-inch Crushed Miscellaneous Base (CMB)] (per Item #6 above)	1,600	S.F.	35	56,000
6E	Install New Truncated Domes (Federal Yellow) at All Newly Constructed Curb Ramps (per Item #6 above)	5	EA	4,552	22,760
6F	Demolish Existing and Construct New Cross-Gutter [8-inch Portland Cement Concrete (PCC) over 8-inch Crushed Miscellaneous Base (CMB)] (per Item #6 above)	50	S.F.	114	5,700

JW
Bidder's Initials

Project "B": NEW HAWK SIGNAL AT W. 18TH STREET ACROSS FROM LIONS PARK					
1B	Mobilization and Demobilization	1	L.S.	3,000	3,000
2B	Implement Traffic Control, including all Equipment, Material, Labor, and Set Up (includes removal at the end of project)	1	L.S.	3,700	3,700
3B	Furnish and Install New HAWK Signal, including all Appurtenant Material, Equipment, Labor, and Construction to Produce a Full Functioning HAWK Signal	1	L.S.	143,888	143,888
4B	Complete Signing, Striping, and Markings per Plan	1	L.S.	8,250	8,250

Project "C": NEW HAWK SIGNAL AT WILSON STREET ACROSS FROM WILSON PARK					
1C	Mobilization and Demobilization	1	L.S.	3,000	3,000
2C	Implement Traffic Control, including all Equipment, Material, Labor, and Set Up (includes removal at the end of project)	1	L.S.	3,700	3,700
3C	Furnish and Install New HAWK Signal, including all Appurtenant Material, Equipment, Labor, and Construction to Produce a Full Functioning HAWK Signal	1	L.S.	103,638	103,638
4C	Complete Signing, Striping, and Markings per Plan	1	L.S.	4,381	4,381

TOTAL BID PROPOSAL FIGURES: $ 784,877

TOTAL BID PROPOSAL (Words):

SEVEN HUNDRED EIGHTY FOUR THOUSAND EIGHT HUNDRED SEVENTY SEVEN DOLLARS AND ZERO CENTS

The award of the Contract shall be based on the lowest responsive Bid amount, and the City reserves the right to delete one or more bid items and/or to increase and/or to decrease bid items' quantities.

The CITY also reserves the right to reject all Bids.

JW
Bidder's Initials

PROPOSAL BID 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).

6. Bidder agrees to initial or notarize (if applicable) all pages on P-1, P-1a, P-1b, P1-c, and through P-11 uploaded onto *PlanetBids*.

JW

Bidder's Initials

PROPOSAL SCHEDULE
(CONTINUED)

(Please Type or Print)

Total Amount for Base Bid (in written words) SEVEN HUNDRED EIGHTY FOUR THOUSAND EIGHT HUNDRED SEVENTY SEVEN ($ 784,877.00 in figures)

Contractor's Lawful Name: Elecnor Belco Electric, Inc.

Bidder's Name: John Wong Bidder's Initials: JW

Contractor's License No. 738518 Expiration: 7/31/2023

Contractor's Taxpayer I.D. Number: 33-0768970

Contractor's DIR Registration Number: 1000004804

Signature: , John Wong Date: 11/2/2022

Contractor's Address: 14320 Albers Way, Chino, CA 91710

Telephone Number: (909) 993-5470 Mobile No.: ( )

Fax Number: (909) 993-5476 E-mail: jwong@elecnor.com

24-Hour Emergency Contacts:

Ralph Antuna
Name — Telephone Number: (909) 993-5470
Mobile No.: ( )

Name — Telephone No.: ( )
Mobile No.: ( )

Name — Telephone No.: ( )
Mobile No.: ( )

JW
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 Bidder's Bond ($10% of Bid Amount) 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.

JW
Bidder's Initials

Respectfully Submitted,

Elecnor Belco Electric, Inc.
Contractor's Business Name

14320 Albers Way
Business Address: Street

Chino | CA | 91710
City | State | Zip

(909)993-5470
Business Phone Number

John Wong | Vice President
Name | Title

Chino | CA | 91710
City | State | Zip

Elecnor Belco Electric, Inc. | Vice President
Contractor | Title

, John Wong / Vice President
Singed By | Title

738518 | A, B, C-10 | 7/31/2023
Contractor's License No. and Classification | Exp. Date

11/2/2022
Date

Rowland Heights
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: 33-0768970

	Can Sign	Must Sign
Name John Wong	☒	☒
Name	☐	☐
Name	☐	☐

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.

Alberto Garcia De Los Angeles - President

John Wong - Vice President

Jeroni Gervilla - Treasurer

Pedro Enrile - Secretary

JW
Bidder's Initials

UNANIMOUS WRITTEN CONSENT IN LIEU OF
2021 ANNUAL MEETING OF THE BOARD OF DIRECTORS
OF
ELECNOR BELCO ELECTRIC, INC.

January 1, 2021

The undersigned, being all of the members of the Board of Directors (the "Board") of Elecnor Belco Electric, Inc., a California corporation (the "Company"), in lieu of holding a meeting of the Board, hereby take the following actions and adopt the following resolutions by unanimous written consent:

WHEREAS, the Board has determined that it is in the Company's best interests to appoint a revised slate of Officers of the Company.

NOW, THEREFORE, BE IT RESOLVED, that the following persons be, and hereby are, elected to the offices set forth opposite their respective names, to hold such offices until their respective successors are elected and qualified at or before the next annual meeting of the Board, or until their earlier respective deaths, resignations or removals:

NAMES	OFFICE
Alberto Garcia De Los Angeles	President and Chief Executive Officer
Jeroni Gervilla	Chief Financial Officer
Roger DeVito	Senior Vice President, General Counsel and Assistant Secretary
Pedro Enrile	Secretary
Leonardo Sancho Francés	Vice President
John Wong	Vice President for Construction

FURTHER RESOLVED, that Alberto Garcia De Los Angeles, Jeroni Gervilla, Alberto Garcia and Roger DeVito in their respective capacities (listed above) subject to such supervisory powers of the Board of Directors, hereby are authorized and directed to perform all the duties commonly incident to that office; shall have authority to execute in the name of the Company contracts, leases and other written instruments to be executed by the Company; and, shall perform such other duties as the Board of Directors may from time to time determine.

FURTHER RESOLVED, that the President and Chief Executive Officer may delegate authority to any Chief Financial Officer or Chief Operating Officer or Senior Vice President or Vice President as and within their authority levels as set forth in the Company's Bylaws, as the same may be amended from time to time;

FURTHER RESOLVED, that Roger DeVito, in his capacity of Senior Vice President, or Leonardo Sancho Francés in his capacity of Vice President are hereby authorized and directed to:

1. Negotiate, sign, amend and terminate agreements in connection with the purpose of the Company, for all contracts up to $250,000.00, and acting jointly with Alberto Garcia De Los Angeles or Jeroni Gervilla for all contracts in amounts greater than $250,000.00.

2. Execute, amend and finalize bid proposals in connection with the purpose of the Company, for all proposals up to $1,000,000.00, and acting jointly with Alberto Garcia De Los Angeles or Jeroni Gervilla for all proposals in amounts greater than $1,000,000.00.
3. Acting jointly with Alberto Garcia De Los Angeles or Jeroni Gervilla, execute, amend and finalize purchase orders for materials and equipment in connection with the purpose of the Company.
4. Acting jointly with Alberto Garcia De Los Angeles or Jeroni Gervilla, execute, amend and terminate agreements for the lease of real estate to be used as offices or job related temporary yards.
5. Acting jointly with Alberto Garcia De Los Angeles or Jeroni Gervilla, execute, amend and terminate insurance and/or bid bonds arrangements in connection with the purpose of the Company.
6. Acting jointly with Alberto Garcia De Los Angeles or Jeroni Gervilla, hire, suspend, impose sanctions and dismiss the administrative personnel of the Company, setting forth their employment terms and conditions, obligations and remuneration.
7. Acting jointly with Alberto Garcia De Los Angeles or Jeroni Gervilla, settle and claims on behalf of the Company.

AND IT IS FURTHER RESOLVED, that all actions heretofore taken by the officers of the Company on behalf of and in the name of the Company, relating to the conduct of the business of the Company, the expenditure of money, the making of contracts and all other acts taken or omitted in the performance of their duties to the Company be, and the same hereby are, in all respects, approved, ratified and affirmed, as of the date taken, done or omitted, respectively.

The actions taken by the Board Consent shall have the same force and effect as if taken by the undersigned at a meeting of the Board of Directors, duly called and constituted pursuant to the Bylaws of the Company and the laws of the State of California. This Board Consent may be executed in counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same document.

IN WITNESS WHEREOF, the undersigned, being all of the members of the Board of Directors of Elecnor Belco Electric, Inc., have executed these actions by written consent as of the date first written above.

Argimiro Ramon, Director

Luis Alcibar, Director

Alexander Arrola, Director

Bidder shall signify receipt of all Addenda here, if any:

Addendum No.	Date Received	Bidder's Signature
1	11/3/2022	

CONSTRUCTION PROJECT REFERENCES

In order to more fully evaluate your firm's background and experience for the project herein proposed, it is requested that you submit a list of Public Works and/or similar construction projects completed, or in progress, within the last 24 months. This information will be used to evaluate whether the bid is responsive and or responsible to the call for bids.

Date Project Awarded	Awarding Agency	Agency's Contract Administrator Contact Information
* Please see attached		

JW
Bidder's Initials

CITY OF COSTA MESA

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

FROM THE PUBLIC WORKS DEPARTMENT / ENGINEERING DIVISION

DATE: **NOVEMBER 3, 2022**

TO: **ALL PROSPECTIVE BIDDERS**

SUBJECT: **ADDENDUM NO. 1 – CITYWIDE NEW TRAFFIC SIGNAL AND HAWK SIGNAL INSTALLATION PROJECT, CITY PROJECT NO. 22-07**

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 janet.zuazo@costamesaca.gov. **A COPY WILL NOT BE SENT BY MAIL.**

Received by: _____, John Wong Vice President

Company: Elecnor Belco Electric, Inc.

All bidders shall register with PlanetBids.com in order to retrieve addenda. It is the responsibility of each prospective bidder to check the City's PlanetBids.com portal at: https://www.planetbids.com/portal/portal.cfm?CompanyID=45476 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 added to the *Notice to Bidders, Proposal, Contract, and Special Provisions* (i.e., bid project documents):

- Design plans from Southern California Edison (SCE) for all project locations. SCE design plans reflect power connections, conduit installations, hardware installations, etc.

The following **SHALL** be replaced in its complete entirety to the *Notice to Bidders, Proposal, Contract, and Special Provisions* (i.e., bid project documents):

- Clearer traffic signal and HAWK signal plans for all the project locations. No edits to the plans were made.
- Revised Notice Inviting Bids (pages N-1 and N-2). Change made to Item No. 6: CONTRACTOR'S LICENSE. C-10 (Electrical) license added along with Class "A" (General Engineering Contractor) license.
- Revised SECTION C (i.e., Bid Proposal Schedule) [pages P-1a and P-1b]. Concrete curb extensions (i.e., "bulb-outs") are now line itemized instead of lump sum.
- Revised SECTION E – SPECIAL PROVISIONS [pages SP-33 and SP-34]. Itemized requirements for the concrete curb extensions (i.e., "bulb-outs").

The following are Question and Answer (Q&A) responses to bidder questions:

1. **Question:** Is a non-admitted surplus line carrier approved by the State of California Dept. of Insurance allowable to meet the City's insurance requirement? If yes, please provide rating.

   Answer: Please follow the instructions in Section "F" – Miscellaneous Contract Documents, in which there is a document titled "INSURANCE REQUIREMENT FOR CITY OF COSTA MESA." Insurance company ratings must be at least B++, BBB, or Baa1.

2. **Question:** Refer to page "GP6" where the contractor is directed to Appendix "C" – Caltrans Encroachment Permit. Caltrans encroachment permit not found in appendix. Can you please provide and include fee for permit, double permit rider, etc. related to Caltrans?

   Answer: No Caltrans encroachment permit is necessary. Only City of Costa Mesa Public Works encroachment permit is necessary.

3. **Question:** Are there any SCE fees borne by the contractor? If yes, what are the fees?

   Answer: Only City-specific SCE fees will be borne by the City. All other SCE fees are considered project related and will be borne by the contractor. Actual fee amounts will be determined by SCE. Bidding proposers are advised to submit bids that reflect and cover these costs.

4. **Question:** Are there any specific SCE plans made available for this project?

   Answer: Yes, the SCE plans are attached to this bid addendum (see page 1 of this bid addendum).

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 *janet.zuazo@costamesaca.gov*.

Please acknowledge receipt of this bid addendum by signing on page "P-4" of the proposal within the bid contract documents AND by filling out and signing within the rectangle on the first page of this bid addendum and e-mailing it to *janet.zuazo@costamesaca.gov*.

Sincerely,

S. Yang

Seung Yang, P.E.
City Engineer

SY: Attachments

belco electric

ACTIVE TRANSPORTATION PROJECTS

4/27/2022

JOB NO.	PROJECT NAME	LOCATION	CLIENT	TOTAL CONTRACT VALUE
14-0042	INTERSECTION IMPROVEMENT UNIT 15 CIP/STM	LOS ANGELES	CITY OF LOS ANGELES	$465,582.32
14-0158	WESTSIDE UNIT 2 SERIES TO MULTIPLE HV CONV.	LOS ANGELES	CITY OF LOS ANGELES	$2,279,074.00
14-0184	VENICE DUAL FORCE MAIN	LOS ANGELES	VADNIAS TRENCHLESS SERVICES	$401,317.00
14-0187	TRACT 17057 AND 17572	CHINO	ALL AMERICAN ASPHALT	$455,271.50
14-0215	CONTRACT D1 ON-SITE STREET IMPROVEMENTS	IRVINE	HILLCREST CONTRACTING	$233,580.03
14-0234	ATP SAFE ROUTES TO SCHOOL	LOS ANGELES	SULLY MILLER CONTRACTING	$1,957,800.00
14-0257	TRACT 19994 BLOCK 4 STREET IMPROVEMENTS	CHINO	ALL AMERICAN ASPHALT	$956,984.00
14-0260	EUCLID AVE. STREET & TRAFFIC IMPROVEMENTS	CHINO	ALL AMERICAN ASPHALT	$369,939.00
14-0261	FERN AVE. AND EUCALYPTUS AVE.	CHINO	LENNAR HOMES	$342,686.00
14-0262	PINE AVE. STREET IMPROVEMENTS	CHINO	ALL AMERICAN ASPHALT	$243,449.66
14-0270	ENHANCED MTA SECURITY LIGHTING	LOS ANGELES	CITY OF LOS ANGELES	$538,472.00
14-0293	TAYLOR YARD BIKEWAY/PEDESTRIAN BRIDGE	LOS ANGELES	ORTIZ ENTERPRISES, INC.	$1,606,000.00
14-0313	PORTOLA SPRINGS (PA-6) ENCLAVE 5B BASIN 70A	IRVINE	ALL AMERICAN ASPHALT	$217,500.00
14-0314	PORTOLA SPRINGS (PA-6) ENCLAVE 5B BASIN 70B	IRVINE	ALL AMERICAN ASPHALT	$215,700.00
14-0321	D5 ASTOR, CADENCE/TREBLE AND MERIT	IRVINE	ALL AMERICAN ASPHALT	$99,162.09
14-0327	RCMU FIBER - OUTSIDE PLANT FO NETWORK	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$0.00
14-0327.3	RCMU FIBER - 432 BACKBONE	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$551,033.31
14-0327.5	RCMU FIBER - THE ROW	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$184,828.95
14-0327.6	RCMU FIBER - DAY CREEK	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$319,239.18
14-0327.7	RCMU FIBER - THE RESORT	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$536,409.31
14-0327.14	RCMU FIBER - MAYTEN BUSINESS PARK XT GREEN	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$26,345.70
14-0327.15	RCMU FIBER - WESTERN NATIONAL BUILDERS TRAILERS	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$3,501.20
14-0327.016	RCMU FIBER - 432 FIBER BACKBONE BUILD ARCHIBALD	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$122,403.75
14-0327.017	RCMU FIBER - DIAMOND CARD	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$134,685.12
14-0327.018	RCMU FIBER - HAVEN SQUARE	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$5,001.94
14-0327.019	RCMU FIBER - 7TH AND 8TH ST AO SMITH	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$57,565.23
14-0327.020	RCMU FIBER - HOMECOMING AT THE RESORT	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$513,417.63
14-0327.021	RCMU FIBER - 7199 HAVEN AVE. HAVEN COURT	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$7,991.00
14-0327.999	RCMU FIBER - EXPLORATORY WORK	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$60,603.08
14-0341	VENTURA BLVD.	LOS ANGELES	CITY OF LOS ANGELES	$815,801.00
14-0350	SPLICING AND TESTING OF FIBER OPTIC CABLE	PASADENA	CITY OF PASADENA	$369,025.00
14-0353	UNITED ROCK INTERSECTION IMPROVEMENT	IRWINDALE	SULLY-MILLER CONTRACTING	$451,224.00
14-0355	SUNKIST ELEMENTARY SCHOOL	ANAHEIM	PINNER CONSTRUCTION, INC.	$65,160.63
14-0369	MAIN ST. IMPROVEMENTS	LOS ANGELES	SULLY-MILLER CONTRACTING	$1,579,500.00
14-0375	WILSHIRE BLVD.	LOS ANGELES	CITY OF LOS ANGELES	$2,256,913.00
14-0411	TRAFFIC SIGNAL BATTERY BACKUP	CHINO	CITY OF CHINO	$234,000.00
14-0414	EDINGER PROTECTED BIKE LANES	SANTA ANA	ALL AMERICAN ASPHALT	$234,553.00
14-0417	SAN FERNANDO RD. BIKE PATH PHASE 3	LOS ANGELES	SULLY-MILLER CONTRACTING	$3,464,000.00
14-0422	GRAND AVE. AND GOLDEN SPRINGS DR.	INDUSTRY	LOS ANGELES ENGINEERING	$939,317.00
14-0432	SAN PEDRO WATERFRONT BERTHS 74-84	LOS ANGELES	GRIFFITH COMPANY	$4,734,000.00
14-0433	PALMDALE RD. AND MCART RD.	VICTORVILLE	DESERT DESIGN BUILDERS	$348,785.00
14-0435	GARFIELD AVE. AT RANDOLPH ST.	LOS ANGELES	COUNTY OF LOS ANGELES	$728,530.00
14-0439	INNOVATION PARK OFFSITE - SAND CANYON	IRVINE	HILLCREST CONTRACTING	$303,000.00
14-0455	CASCADE STREET IMPROVEMENTS	ONTARIO	ALL AMERICAN ASPHALT	$126,281.00
14-0461	BICKMORE AVE.	CHINO	HILLCREST CONTRACTING	$492,200.00
14-0466	SAN PEDRO WATERFRONT	LOS ANGELES	SULLY-MILLER CONTRACTING	$1,085,000.00
14-0473	ON-CALL TRAFFIC SIGNAL CONSTRUCTION	LOS ANGELES	COUNTY OF LOS ANGELES	$0.00
14-0473.001	CESAR AVE AT ALMA AVE	EAST LOS ANGELES	COUNTY OF LOS ANGELES	$201,311.64
14-0473.002	POTRERO GRANDE AVE AT DEL MAR AVE	SAN GABRIEL	COUNTY OF LOS ANGELES	$391,911.14

belco electric

ACTIVE TRANSPORTATION PROJECTS

4/27/2022

JOB NO.	PROJECT NAME	LOCATION	CLIENT	TOTAL CONTRACT VALUE
14-0473.003	EASTERN AVE AT CITY TERRACE DR	EAST LOS ANGELES	COUNTY OF LOS ANGELES	$359,600.41
14-0473.004	CYPRESS ST AT IRWINDALE AVE	IRWINDALE	COUNTY OF LOS ANGELES	$160,721.29
14-0473.005	HILLCREST PKWY AT BERYL PLACE	CASTAIC	COUNTY OF LOS ANGELES	$160,535.73
14-0473.006	1ST ST AT MARIANNA AVE	EAST LOS ANGELES	COUNTY OF LOS ANGELES	$192,116.24
14-0473.007	FAIRGROVE AVE AT SANDIA AVE	LA PUENTE	COUNTY OF LOS ANGELES	$155,979.89
14-0473.008	COMPTON ST AT NADEAU AVE	COMPTON	COUNTY OF LOS ANGELES	$75,244.94
14-0487	ADVANCED TRAFFIC MANAGEMENT	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$1,169,745.00
14-0492	CHAKEMCO ST. IMPROVEMENT	SOUTH GATE	HARDY AND HARPER	$54,000.00
14-0496	VALLEY BLVD. AT ALMOND AVE. TRAFFIC SIGNAL	FONTANA	ALL AMERICAN ASPHALT	$408,000.00
14-0497	TRAFFIC SIGNAL AND ADA IMPROVEMENTS	PALM SPRINGS	CITY OF PALM SPRINGS	$2,847,759.00
14-0500	MERRILL AND HAVEN AVE. STREET IMPROVE	ONTARIO	ALL AMERICAN ASPHALT	$31,627.00
14-0501	HWY 18 AND APPLE VALLEY RD.	APPLE VALLEY	POWELL CONSTRUCTORS	$614,303.00
14-0504	RANCHO DIAMANTE	HEMET	LENNAR HOMES	$112,917.00
14-0508	HIGHLAND FAIRVIEW - CORPORATE PARK PHASE III	MORENO VALLEY	MILLIE AND SEVERSON	$62,095.00
14-0509	COLORADO ST. AND COLUMBUS AVE.	GLENDALE	HARDY AND HARPER	$498,563.00
14-0514	EUCALYPTUS AVE. STREET IMPROVEMENT	ONTARIO	ALL AMERICAN ASPHALT	$681,600.00
14-0517	PROTECTED LEFT-TURN SIGNAL	RIALTO	CITY OF RIALTO	$710,906.00
14-0518	WILMINGTON WATERFRONT PROMENADE	PORT OF LOS ANGELES	SULLY-MILLER CONTRACTING	$5,688,320.00
14-0519	BRIGGS RD. AND EVENING GLOW DR. TS	FRENCH VALLEY	COUNTY OF RIVERSIDE	$356,105.00
14-0520	SYCAMORE CANYON BLVD. AND MINNESOTA WAY	BOX SPRINGS	COUNTY OF RIVERSIDE	$499,023.00
14-0521	TRAFFIC SIGNAL LEFT TURN PHASING UPGRADE	CULVER CITY	CITY OF CULVER CITY	$1,610,080.00
14-0522	BROADWAY IMPROVEMENTS	CARSON	CITY OF CARSON	$1,188,835.00
14-0523	BASELINE ROAD IMPROVEMENT PROJECT	RIALTO	ALL AMERICAN ASPHALT	$49,921.00
14-0524	TRAFFIC INTERCONNECT SYSTEM UPGRADES	COMMERCE	CITY OF COMMERCE	$1,257,818.00
14-0525	GROVE, MERRILL AND FLIGHT AVE.	CHINO	ALL AMERICAN ASPHALT	$132,687.00
14-0526	GROVE, FLIGHT AND MERRILL AVE. TS	CHINO	MILLIE AND SEVERSON	$811,260.00
14-0529	GILBERT ST. / IDAHO ST. REGIONAL TS SYNCH.	FULLERTON	CITY OF FULLERTON	$213,678.00
14-0532	FAIRVIEW RD. HSIP IMPROVEMENT PROJECT	COSTA MESA	HARDY AND HARPER	$262,256.00
14-0538	PRAIRIE AVE. IMPROVEMENT PROJECT - PHASE II	HAWTHORNE	SHAWNAN	$137,390.00
14-0539	ROADWAY AND UTILITY IMPROVEMENTS	RANCHO MIRAGE	GRANITE CONSTRUCTION	$831,400.00
14-0540	CV LINK MULTI-MODAL TRANSPORTATION	COACHELLA VALLEY	AMES CONSTRUCTION, INC.	$1,527,471.00
14-0541	MAJOR STREET REHABILITATION	POMONA	ALL AMERICAN ASPHALT	$1,056,000.00
14-0543	ADVANCED DILEMMA ZONE DETECTION ZONE	MORENO VALLEY	CITY OF MORENO VALLEY	$812,979.00
14-0544	ALTITUDE BUSINESS CENTER TS	CHINO	PACIFIC COAST ENGINEERING, INC.	$1,159,550.00
14-0546	WEST HAVEN OFFSITE STREET IMPROVEMENTS	ONTARIO	ALL AMERICAN ASPHALT	$120,382.00
14-0547	MERRILL AVE. BRIDGE WIDENING	ONTARIO	POWELL CONSTRUCTORS	$151,280.00
14-0548	190TH ST. KING HARBOR ENTRY SIGN	REDONDO BEACH	CITY OF REDONDO BEACH	$126,820.00
14-0549	LITTLE LEAGUE DR. AND MAGNOLIA AVE. SL	SAN BERNARDINO	TRUMARK HOMES	$129,746.00
14-0551	TRAFFIC SIGNAL HARDWARE UPGRADES	PALM DESERT	CITY OF PALM DESERT	$287,912.00
14-0552	ALTITUDE BUSINESS CENTER ST. IMPROV.	CHINO	HARDY AND HARPER	$62,536.00
14-0553	CROSSROADS II	BEAUMONT	GRANITE CONSTRUCTION	$533,692.00
14-0554	CANYON SPRINGS MARKET PLACE	RIVERSIDE	DPR CONSTRUCTION	$458,839.00
14-0555	HIGHLAND AVE. AT 210	SAN BERNARDINO	ALL AMERICAN ASPHALT	$343,789.00
14-0556	RADAR FEEDBACK SIGNS	ORANGE	CITY OF ORANGE	$181,800.00
14-0557	PCH AT HAWTHORNE BLVD. INTERSECTION IMP.	TORRANCE	GRIFFITH COMPANY	$660,834.00
14-0558	CENTRAL AVE. INTERCHANGE AT STATE ROUTE 60	CHINO	SECURITY PAVING	$1,597,000.00
14-0560	LOS ANGELES COUNTRY CLUB	LOS ANGELES	BERGELECTRIC	$21,644.00
14-0562	JAMES A. MUSICK FACILITY JAIL	IRVINE	BERGELECTRIC	$244,312.00
14-0563	RAMONA EXPRESSWAY	GILMAN HOT SPRINGS	ALL AMERICAN ASPHALT	$140,049.00

belco
electric

ACTIVE TRANSPORTATION PROJECTS

4/27/2022

JOB NO.	PROJECT NAME	LOCATION	CLIENT	TOTAL CONTRACT VALUE
14-0564	SHADOW ROCK AND HIGHLAND PARK TS	JURUPA VALLEY	LENNAR	$690,034.00
14-0565	TS MODIFICATIONS PROJECT	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$209,074.00
14-0568	USC HSC VALLEY SURFACE APRKING LOT	LOS ANGELES	BERGELECTRIC	$17,622.50
14-0570	9TH AND VINEYARD	RANCHO CUCAMONGA	FULLMER CONSTRUCTION	$52,000.00
14-0571	THE NOW	WEST HOLLYWOOD	LAYTON CONSTRUCTION	$52,000.00
14-0574	RESIDENTIAL ST. REHABILITATION	TORRANCE	ALL AMERICAN ASPHALT	$62,937.24
14-0576	ARTESIA MITIGATE PEDESTRIAN AND BICYCLE	ARTESIA	HARDY AND HARPER	$197,800.00
14-0579	LINCOLN AVE. PEDESTRIAN PATHWAY	SANTA ANA	WRIGHT CONSTRUCTION	$94,150.00
14-0580	N. INDIAN CANYON DR. WIDENING	N. PALM SPRINGS	ALL AMERICAN ASPHALT	$298,628.00
14-0581	GREEN TREE BLVD. EXTENSION	VICTORVILLE	SKANSKA	$1,178,744.00
14-0583	CALTRANS 08-1F7304	COLTON	SECURITY PAVING	$1,266,000.00
14-0588	TS MOD - LAKEWOOD AND HARDWICK	LAKEWOOD	CITY OF LAKEWOOD	$287,248.00
14-0589	13131 LOS ANGELES ST.	IRWINDALE	DUKE REALTY	$424,986.00
14-0592	TS INSTALLATION AND MOD. - PHASE 2	GLENDALE	CITY OF GLENDALE	$1,948,065.00
14-0593	ANAHEIM CANYON METROLINK STATION	ANAHEIM	STACEY AND WITBECK	$717,209.00
14-0594	2021 FALL PAVEMENT REHABILITATION	ONTARIO	ALL AMERICAN ASPHALT	$163,486.00
14-0597	VICTORIA ST. AND HERITAGE CIRCLE TS	FONTANA	TRI POINTE HOMES, INC.	$446,200.00
14-0599	BUILDING 14 CONSTRUCTION	SANTA ANA	BRIGGS ELECTRIC, INC.	$289,480.00
14-0602	STREET RESURFACING AND SEWER REPAIR	GLENDALE	TORO ENTERPRISES	$93,575.00
14-0603	223RD ST. IMPROVEMENTS	CARSON	ALL AMERICAN ASPHALT	$49,872.00
14-0604	EDISON AVE. STREET IMPROVEMENTS	CHINO	ALL AMERICAN ASPHALT	$1,396,190.00
14-0605	DOWNTOWN FIBER OPTIC COMMUNICATIONS	HUNTINGTON BEACH	CITY OF HUNTINGTON BEACH	$626,451.00
14-0606	TRAFFIC SIGNAL MODIFICATIONS	HUNTINGTON BEACH	CITY OF HUNTINGTON BEACH	$357,636.00
14-0608	MISSION BLVD. PAVEMENT REHABILITATION	JURUPA VALLEY	ALL AMERICAN ASPHALT	$22,488.00
14-0609	CITY-WIDE TS IMPROVMENTS PROJECT	CLAREMONT	CITY OF CLAREMONT	$479,153.00
14-0610	HARBOR BLVD. AND ARBOLITA DR. TS	LA HABRA	CITY OF LA HABRA	$290,580.00
14-0611	BASE LINE RD. STREET LIGHT	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$10,875.00
14-0612	2019/2020 ARTERIAL AND MINOR ST. MAINT.	RIVERSIDE	ALL AMERICAN ASPHALT	$349,160.00
14-0614	HIGHWAY SAFETY CYCLE 6 - OLYMPIC BLVD.	LOS ANGLES	CITY OF LOS ANGELES	$566,499.00
14-0615	HERITAGE TRAFFIC SIGNAL MODIFICATIONS	REDLANDS	LENNAR	$335,800.00
14-0616	CITY OF HOPE CANCER CENTER	IRVINE	BERGELECTRIC	$10,000.00
14-0617	HIGUERA ST. BRIDGE REPLACEMENT	CULVER CITY	ORTIZ ENTERPRISES	$303,000.00
14-0619	LOS ALISOS BLVD.	MISSION VIEJO	ALL AMERICAN ASPHALT	$107,085.00
14-0620	THE HOMESTEAD - LIMONITE AVE.	EASTVALE	ALL AMERICAN ASPHALT	$369,000.00
14-0621	INSTALLATION OF FLASHING BEACON	PALM SPRINGS	CITY OF PALM SPRINGS	$317,838.00
14-0622	CENTINELA AVE.	INGLEWOOD	ALL AMERICAN ASPHALT	$2,879,770.00
14-0623	EL MONTE BIKE BLVD.	EL MONTE	ALL AMERICAN ASPHALT	$21,600.00
14-0624	STREET REHABILITATION - GRAND AVE.	CHINO	SEQUEL CONTRACTORS	$801,300.00
14-0625	D3 BARRANCA AND LAUNCH	IRVINE	HARDY AND HARPER	$275,800.00
14-0626	GRAND AVE. PAVEMENT REHABILITATION	CHINO HILLS	RJ NOBLE	$77,554.00
14-0627	INGLEWOOD AVE. & MANHATTAN BEACH BLVD.	REDONDO BEACH	ALL AMERICAN ASPHALT	$277,891.00
14-0628	GLENDALE RATPMS	GLENDALE	CITY OF GLENDALE	$342,300.00
14-0629	ON-CALL FIBER OPTIC TESTING	GLENDALE	CITY OF GLENDALE	$500,000.00
14-0631	NEIGHBORHOOD STREET IMPROVEMENTS	PARAMOUNT	ALL AMERICAN ASPHALT	$24,894.00
14-0632	INYOKERN AND JACK'S RANCH GATE	CHINA LAKE	BERGELECTRIC	$645,559.00
14-0633	YNEZ RD. AND WAVERLY LANE	TEMECULA	MERITAGE HOME OF CALIFORNIA	$461,679.00
14-0634	VILLAGE CENTER DR.	CHINO HILLS	HARDY AND HARPER	$84,500.00
14-0635	SLOVER AVE. DRAINAGE AND TS IMPROVEMENTS	SAN BERNARDINO	VANCE CORPORATION	$223,250.00
14-0636	WINCHESTER RD. AND THOMPSON AVE.	FRENCH VALLEY	FRENCH VALLEY MARKETPLACE, LLC	$347,620.00

belco
electnor

ACTIVE TRANSPORTATION PROJECTS

4/27/2022

JOB NO.	PROJECT NAME	LOCATION	CLIENT	TOTAL CONTRACT VALUE
14-0638	FULLERTON RD. GRADE SEPARATION	INDUSTRY	SKANSKA	$2,435,000.00
14-0639	LIGHT POLE INSTALLATION	POMONA	FOOTHILL TRANSIT	$24,150.00
14-0640	UCI VERANO 8	IRVINE	BERGELECTRIC	$17,500.00
14-0641	ATP SAFE ROUTES TO SCHOOL	ONTARIO	ALL AMERICAN ASPHALT	$917,480.00
14-0642	RUNWAY EDGES ENHANCEMENT PROJECT	FULLERTON	ALL AMERICAN ASPHALT	$1,031,900.00
14-0643	HSIP CYCLE 8 TS IMPROVEMENTS	LAKE ELSINORE	CITY OF LAKE ELSINORE	$589,101.00
14-0644	CITY OF HOPE NORTH EAST PARKING STRUCTURE	DUARTE	BERGELECTRIC	$16,000.00
14-0645	WEST CARSON COMMUNITY BIKEWAYS	LOS ANGELES	HARDY AND HARPER	$78,071.00
14-0646	17TH ST./SMC/EXPO BIKE PATH	SANTA MONICA	ACCESS PACIFIC, INC.	$1,690,920.00
14-0647	PAVEMENT REHAB.	MORENO VALLEY	ALL AMERICAN ASPHALT	$103,172.00
14-0648	ALABAMA ST. AND ORANGE AVE.	REDLANDS	WERMERS COMPANIES	$365,730.00
14-0649	POTHOLE EXISTING UTILITES	MENIFEE	LENNAR	$20,000.00
14-0650	CLARK AVE. REHABILITATION PROJECT	BELLFLOWER	RJ NOBLE COMPANY	$60,264.00
14-0651	HISP PERRIS BLVD.	PERRIS	CITY OF PERRIS	$740,264.00
14-0652	PLAZA DEL AMO	TORRANCE	ALL AMERICAN ASPHALT	$85,280.00
14-0653	TEMPORARY VDS CAMERAS	SANTA CLARITA	ALL AMERICAN ASPHALT	$0.00
14-0655	GREEN STREETS PROJECTS	LAKE ELSINORE	HILLCREST CONTRACTING	$28,138.00
14-0656	HUNTINGTON DR. - SAN GABRIEL BLVD.	SAN GABRIEL	SEQUEL CONTRACTORS	$377,917.60
14-0657	GLENN RANCH RD. REHABILITATION	LAKE FOREST	ALL AMERICAN ASPHALT	$4,000.00
14-0658	EUCLID - WESTMINSTER INTERSECTION	GARDEN GROVE	RJ NOBLE	$392,707.00
14-0659	SAN JACINTO ST. RESURFACING	RIVERSIDE	HARDY AND HARPER	$97,815.00
14-0660	REPAIR BBS AT FIRST ST. AND EMORY AVE.	BEAUMONT	LYLE PARKS JR. CONSTRUCTION	$0.00
14-0661	EUCALYPTUS AVE. BRIDGE	ONTARIO	POWELL CONSTRUCTORS	$196,487.00
14-0662	LUGONIA ST. CONDUIT INSTALL	REDLANDS	CITY OF REDLANDS	$19,470.00
14-0663	ELAN - 100 & 200 ELK LANE	SANTA ANA	WERMERS COMPANIES	$338,682.00
14-0664	TERRACES AT WALNUT	WALNUT	SUKUT CONSTRUCTION	$383,954.00
14-0667	OCEAN BLVD. SIDEWALK IMPROVEMENTS	NEWPORT BEACH	VIDO SAMARZICH, INC.	$35,437.00
14-0668	FALLONCREST - ARCHIBALD AND GRAND PARK	ONTARIO	LENNAR	$225,307.00
14-0669	JOHN J. BENOIT DETENTION CENTER	RIVERSIDE	GRANITE CONSTRUCTION	$570,884.00
14-0670	STARLING AVE. AT CHINO AVE.	ONTARIO	LENNAR	$658,000.00
14-0671	VAN NESS AVE. AND 139TH ST. IMPROVEMENTS	GARDENA	ALL AMERICAN ASPHALT	$24,000.00
14-0672	ALEXANDER - BEECHWOOD AND SHIRLEY	LYNWOOD	SULLY-MILLER CONTRACTING	$37,000.00
14-0673	MILL CREEK AVE. AND ONTARIO RANCH RD.	ONTARIO	SHEA HOMES	$1,278,635.00
14-0674	FIRESTONE METRO BLUE LINE STATION	LOS ANGELES	LOS ANGELES ENGINEERING	$394,474.00
14-0675	SANTE FE AVE. SYNCHRONIZATION	LONG BEACH	CITY OF LONG BEACH	$2,903,298.00
14-0676	PEDESTRIAN CROSSING ENHANCEMENTS	PASADENA	CITY OF PASADENA	$152,569.00
14-0677	DESERT SANDS PARK CITY FIBER CONNECTION	PALMDALE	CITY OF PALMDALE	$60,942.00
14-0678	WILMINGTON WATERFRONT PROMENADE	LOS ANGELES	J-SQUARED GENERAL CONTRACTORS	$81,180.00
14-0679	C-BLOCK PARKING STRUCTURE	ONTARIO	BERGELECTRIC	$3,800.00
14-0680	RANCHO LOS CERRITOS	CERRITOS	GRIFFITH COMPANY	$142,035.00
14-0681	ADOBE SPRINGS - WINCHESTER RD.	MURRIETA	ALL AMERICAN ASPHALT	$469,020.00
14-0682	UNIVERSITY / RIDGELINE INTERSECTION IMPR.	IRVINE	GRIFFITH COMPANY	$531,310.00
14-0683	INTERSECTION SAFETY IMPROVEMENTS HSIP7	SAN GABRIEL	CITY OF SAN GABRIEL	$729,531.00
14-0684	POLYTECHNIC SCHOOL PEDESTRIAN IMPR.	PASADENA	PERRY C. THOMAS CONSTRUCTION, INC.	$211,233.00
14-0685	STONEHILL DR. AND PROJECT DRIVEWAY	SAN JUAN CAPISTRANO	GANAHL LUMBER COMPANY	$406,735.00
14-0686	HEACOCK ST.	MORENO VALLEY	ALL AMERICAN ASPHALT	$87,800.00
14-0687	ANNUAL RESIDENTIAL STREET REHABILITATION	COMPTON	SULLY-MILLER CONTRACTING	$96,867.00
14-0688	CITY OF HOPE NORTH PARKING STRUCTURE	IRVINE	BERGELECTRIC	$7,600.00
14-0689	LACCD SOUTH GATE	SOUTH GATE	TURNER CONSTRUCTION COMPANY	$537,101.00

belco electric

ACTIVE TRANSPORTATION PROJECTS

4/27/2022

JOB NO.	PROJECT NAME	LOCATION	CLIENT	TOTAL CONTRACT VALUE
14-0690	HOLLAND RD. AND EVANS RD. TRAFFIC SIGNAL	MENIFEE	LENNAR HOMES	$388,087.00
14-0691	DESCANSO DR. STREET IMPROVEMENTS	LA CANADA	SEQUEL CONTRACTORS	$40,148.00
14-0692	SOUNDWALL CONSTRUCTION ON I-210 FREEWAY	LA CANADA FLINTRIDGE	POWELL CONSTRUCTORS	$254,000.00
14-0693	ROCHESTER AVE. PAVEMENT REHABILITATION	RANCHO CUCAMONGA	ONYX PAVING	$234,000.00
14-0694	COOPERATIVE CITY / COUNTY PAVEMENT REHAB.	HIGHLAND	MATICH CORPORATION	$60,340.00
14-0695	BARRANCA AND MARINE	IRVINE	BERGELECTRIC	$29,043.00
14-0696	LANDMARK TOWER	LOS ANGELES	BERGELECTRIC	$11,044.00
14-0697	CANYON SPRINGS MOB	RIVERSIDE	BERGELECTRIC	$17,500.00
14-0698	MCKINLEY STREET GRADE SEPARATION	CORONA	WALSH CONSTRUCTION CO.	$2,711,100.00
14-0699	HONOLULU AVE. TRAFFIC SIGNALS	GLENDALE	CITY OF GLENDALE	$3,893,848.00
14-0700	ALDER AVE.	SAN BERNARDINO	HARDY AND HARPER	$119,680.00
14-0701	STREET IMPROVEMENT 3RD ST.	SAN BERNARDINO	MATICH CORPORATION	$61,780.00
14-0702	RANCHO LAS PALMAS SITE & SHELL	RANCHO MIRAGE	SAVANT CONSTRUCTION, INC.	$26,080.00
14-0703	MAIN ST. AND WALNUT ST.	SANTA ANA	CITY OF SANTA ANA	$307,613.00
14-0704	MAIN ST. AND 15TH ST.	SANTA ANA	CITY OF SANTA ANA	$413,492.00
14-0705	TRAFFIC SIGNAL INSTALLATION	GARDEN GROVE	CITY OF GARDEN GROVE	$1,276,196.00
14-0707	OLIVE AVE. AND IRIS COURT AREA	FULLERTON	HARDY AND HARPER	$8,500.00
14-0708	LA PAZ RD. AND VETERAN'S WAY	MISSION VIEJO	CITY OF MISSION VIEJO	$76,840.00
14-0709	CALTECH RESNICK SUSTAINABILITY	PASADENA	BERGELECTRIC	$16,800.00
14-0710	UCI CAC STREET AND PATHWAY LIGHTING	IRVINE	BERGELECTRIC	$0.00
14-0711	HIGH FRICTION SURFACE TREATMENT	RIVERSIDE	CITY OF RIVERSIDE	$1,824,299.00
14-0712	TAY'S LANDING - ST. ANDREWS ST. AND CAMPUS AVE.	ONTARIO	MERITAGE HOME OF CALIFORNIA	$302,353.00
14-0713	MAGIC MOUNTAIN PARKWAY AND TOWN CENTER	SANTA CLARITA	CITY OF SANTA CLARITA	$53,840.00
14-0714	CASA GRANDE AND CYPRESS AVE.	FONTANA	SC FONTANA DEVELOPMENT CO., LLC	$1,108,000.00
14-0715	REDONDO BEACH TRANSIT CENTER	REDONDO BEACH	M.S. CONSTRUCTION	$110,571.00
14-0716	DUNCAN CANYON RD. AND COYOTE CANYON RD.	FONTANA	LANDSEA HOMES	$702,604.00
14-0717	FOOTHILL BLVD. PAVEMENT REHAB.	RANCHO CUCAMONGA	ALL AMERICAN ASPHALT	$250,280.00
14-0718	CITYWIDE PEDESTRIAN & VEHICLE TRAFFIC	WEST COVINA	SUPERIOR PAVEMENT MARKINGS	$22,640.00
14-0719	SIGNALS AT KIMBALL AND MEADOW VALLEY	CHINO	ORBIS REAL ESTATE PARTNERS	$7,226.13
14-0720	NEW ELECTRICAL SERVICE AT 18014 WIKA RD.	APPLE VALLEY	TOWN OF APPLE VALLEY	$42,388.00
14-0721	REDONDO BEACH BLVD. STREET IMPROVEMENT	LAWNDALE	HARDY AND HARPER	$72,680.00
14-0722	TOWN CENTER STREET IMPROVEMENTS	CHINO	ALL AMERICAN ASPHALT	$1,766,724.00
14-0723	FY 19/20 LOCAL STREET OVERLAY PROJECT	CHINO	EXCEL PAVING	$20,000.00
14-0724	GTRANS ON-STREET BUS SIGNAL PRIORITY	GARDENA	CITY OF GARDENA	$83,693.00
14-0725	ROSECRANS AVE. STREET IMPROVEMENTS	FULLERTON	RJ NOBLE COMPANY	$8,500.00
14-0726	ATP CYCLE 3	HUNTINGTON PARK	CITY OF HUNTINGTON PARK	$895,981.00
14-0727	PAVEMENT REHABILITATION AT 14 LOCATIONS	SAN BERNARDINO	MATICH CORPORATION	$33,000.00
14-0728	MARKET STREET CORRIDOR	LONG BEACH	ALL AMERICAN ASPHALT	$1,477,100.00
14-0729	LITTLE LEAGUE DR. - REPLACE STOLEN WIRE	SAN BERNARDINO	TRUMARK HOMES	$28,873.85
14-0730	SURGERY CENTER PHASE II OFF-SITE IMPROVEMENTS	MURRIETA	TURNER CONSTRUCTION COMPANY	$1,150,492.00
14-0731	DESERT HIGHLANDS TRAFFIC SIGNAL	PALM SPRINGS	CITY OF PALM SPRINGS	$638,881.00
14-0732	TRAFFIC SIGNAL INSTALLATION, SAN RAFAEL DR.	PALM SPRINGS	CITY OF PALM SPRINGS	$511,706.00
			TOTALS:	$124,438,443.23

belco
elecnor

COMPLETED TRANSPORTATION PROJECTS

4/27/2022

JOB NO.	PROJECT NAME	LOCATION	CLIENT	TOTAL CONTRACT VALUE
14-0001.0001	ALTON PARKWAY WIDENING	LAKE FOREST	HILLCREST CONTRACTING	$115,110.79
14-0001.0002	STREET IMPROVEMENTS AT KRAEMER BLVD.	BREA	TITAN ENGINEERING	$375,016.52
14-0001.0003	LA FLORESTA SCE AND TIME WARNER	BREA	TITAN ENGINEERING	$112,676.72
14-0001.0004	CYPRESS VILLAGE	IRVINE	ALL AMERICAN ASPHALT	$51,560.75
14-0002	GREENSPOT RD. IMPROVEMENTS	HIGHLAND	MAMCO, INC.	$1,724,048.57
14-0003.0001	ROSECRANS AND MARQUARDT	SANTA FE SPRINGS	HARDY & HARPER	$253,419.00
14-0003.0002	1325 GRAND CENTRAL PED. CROSSWALK	GLENDALE	DISNEY	$98,884.96
14-0004.0001	STEWART ST. UNDERPASS	LOMA LINDA	USS CAL BUILDERS	$551,122.10
14-0005	NOGALES ST. GRADE SEPARATION	INDUSTRY	GRIFFITH COMPANY	$2,426,618.02
14-0006	MAGNOLIA BLVD. WIDENING	LOS ANGELES	GRIFFITH COMPANY	$490,860.00
14-0007	I-15 LA MESA / NISQUALLI INTERCHANGE	VICTORVILLE	RIVERSIDE CONSTRUCTION	$460,602.80
14-0008	RIALTO SHOPPING CENTER	RIALTO	MOALEJ BUILDERS	$60,951.21
14-0009	I-15 CLINTON KEITH	WILDOMAR	GRIFFITH COMPANY	$236,931.20
14-0010	I-10 CHERRY AVE.	FONTANA	ORTIZ ENTERPRISES	$1,673,971.42
14-0011	CALTRANS ROUTE 101/134 (07-266104)	SAN FERNANDO	PETERSON-CHASE	$948,095.42
14-0012	FARE COLLECTION EQUIP. (FOOTHILL TRANSIT)	POMONA	E.C. CONSTRUCTION	$25,000.00
14-0013	INTERCONNECT AND TS AT LA MESA RD.	VICTORVILLE	CITY OF VICTORVILLE	$1,278,432.85
14-0014	SAN JOSE WIDENING AT CHARLIE RD.	INDUSTRY	GRIFFITH COMPANY	$44,570.00
14-0015	PLANNING AREA 5B - IRVINE BLVD.	IRVINE	HILLCREST CONTRACTING	$395,019.20
14-0016	JEFFREY REGIONAL BIKE TRAIL	IRVINE	HILLCREST CONTRACTING	$281,000.00
14-0017	CURB RAMPS AND SIDEWALK IMPROVEMENTS	ORANGE COUNTY	HIGHLAND CONSTRUCTION	$239,732.53
14-0018	CLAY ST./UNION PACIFIC RAILROAD GRADE SEP.	JURUPA VALLEY	AMES CONSTRUCTION	$493,923.55
14-0019	MAGNOLIA AVE./BNSF RAILWAY GRADE SEP.	RIVERSIDE	OHL USA	$1,489,047.56
14-0020	2014- 2016 SITE IMPROVEMENTS	PORT OF LA	SHAWNAN	$54,761.21
14-0021	LAKEVIEW AVE. RAILROAD GRADE SEP.	ANAHEIM	OHL USA	$2,069,636.82
14-0022	SR210 TUJUNGA WASH	LOS ANGELES	SECURITY PAVING	$1,065,365.55
14-0023	FAIRWAY DR. AND WALNUT DR. NORTH	INDUSTRY	PIMA CORPORATION	$136,365.07
14-0024	PLANNING AREA 5B - PHASE 1 BACKBONE	IRVINE	HILLCREST CONTRACTING	$174,866.30
14-0025	AS NEEDED 2013-14 TRAFFIC SIGNAL	LOS ANGELES	COUNTY OF LOS ANGELES	$1,864,310.92
14-0026	FIRESTONE BLVD. BRIDGE	NORWALK	REYES CONSTRUCTION	$325,428.99
14-0027	TRAFFIC SIGNAL MODERNIZATION - PHASE 6	NEWPORT BEACH	CITY OF NEWPORT BEACH	$837,264.73
14-0028	CAJALCO RD. AND CLARK ST. TRAFFIC SIGNALS	MEAD VALLEY	COUNTY OF RIVERSIDE	$117,717.50

14-0029	GRAND AVE. WIDENING FROM 1ST ST. TO 4TH ST.	SANTA ANA	EXCEL PAVING	$568,638.28
14-0030	BASE LINE UNDERCROSSING AT ROUTE 15	RANCHO CUCAMONGA	FLATIRON WEST	$2,173,465.96
14-0031	HIGHWAY 111 AND FRANK SINATRA DR.	RANCHO MIRAGE	TRI STAR CONSTRUCTION	$354,328.02
14-0032	I-10 CITRUS AVE. INTERCHANGE	FONTANA	BRUTOCO	$7,612.11
14-0033	TRABUCO GATEWAY BACKBONE	IRVINE	HILLCREST CONTRACTING	$26,000.00
14-0034	GATEWAY CITIES ATMS IMPROVEMENT PROJECT	LOS ANGELES	COUNTY OF LOS ANGELES	$1,211,387.65
14-0035	FARRELL DR. RIGHT TURN LANE AT VISTA CHINO	PALM SPRINGS	HILLCREST CONTRACTING	$136,133.86
14-0036	ROUTE 5 ROSECRANS (CRANE OPERATOR RENTAL)	NORWALK	SHIMMICK CONSTRUCTION	$1,800.00
14-0037	HERONDO ST./HARBOR DR. GATEWAY IMP.	REDONDO BEACH	EXCEL PAVING	$1,538,473.26
14-0038	LA CIENEGA BLVD. - OLYMPIC TO AIRDROME	LOS ANGELES	CITY OF LOS ANGELES	$1,178,419.36
14-0039	BARHAM BLVD. STREET IMPROVEMENTS	LOS ANGELES	USS CAL BUILDERS	$94,131.30
14-0040	WILSON AVE./HARVEY DR. AND BROADWAY	GLENDALE	CITY OF GLENDALE	$338,632.43
14-0041	MOORPARK ST. WIDENING	LOS ANGELES	GRIFFITH COMPANY	$248,480.20
14-0044	2014-2015 STREETLIGHT IMPROVEMENT	NEWPORT BEACH	CITY OF NEWPORT BEACH	$972,184.19
14-0045	LA BREA TRAFFIC LIGHT SYNCHRONIZATION	INGLEWOOD	CITY OF INGLEWOOD	$537,550.00
14-0046	I-10 AT JEFFERSON STREET IMPROVEMENTS	INDIO	RIVERSIDE CONSTRUCTION	$1,926,460.99
14-0047	PORTOLA SPRINGS (PA 6) BRIDGE & TRAIL IMPROV	IRVINE	HILLCREST CONTRACTING	$234,496.07
14-0048	IN-FILL STREET LIGHTING AT FAIR OAKS AVE.	PASADENA	CITY OF PASADENA	$315,800.00
14-0049	RIVERSIDE DR. AT CENTRAL AVE.	CHINO	CITY OF CHINO	$214,640.02
14-0050	IN-FILL STREET LIGHTING AT EAST COLORADO	PASADENA	CITY OF PASADENA	$690,935.53
14-0051	CAMINO REAL PAVEMENT RESTRIPING	JURUPA VALLEY	ALL AMERICAN ASPHALT	$19,000.00
14-0052	HARBOR BLVD. AND LAMBERT RD.	LA HABRA	SHAWNAN	$212,235.47
14-0053	GILBERT STREET IMPROVEMENTS	ORANGE	ALL AMERICAN ASPHALT	$496,555.06
14-0054	BICYCLE TRANSPORTATION ACCOUNT	TEMPLE CITY	ALL AMERICAN ASPHALT	$18,867.70
14-0055	108TH ST. ET AL	LOS ANGELES	LOS ANGELES ENGINEERING	$380,633.90
14-0056	BEAR VALLEY STORM DRAIN	VICTORVILLE	O'DUFFY CONSTRUCTION	$178,345.93
14-0057	GREEN RIVER RD. WIDENING	CORONA	SULLY-MILLER CONTRACTING	$800,119.35
14-0058	1440 S. MANCHESTER AVE.	ANAHEIM	BERGELECTRIC CORPORATION	$16,830.00
14-0059	RAMONA EXPRESSWAY ST. IMPROVEMENT	PERRIS	ALL AMERICAN ASPHALT	$256,536.45
14-0060	DOVER DR. AND WESTCLIFF DR.REHABILITATION	NEWPORT BEACH	ALL AMERICAN ASPHALT	$708,517.83
14-0061	SIGNAL MODIFICATIONS AT OLD RIVER SCHOOL	DOWNEY	CITY OF DOWNEY	$8,500.00
14-0062	W.C. FIELDS STREET WIDENING IMPROVEMENTS	LOS ANGELES	USS CAL BUILDERS	$210,000.65
14-0063	FY 2014/2015 PAVEMENT REHABILITATION	ONTARIO	ALL AMERICAN ASPHALT	$34,000.00
14-0064	SHRINERS FOR CHILDREN MEDICAL CENTER	PASADENA	BERGELECTRIC CORPORATION	$46,791.00
14-0065	CARSON ST. MASTER PLAN IMPLEMENTATION	CARSON	POWELL CONSTRUCTORS	$3,330,603.62
14-0066	FIRESTONE BLVD.	NORWALK	COUNTY OF LOS ANGELES	$717,614.21
14-0067	TUSTIN RANCH RD. AND IRVINE BLVD.	TUSTIN	THE MARK COMPANY	$379,847.55
14-0068	VERDUGO AVE. STREET IMPROVEMENTS	BURBANK	CITY OF BURBANK	$518,425.53

14-0069	FOOTHILL PARKWAY WIDENING	CORONA	ALL AMERICAN ASPHALT	$573,907.16
14-0070	LOCUST AVE. STREET IMPROVEMENTS	RIALTO	VANCE CORPORATION	$450,327.78
14-0071	TRAFFIC SIGNALS AT ANDERSON AND PROSPECT	LOMA LINDA	BERGELECTRIC CORPORATION	$318,150.00
14-0072	STREET REHABILITATION - CITYWIDE (13/14)	POMONA	ALL AMERICAN ASPHALT	$1,166.98
14-0073	JEFFERSON BRIDGE CONDUIT SYSTEM	INDIO	IMPERIAL IRRIGATION DISTRICT	$243,716.00
14-0074	IRVINE BLVD. PEDESTRIAN OVERCROSSING	IRVINE	POWELL CONSTRUCTORS	$491,527.15
14-0075	CHERRY AVE. BETWEEN 19TH AND 20TH	SIGNAL HILL	ALL AMERICAN ASPHALT	$7,400.00
14-0076	TRAFFIC SIGNALS AT AMETHYST AND HOOK	VICTORVILLE	CITY OF VICTORVILLE	$372,098.13
14-0077	SR91 CORRIDOR IMPROVEMENTS	CORONA	SELECT ELECTRIC	$1,060,000.00
14-0078	VALLEY VIEW AND ADOREE ST.	LA MIRADA	CITY OF LA MIRADA	$364,610.75
14-0079	SHORELINE DR.	LONG BEACH	ALL AMERICAN ASPHALT	$193,591.12
14-0080	ORTEGA RD. RECONSTRUCTION	CATHEDRAL CITY	GRANITE CONSTRUCTION	$63,100.00
14-0081	METROLINK PARKING LOT	RIALTO	KASA CONSTRUCTION	$90,935.87
14-0082	BICYCLE SYSTEM GAP CLOSURE	LONG BEACH	SULLY-MILLER CONTRACTING	$336,787.21
14-0083	ALTON PARKWAY STREET IMPROVEMENTS	IRVINE	ALL AMERICAN ASPHALT	$930,141.53
14-0084	LAUREL ST. BEAUTIFICATION - GMH	GLENDALE	ALL AMERICAN ASPHALT	$238,383.98
14-0085	AS-NEEDED 2015-16 TRAFFIC SIGNAL	LOS ANGELES	COUNTY OF LOS ANGELES	$1,484,480.98
14-0086	CRMC-ED EXPANSION	CORONA	BERGELECTRIC CORPORATION	$44,734.86
14-0087	PLANNING AREA 1 12G BASIN	IRVINE	KEC ENGINEERING	$180,379.25
14-0088	MAIN ST., LAKE ST. AND INDIANAPOLIS AVE.	HUNTINGTON BEACH	ALL AMERICAN ASPHALT	$7,200.00
14-0089	HIGHWAY SAFETY IMPROVEMENT PROGRAM	SOUTH GATE	CITY OF SOUTH GATE	$634,037.99
14-0090	WIDEN 1-15 MOJAVE DR. TO STODDARD WELLS RD.	VICTORVILLE	AMES CONSTRUCTION, INC.	$2,325,528.46
14-0091	PLANNING AREA 1 EASTFOOT BASIN	IRVINE	KEC ENGINEERING	$159,766.83
14-0092	IRVINE BLVD. PHASE 3	IRVINE	HILLCREST CONTRACTING	$828,812.93
14-0093	CRENSHAW BLVD. TS SYNCHRONIZATION	LOS ANGELES	COUNTY OF LOS ANGELES	$1,568,540.92
14-0094	DPW/FLEET MANAGEMENT PARKING LOT	SAN BERNARDINO	ALL AMERICAN ASPHALT	$241,873.48
14-0095	HOMELAND MDP LINE 1, STAGE 1	SAN BERNARDINO	ALABBASI	$126,789.24
14-0096	SONY S8B OVERLAND STREET IMPROVEMENTS	CULVER CITY	C.W. DRIVER	$473,762.00
14-0097	FIRESTONE BLVD. BRIDGE WIDENING	SOUTH GATE	REYES CONSTRUCTION	$80,241.91
14-0098	TRAFFIC SIGNAL INFRASTRUCTURE UPGRADES	DIAMOND BAR	CITY OF DIAMOND BAR	$429,871.90
14-0099	LIMONITE AVE. PAVEMENT REHABILITATION	JURUPA VALLEY	ALL AMERICAN ASPHALT	$34,000.00
14-0100	FERNWOOD AVE. & BULLIS RD. TS IMPROVEMENT	LYNWOOD	CITY OF LYNWOOD	$224,718.00
14-0101	MAGNOLIA ST. AND BOLSA AVE. INT. WIDENING	WESTMINSTER	VIDO SAMARZICH	$309,000.00
14-0102	CONVENTION CENTER PEDESTRIAN BRIDGE	LONG BEACH	POWELL CONSTRUCTORS	$2,037,858.97
14-0103	RIVERSIDE DR. NEAR ZOO BRIDGE	LOS ANGELES	ORTIZ ENTERPRISES, INC.	$485,745.30
14-0104	FIRESTONE BLVD. - CENTRAL AVE./GRAHAM AVE.	LOS ANGELES	ALL AMERICAN ASPHALT	$261,114.17
14-0105	TEMPORARY VDS AT YNEZ AND RANCHO VISTA	TEMECULA	HERMAN WEISSKER	$20,705.00
14-0106	BICYCLE FACILITIES AND CITYWIDE BIKEWAY	GLENDALE	ALL AMERICAN ASPHALT	$183,185.41

14-0107	FOOTHILL BLVD. FROM ROSEMEAD TO SHAMROCK	LOS ANGELES	COUNTY OF LOS ANGELES	$1,268,429.16
14-0108	RIDGE VALLEY AT MAGNET SIGNALIZATION	IRVINE	HERITAGE FIELDS LLC	$436,651.81
14-0109	TRAFFIC SIGNAL LEFT TURN PHASING & UPGRADE	CULVER CITY	CITY OF CULVER CITY	$1,035,714.69
14-0110	TRAFFIC SIGNAL UPGRADES AT VARIOUS LOC.	DOWNEY	CITY OF DOWNEY	$1,793,000.17
14-0111	NEIGHBORHOOD LIGHTING FOR ENHANCED SAFETY	SANTA MONICA	CITY OF SANTA MONICA	$680,120.00
14-0112	MCGAW AVE. AND ARMSTRONG AVE. TS INSTALL	IRVINE	CITY OF IRVINE	$557,490.00
14-0113	TUSTIN ST. AND LINCOLN AVE.	ORANGE	ALL AMERICAN ASPHALT	$231,313.88
14-0114	ALTON PARKWAY - WEST CORE TECH	IRVINE	VERTICAL CONSTRUCTION, INC.	$20,819.00
14-0115	PORTOLA PARKWAY IMPROVEMENTS	LAKE FOREST	KASA CONSTRUCTION	$92,190.00
14-0116	PEDESTRIAN STREET IMPROVEMENTS	LYNWOOD	ALL AMERICAN ASPHALT	$177,600.00
14-0117	BELLFLOWER BLVD. AT IMPERIAL HIGHWAY	DOWNEY	SHAWNAN	$451,891.87
14-0118	11TH STREET IMPROVEMENTS	UPLAND	ALL AMERICAN ASPHALT	$241,944.80
14-0119	TS AT SERFAS CLUB AND RANCHO CORONA	CORONA	CITY OF CORONA	$280,225.68
14-0120	CARSON ST. AND AVALON BLVD. INTERSECTION	CARSON	ALL AMERICAN ASPHALT	$7,158.35
14-0121	NISQUALLI RD. AT FIRST ST.	VICTORVILLE	CITY OF VICTORVILLE	$601,951.00
14-0122	MISSION/WINEVILLE TRAFFIC SIGNAL	JURUPA VALLEY	CITY OF JURUPA VALLEY	$293,381.00
14-0123	TRAFFIC SIGNAL INSTALL AT CARNELIAN ST.	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$1,092,589.02
14-0124	WILDOMAR SQUARE	WILDOMAR	PRIMUS CONTRACTING GROUP	$120,533.00
14-0125	KAISER CHINO	CHINO	ALL AMERICAN ASPHALT	$163,324.35
14-0126	MOJAVE T&M	BARSTOW	PLATINUM SCAFFOLDING	$217,405.79
14-0127	TS AT ORANGE GROVE AND COLORADO	PASADENA	CITY OF PASADENA	$423,950.08
14-0128	REPLACE STOLEN WIRE AT WALNUT STREET	RIALTO	VANCE CORPORATION	$7,078.78
14-0129	TRAFFIC SIGNALS AT SUMNER AVE. AND 65TH ST.	EASTVALE	CITY OF EASTVALE	$289,974.00
14-0130	TRAFFIC SIGNALS AT ARTESIA AND E. INDUSTRY	LA MIRADA	CITY OF LA MIRADA	$299,490.43
14-0131	FIBER OPTIC NETWORK EXPANSION	EL SEGUNDO	CITY OF EL SEGUNDO	$536,104.23
14-0132	PEDESTRIAN CROSSWALK IMPROVEMENT	CUDAHY	CITY OF CUDAHY	$1,012,169.90
14-0133	BASE LINE AND 5TH ST./GREENSPOT CORRIDORS	HIGHLAND	CITY OF HIGHLAND	$217,187.61
14-0134	BRISTOL STREET	COSTA MESA	SULLY-MILLER CONTRACTING	$331,508.87
14-0135	8TH ST. AND OCFA FIRE STATION	IRVINE	RJ NOBLE	$370,517.79
14-0136	HERITAGE PARK	REDLANDS	EBS	$55,834.10
14-0137	FLORENCE AVE.	LOS ANGELES	COUNTY OF LOS ANGELES	$2,100,816.77
14-0138	TS BATTERY BACK-UP AT (20) LOCATIONS	DIAMOND BAR	CITY OF DIAMOND BAR	$193,560.00
14-0139	HIGH DESERT GATEWAY WEST SITE WORK	HESPERIA	LYLE PARKS JR. CONSTRUCTION	$88,816.00
14-0140	CITRUS AND RAMONA GRADE CROSSING	COVINA	SULLY-MILLER CONTRACTING	$600,651.25
14-0141	A ST. AT 4TH ST. TRAFFIC SIGNAL	PERRIS	CITY OF PERRIS	$127,209.78
14-0142	BIKE TECHNOLOGY DEMONSTRATION	SANTA MONICA	CITY OF SANTA MONICA	$249,397.03
14-0143	BEVERLY CENTER RENOVATIONS	LOS ANGELES	BERGELECTRIC CORPORATION	$94,186.73
14-0144	ORCHARD HILLS (PA 1)	IRVINE	ALL AMERICAN ASPHALT	$406,441.32

14-0145	DISTRICT 3 BARRANCA	IRVINE	ALL AMERICAN ASPHALT	$1,001,159.16
14-0146	TRAFFIC SIGNAL VDS AT 15 LOCATIONS	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$157,400.00
14-0147	IMPERIAL HIGHWAY TRAFFIC SIGNAL	DOWNEY	CITY OF DOWNEY	$490,374.77
14-0148	TRAFFIC SIGNAL INFRASTRUCTURE UPGRADES	DIAMOND BAR	CITY OF DIAMOND BAR	$489,769.00
14-0149	EUCLID AVE. EMERGENCY REPAIRS	UPLAND	ALL AMERICAN ASPHALT	$60,775.00
14-0150	TRAFFIC OPERATION COMMUNICATION UPGRADE	POMONA	CITY OF POMONA	$947,107.03
14-0151	FY 2016-17 TRAFFIC SIGNAL REHABILITATION	NEWPORT BEACH	CITY OF NEWPORT BEACH	$660,817.16
1-40152	STREET IMPR. ON MISSION DR. AND PADILLA ST.	SAN GABRIEL	ALL AMERICAN ASPHALT	$57,768.80
14-0153	ALONDRA BLVD.	LA MIRADA	CITY OF LA MIRADA	$191,140.22
14-0154	WATER WAREHOUSE #1 PAVING PROJECT	VICTORVILLE	ALL AMERICAN ASPHALT	$23,788.00
14-0155	VAN BUREN WIDENING	RIVERSIDE	ALL AMERICAN ASPHALT	$773,701.94
14-0156	MOFFETT DR. EXTENSION BRIDGE	TUSTIN	USS CAL BUILDERS	$384,185.61
14-0157	RELOCATE EXISTING STREET LIGHT	PASADENA	PR CONSTRUCTION	$42,069.51
14-0159	TS IMPROVEMENTS ON SANTA MONICA BLVD.	WEST HOLLYWOOD	SULLY-MILLER CONTRACTING	$642,285.83
14-0160	LA MESA AND AMETHYST ROADWAY REHAB.	VICTORVILLE	C.A. RASMUSSEN	$120,800.00
14-0161	2017 TRAFFIC SIGNAL MOD. AT 12 INTERSECTIONS	LYNWOOD	CITY OF LYNWOOD	$1,621,362.27
14-0162	DAVID A. BROWN MIDDLE SCHOOL	WILDOMAR	H&H GENERAL CONTRACTING	$276,069.00
14-0163	OCEAN VIEW BLVD. REHABILITATION	GLENDALE	EXCEL PAVING	$579,404.77
14-0164	BASE LINE ROAD	RANCHO CUCAMONGA	ALL AMERICAN ASPHALT	$35,800.00
14-0165	ELSWORTH ST. AND ALESSANDRO BLVD.	MORENO VALLEY	O'DUFFY CONSTRUCTION	$202,000.00
14-0166	TRAFFIC SIGNAL SAFETY IMPROV. - AMAR RD.	LA PUENTE	CITY OF LA PUENTE	$849,103.38
14-0167	TOWNE AVE. AND RIVERSIDE DR. TS	POMONA	CITY OF POMONA	$125,987.80
14-0168	PAVEMENT REHABILITATION - MARGARITA RD.	TEMECULA	ALL AMERICAN ASPHALT	$118,000.00
14-0169	EL TORO TS SYNCHRONIZATION	LAGUNA WOODS	CITY OF LAGUNA WOODS	$354,500.00
14-0170	MOULTON PARKWAY REGIONAL TS SYNCHRON.	LAGUNA WOODS	CITY OF LAGUNA WOODS	$271,101.54
14-0171	FOOTHILL BLVD. AND DALTON AVE. TS INSTALL	AZUSA	CITY OF AZUSA	$353,850.00
14-0172	ORCHARD HILL NTS BASIN	IRVINE	KEC ENGINEERING	$251,875.77
14-0173	KAZAN / WALNUT TRAFFIC SIGNAL IMPROV	IRVINE	CITY OF IRVINE	$395,368.24
14-0174	TS AT KRAMERIA AND VILLAGE WEST DR.	RIVERSIDE	ALL AMERICAN ASPHALT	$279,347.32
14-0175	CREAN LUTHERAN HIGH SCHOOL	IRVINE	ALL AMERICAN ASPHALT	$245,192.18
14-0176	BAKER AVE. AND 6TH ST.	ONTARIO	CITY OF ONTARIO	$633,140.43
14-0177	SB49966 FIRESTONE & HILDRETH - STARBUCKS	SOUTH GATE	PR CONSTRUCTION	$31,175.21
14-0178	TEMP. VDS AT RED HILL AVE.	IRVINE	S E PIPE LINE CONSTRUCTION	$52,874.00
14-0179	FASTPRK SENSOR SYSTEM	LOS ANGELES	WORLDSENSING	$12,272.02
14-0180	RAMSEY ST. TRAFFIC SIGNALS	BANNING	CITY OF BANNING	$452,979.50
14-0181	SR62 AND LEAR AVE. TRAFFIC SIGNAL	TWENTYNINE PALMS	CITY OF TWENTYNINE PALMS	$551,080.55
14-0182	LOS PATRONES PARKWAY ROADWAY IMPROV.	MISSION VIEJO	RJ NOBLE	$1,305,571.96
14-0183	ETHANAC RD. AND MURRIETA RD.	PERRIS	CITY OF PERRIS	$269,264.00

14-0185	STREET LIGHT INSTALLATION ON STEWART ST.	SANTA MONICA	CITY OF SANTA MONICA	$165,995.00
14-0186	HWY 111 AT CLUB DR.	INDIAN WELLS	CITY OF INDIAN WELLS	$233,971.52
14-0188	I-210 LOGISTICS CENTER III OFFSITE IMPROV	RIALTO	HILLCREST CONTRACTING	$590,326.28
14-0189	CAMPUS IMPROVEMENTS - PHASE 1B	SAN BERNARDNIO	ROADWAY ENGINEERING	$192,725.00
14-0190	TRAFFIC SIGNAL ON MOJAVE DR. AND EAST TRAIL	VICTORVILLE	CITY OF VICTORVILLE	$417,738.30
14-0191	ATP CYCLE II	ONTARIO	ROADWAY ENGINEERING	$64,569.00
14-0192	CONTRACT D2 OFF-SITE STREET IMPROVEMENTS	IRVINE	ALL AMERICAN ASPHALT	$983,324.57
14-0193	KARMA AUTOMOTIVE ST. IMPROVEMENTS	IRVINE	CALIFORNIA COMMERCIAL	$530,840.19
14-0194	FOOTHILL BLVD. AND PALM DR. TRAFFIC SIGNALS	AZUSA	CITY OF AZUSA	$256,174.51
14-0195	MOFFETT DR. AND LEGACY RD.	TUSTIN	SUKUT CONSTRUCTION	$1,853,032.20
14-0196	FOSTER RD. SIDE PANEL IMPROVEMENTS	NORWALK	SHAWNAN	$615,810.52
14-0197	TRAFFIC SIGNALS AT LA TIJERA BLVD. & 74TH ST.	LOS ANGELES	BUILDGROUP	$178,586.08
14-0198	TEMP. VDS AT PERRIS BLVD. AND JFK DR.	MORENO VALLEY	HERMAN WEISSKER	$134,104.78
14-0199	TS MOD.AT CLARK ST. AND BOX SPRINGS RD.	MORENO VALLEY	WERMERS MULTI-FAMILY CORP.	$226,385.08
14-0200	ARTERIAL STREET RESURFACING - ALONDRA BLVD.	PARAMOUNT	ALL AMERICAN ASPHALT	$267,200.00
14-0201	STATE COLLEGE BLVD. GRADE SEPARATION	FULLERTON	STEINY ELECTRIC	$33,735.94
14-0202	MADISON AVE. APARTMENTS	MURRIETA	STEINY ELECTRIC	$35,539.19
14-0203	INTERSECTION IMPROVEMENTS AT PCH	LOMITA	GRIFFITH COMPANY	$598,271.17
14-0204	FREEWAY AND ARTERIAL SIGNAL SYNCH.	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$649,185.92
14-0205	PENNSYLVANIA AVE. AND 26TH ST.	SANTA MONICA	STEINY ELECTRIC	$94,252.38
14-0206	GILMAN SPRINGS RD. AND SH-79 NB RAMP	GILMAN SPRINGS	ALL AMERICAN ASPHALT	$207,573.00
14-0207	RYON AND ALONDRA	BELLFLOWER	ALL AMERICAN ASPHALT	$7,200.00
14-0208	SOTO ST. BRIDGE	LOS ANGELES	STEINY ELECTRIC	$1,053.12
14-0209	WESTFIELD	CENTURY CITY	STEINY ELECTRIC	$1,053.12
14-0210	BAKER ST. APARTMENTS	COSTA MESA	STEINY ELECTRIC	$2,106.23
14-0211	CSULB MSX UTILITIES INFRASTRUCTURE UPGRADE	LONG BEACH	C.W. DRIVER	$10,500.00
14-0212	LOS TRANCOS/EAST PELTASON TRAFFIC SIGNALS	IRVINE	UC IRVINE	$329,905.38
14-0213	ACCESSIBLE PEDESTRIAN SIGNALS	ALISO VIEJO	CITY OF ALISO VIEJO	$100,285.00
14-0214	LOS TRANCOS SERVICE ROAD	IRVINE	UC IRVINE	$255,326.01
14-0216	VAN NUYS FIRE STATION NO. 39	LOS ANGELES	FORD E.C., INC.	$232,918.27
14-0217	UCLA STEAM LINE	LOS ANGELES	KSE UNDERGROUND UTILITIES	$6,862.44
14-0218	KRAEMER JUNCTION	KRAEMER JUNCTION	KEIWIT	$2,123,291.30
14-0219	SAFE ROUTES TO SCHOOL CYCLE 10	SOUTH GATE	CITY OF SOUTH GATE	$456,258.25
14-0220	IMPERIAL HIGHWAY IMPROVEMENTS	INGLEWOOD	SHAWNAN	$1,250,875.67
14-0221	STREET LIGHT MODERNIZATION	SANTA MONICA	CITY OF SANTA MONICA	$1,551,362.84
14-0222	TALARIA TRAFFIC SIGNALS	BURBANK	MCCORMICK CONSTRUCTION	$231,902.00
14-0223	SB47697 SANTA ANITA & GARVEY LL	EL MONTE	PR CONSTRUCTION	$9,904.00
14-0224	FASTPRK SENSOR SYSTEM (WARDLOW STATION)	LONG BEACH	WORLDSENSING	$27,807.02

14-0225	HOBART INTERMODAL FACILITY (BNSF)	LOS ANGELES	GRANITE CONSTRUCTION	$662,604.00
14-0226	RESIDENTIAL STREET LIGHTING UPGRADE	DOWNEY	CITY OF DOWNEY	$66,072.36
14-0227	1701 E. EDINGER AVE. BUILDING J	SANTA ANA	VALIN CORPORATION	$13,188.21
14-0228	EUCLID AND BICKMORE CHINO	CHINO	HILLCREST CONTRACTING	$0.00
14-0229	WASHINGTON AVE. TRACT 31467 OFFSITE	MURRIETA	HILLCREST CONTRACTING	$436,642.00
14-0230	LOS SERRANOS INFRASTRUCTURE IMPROVEMENTS	CHINO HILLS	LOS ANGELES ENGINEERING	$363,999.29
14-0231	1274W PERRIS & ELDER BOOSTER PUMP STATION	MORENO VALLEY	RSH CONSTRUCTION SERVICES	$95,500.00
14-0232	PETERS CANYON CHANNEL	TUSTIN	KEC ENGINEERING	$440,448.70
14-0233	2018 PAVEMENT REHABILITATION	CULVER CITY	ALL AMERICAN ASPHALT	$49,198.05
14-0235	CITRUS AVE. AND CASA GRANDE AVE./KNOX AVE.	FONTANA	SC FONTANA DEVELOPMENT CO.	$535,400.84
14-0236	SAND CANYON (PA-31) FREE RIGHT TURN	IRVINE	HILLCREST CONTRACTING	$133,551.04
14-0237	RENAISSANCE PARKWAY AYALA DR. IMPROV.	RIALTO	ALL AMERICAN ASPHALT	$481,731.76
14-0238	LAKE ST./I-15 OFF RAMP & STREET IMPROVEMENTS	LAKE ELSINORE	RJ NOBLE COMPANY	$419,214.19
14-0239	4TH STREET TCP - STORM DRAIN	RANCHO CUCAMONGA	MURRIETA DEVELOPMENT CO.	$17,178.98
14-0240	MISSION ST. IMPROVEMENT	SOUTH PASADENA	AMERICAN ASPHALT SOUTH	$71,746.08
14-0241	TRAFFIC SIGNAL UPGRADES - PHASE III	DIAMOND BAR	CITY OF DIAMOND BAR	$413,975.50
14-0242	UPTOWN SURFACE LOT	WHITTIER	EXCEL PAVING	$125,012.04
14-0243	2018-2020 SITE IMPROVEMENTS	LOS ANGELES	SHAWNAN	$14,453.93
14-0244	ORANGE COUNTY GREAT PARK	IRVINE	SUKUT CONSTRUCTION	$523,308.34
14-0245	EXTERIOR LED LIGHT. CONVERSION AT VARIOUS	CARSON	CITY OF CARSON	$303,000.00
14-0246	STREET RESURFACING PROGRAM	TEMPLE CITY	ALL AMERICAN ASPHALT	$4,710.00
14-0247	ARTERIAL SPEED MANAGEMENT PROJECT	PASADENA	CITY OF PASADENA	$97,940.00
14-0248	GENE AUTRY WAY	ANAHEIM	GRIFFITH COMPANY	$1,707,052.54
14-0249	EL SEGUNDO BLVD. MOBILITY IMPROVEMENT	HAWTHORNE	SHAWNAN	$2,204,218.39
14-0250	MURRIETA COMMONS	MURRIETA	PRIMUS CONTRACTING GROUP	$235,249.60
14-0251	WARNER AVE. & SUNFLOWER TS MODIFICATION	SANTA ANA	CITY OF SANTA ANA	$72,752.00
14-0252	PARKPLACE III	ONTARIO	ALL AMERICAN ASPHALT	$63,212.00
14-0253	MEDIA DISTRICT SIGNAL PROJECT - PHASE 1	BURBANK	CITY OF BURBANK	$2,216,194.60
14-0254	MERIDIAN - BARTON RD. STREET IMPROVEMENTS	RIVERSIDE	ALL AMERICAN ASPHALT	$276,035.03
14-0255	BNSF OVERHEAD BRIDGE TO LOT 5	SAN BERNARDINO	AMES CONSTRUCTION, INC.	$573,605.37
14-0256	SAN BERNARDINO STREET REHABILITATION	MONTCLAIR	ALL AMERICAN ASPHALT	$69,242.00
14-0258	HARLEY KNOX BLVD	PERRIS	ALL AMERICAN ASPHALT	$971,933.77
14-0259	STREET, TRAFFIC SIGNAL AND LANDSCAPE	HIGHLAND	CITY OF HIGHLAND	$694,557.40
14-0263	PAVEMENT REHABILITATION PROGRAM	TEMECULA	RJ NOBLE COMPANY	$21,223.37
14-0264	SB-1 MAINTENANCE AND TRAFFIC IMPROVEMENTS	RIVERSIDE	EBS	$381,370.91
14-0265	GREEN VALLEY BACKBONE GRADING	PERRIS	GREEN VALLEY RECOVERY	$42,491.00
14-0266	PROTECTED PERMISSIVE LEFT TURN PHASING	IRVINE	CITY OF IRVINE	$820,036.58
14-0267	FLETCHER PARKWAY INTERCONNECT IMPROV.	LA MESA	CITY OF LA MESA	$502,136.93

14-0268	FASTPARK	LOS ANGELES	WORLDSENSING	$18,691.68
14-0269	STEVENSON PARK	CARSON	CITY OF CARSON	$58,574.00
14-0271	"A" ST. AT IRVINE BLVD.	IRVINE	HILLCREST CONTRACTING	$274,927.90
14-0272	SAN JOSE CREEK WATER RECLAMATION PLANT	WHITTIER	SAK CONSTRUCTION, LLC	$95,542.00
14-0273	DINAH SHORE DRIVE	CATHEDRAL CITY	ALL AMERICAN ASPHALT	$11,631.56
14-0274	SAN DIMAS AVE. PAVEMENT REHABILITATION	SAN DIMAS	ALL AMERICAN ASPHALT	$45,700.00
14-0275	OLYMPIAD RD./FELIPE RD. TRAFFIC SIGNAL	MISSION VIEJO	CITY OF MISSION VIEJO	$357,100.00
14-0276	WORLD OIL HEAT TRACE - DKE	LOS ANGELES	VALIN CORPORATION	$7,603.20
14-0277	PAVEMENT MANAGEMENT PROGRAM	HIGHLAND	ALL AMERICAN ASPHALT	$158,040.00
14-0278	ARTERIAL STREET RESURFACING	PARAMOUNT	ALL AMERICAN ASPHALT	$216,600.00
14-0279	AT&T CONDUITS - MOFFETT & LEGACY	TUSTIN	AT&T	$194,580.00
14-0280	PORTOLA PARKWAY OFF-SITE STREET IMPROV.	IRVINE	RJ NOBLE COMPANY	$274,796.05
14-0281	FY 2017-2018 STREETLIGHT IMPROVEMENT	NEWPORT BEACH	CITY OF NEWPORT BEACH	$513,304.03
14-0282	I-215 AT SCOTT RD. INTERCHANGE IMPROVEMENTS	MENIFEE	GUY F. ATKINSON	$2,339,483.33
14-0283	LIMONITE AVE. AT I-15 INTERCHANGE IMPROV.	EASTVALE	GUY F. ATKINSON	$2,898,004.44
14-0284	PHASE 1 SLURRY SEAL - ARTERIAL REHAB.	MORENO VALLEY	ALL AMERICAN ASPHALT	$107,700.00
14-0285	BIKE NETWORK LINKAGES TO EXPO LINE RAIL	SANTA MONICA	CITY OF SANTA MONICA	$4,735,814.65
14-0286	ADVANCED TRAFFIC MANAGEMENT PHASE 5	SANTA MONICA	CITY OF SANTA MONICA	$2,084,665.68
14-0287	NORTH SPRING ST. BRIDGE PHASE 2	LOS ANGELES	UNITED ENGINEERING	$451,028.73
14-0288	TRANSFER TABLE REPLACEMENT	COLTON	GRANITE CONSTRUCTION	$522,680.17
14-0289	REPLACE OLD HEAT TRACE WIRE	SOUTH GATE	WORLD OIL CORPORATION	$1,777.60
14-0290	ADA CURB RAMP IMPROVEMENTS	HERMOSA BEACH	EBS	$80,440.69
14-0291	INDIAN CANYON DR.	PALM SPRINGS	CITY OF PALM SPRINGS	$4,930,262.26
14-0292	MEADOWS ARBORETUM	FONTANA	SULLY-MILLER CONTRACTING	$174,560.00
14-0294	DUARTE RD.	ARCADIA	CITY OF ARCADIA	$921,236.33
14-0295	OVERHILL DR. - LA BREA AVE. TO SLAUSON AVE.	LOS ANGELES	GRIFFITH COMPANY	$286,118.10
14-0296	INDIAN AVE. AND MARKHAM ST. TRAFFIC SIGNAL	PERRIS	HILLCREST CONTRACTING	$195,260.65
14-0297	CITRUS AVE. STREET IMPROVEMENTS	FONTANA	ALL AMERICAN ASPHALT	$53,606.58
14-0298	AVENIDA VISTA HERMOSA	SAN CLEMENTE	ALL AMERICAN ASPHALT	$26,478.00
14-0299	REROUTE OF TRAFFIC SIGNAL CONDUIT	CULVER CITY	BERGELECTRIC CORPORATION	$5,021.90
14-0300	PRAIRIE AVE. IMPROVEMENT PROJECT - PHASE 1	HAWTHORNE	CITY OF HAWTHORNE	$3,430,823.34
14-0301	1ST STREET AND HERBERT AVE. TRAFFIC SIGNALS	LOS ANGELES	COUNTY OF LOS ANGELES	$956,986.09
14-0302	VISTA CHINO TRAFFIC SIGNALS	PALM SPRINGS	CITY OF PALM SPRINGS	$1,035,543.29
14-0303	REPAIR SIC CABLE AT LAGUNA CANYON	IRVINE	ARIZONA PIPELINE	$9,500.00
14-0304	PALM AVE. AND CAMINO AVENNTURA TS	DESERT HOT SPRINGS	CITY OF DESERT HOT SPRINGS	$400,492.39
14-0305	24960 MICHELE ROAD	PERRIS	DUKE REALTY	$134,937.66
14-0306	ARCHIBALD SL AND FIBER OPTIC	ONTARIO	CITY OF ONTARIO	$146,780.40
14-0307	TRAFFIC SIGNAL INSTALLATION & MODIFICATION	GLENDALE	CITY OF GLENDALE	$2,192,531.44
14-0308	PHANTOM WEST STREET LIGHTING	VICTORVILLE	CITY OF VICTORVILLE	$155,494.00

14-0309	HSIP INTERSECTION IMPROVEMENTS	LA QUINTA	CITY OF LA QUINTA	$828,214.00
14-0310	FIBER OPTIC CONNECTION	FULLERTON	CITY OF FULLERTON	$91,562.27
14-0311	6501 MELROSE AVE.	LOS ANGELES	FORZA CONSTRUCTION INC.	$21,500.00
14-0312	HIGH INTENSITY ACTIVATED CROSSWALK	ROSEMEAD	CITY OF ROSEMEAD	$109,629.00
14-0315	AVENUE 48 STREET IMPROVEMENT	COACHELLA	GRANITE CONSTRUCTION	$428,363.19
14-0316	EDINGER AVE. REGIONAL TS SYNCHRONIZATION	IRVINE	CITY OF IRVINE	$1,139,388.00
14-0317	MERRILL AVE. AT OLEANDER AVE.	FONTANA	CITY OF FONTANA	$589,690.85
14-0318	TRAFFIC SIGNAL BATTERY BACKUP SYSTEM	DUARTE	CITY OF DUARTE	$303,288.44
14-0319	MERIDIAN PARKWAY	RIVERSIDE	LEWIS MANAGEMENT CORP.	$726,271.06
14-0320	PEDESTRIAN SAFETY IMPROVEMENTS	MANHATTAN BEACH	CITY OF MANHATTAN BEACH	$268,281.38
14-0322	WALKWAY LIGHTING IMPROVEMENT	DOWNEY	CITY OF DOWNEY	$56,538.00
14-0323	DOUGLAS STREET PAVING	EL SEGUNDO	ALL AMERICAN ASPHALT	$66,800.00
14-0324	STREET LIGHT CONDUIT INSTALLATION	PALM DESERT	CITY OF PALM DESERT	$81,608.00
14-0325	CORONA - HARRISON ST. AND MAIN ST.	CORONA	WERMERS MULTI-FAMILY	$8,500.00
14-0326	ALTON PARKWAY STREET IMPROVEMENTS	IRVINE	ALL AMERICAN ASPHALT	$8,000.00
14-0327.2.1	RCMU FIBER - VICTORIA GARDENS	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$96,522.58
14-0327.2.2	RCMU FIBER - INYO	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$26,478.46
14-0327.2.4	RCMU FIBER - VICTORIA GARDENS DISTRIBUTION	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$65,367.51
14-0327.4.0	RCMU FIBER - HAVEN AND CHURCH CONDUIT	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$41,480.45
14-0327.8	RCMU FIBER - PREMIER SWIM ACADEMY	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$4,135.98
14-0327.9	RCMU FIBER - PUBLIC SAFETY FACILITY	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$220,383.01
14-0327.10	RCMU FIBER - DAY CREEK VILLAS SR APT	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$118,178.50
14-0327.11	RCMU FIBER - CADENCE SENIOR LIVING CENTER	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$60,887.32
14-0327.12	RCMU FIBER - ARROWHEAD CREDIT UNION	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$38,301.43
14-0327.13	RCMU FIBER - ASPIRE SALON STUDIO	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$22,152.06
14-0328	RIALTO METROLINK PARKING LOT EXPANSION	RIALTO	EXCEL PAVING	$203,569.76
14-0329	POINSETTIA LANE BRIDGE	CARLSBAD	ORTIZ ENTERPRISES, INC.	$327,982.00
14-0330	LA SIERRA AVE. RESURFACING	RIVERSIDE	ALL AMERICAN ASPHALT	$133,490.00
14-0331	2019 PAVEMENT REHABILITATION	CULVER CITY	ALL AMERICAN ASPHALT	$226,606.88
14-0332	EDINGER AVE. REHABILITATION	HUNTINGTON BEACH	ALL AMERICAN ASPHALT	$28,675.17
14-0333	SANTA CLARITA VALLEY SHERIFF'S STATION	SANTA CLARITA	TORO ENTERPRISES	$528,756.06
14-0334	4TH ST. EXTENSION	BEAUMONT	GRANITE CONSTRUCTION	$1,282,567.55
14-0335	ETHANAC RD. WIDENING PROJECT	PERRIS	ALABASSI	$14,000.00
14-0336	STREET LIGHT CONDUIT INSTALLATION	REDLANDS	CITY OF REDLANDS	$66,797.00
14-0337	CYCLE 5 GRANT TRAFFIC SIGNAL	MANHATTAN BEACH	CITY OF MANHATTAN BEACH	$407,875.69
14-0338	MONROVIA RENEWAL NORTH SECTION	MONROVIA	SULLY-MILLER CONTRACTING	$943,314.86
14-0339	HOT SPOT INTERSECTION PROJECT	PICO RIVERA	SEQUEL CONTRACTORS	$225,165.00
14-0340	YORBA AVE. AND LOS SERRANOS COUNTRY CLUB	CHINO HILLS	ONYX PAVING	$61,880.00
14-0342	PINE & MILL CREEK	CHINO	GRAY WEST CONSTRUCTION	$8,500.00
14-0343	FIRE STATION NO. 5 / LIBRARY FIBER OPTIC	NEWPORT BEACH	TELACU	$40,866.00

14-0344	HUNTINGTON DR. TRAFFIC SIGNALS	ARCADIA	CITY OF ARCADIA	$704,868.41
14-0345	COVINA 3 TRAFFIC SIGNALS	COVINA	CITY VENTURES	$285,141.44
14-0346	LIMONITE AVENUE	JURUPA VALLEY	CITY OF JURUPA VALLEY	$153,421.63
14-0347	SIGNAL SYNCHRONIZATION	HUNTINGTON PARK	CITY OF HUNTINGTON PARK	$1,013,928.64
14-0348	TRAFFIC SIGNAL REHABILITATION 2018-19	NEWPORT BEACH	CITY OF NEWPORT BEACH	$874,570.28
14-0349	INGLEWOOD AVE. IMPROVEMENTS	LAWNDALE	EXCEL PAVING	$532,474.90
14-0351	TARGET T2479 SUNSET 2020	LOS ANGELES	WHITING-TURNER	$1,319,374.00
14-0352	WILSHIRE PARKING LOT STALLS	FULLERTON	HARDY AND HARPER	$13,000.00
14-0354	DEL MAR BLVD. AND WILSON AVE. TS	PASADENA	BERGELECTRIC	$123,076.34
14-0356	AMETHYST AVE. STREET IMPROVEMENTS	RANCHO CUCAMONGA	SEQUEL CONTRACTORS	$237,479.64
14-0357	2019 CITYWIDE ROADWAY IMPROVEMENT PROJECT	LAKE FOREST	ALL AMERICAN ASPHALT	$411,181.05
14-0358	DOWNTOWN VILLAGE PARKING LOT	GLENDORA	ALL AMERICAN ASPHALT	$0.00
14-0359	MONROE ST. TRAFFIC SIGNAL INTERCONNECT	INDIO	CITY OF INDIO	$689,680.39
14-0360	SMO - REUSE OF EXCESS AIRFIELD PAVEMENT	SANTA MONICA	SULLY-MILLER CONTRACTING	$272,242.61
14-0361	PARAMOUNT BLVD. AND SOMERSET RANCH RD.	SOUTH GATE	CITY OF SOUTH GATE	$26,925.00
14-0362	TUSTIN RANCH RD.	TUSTIN	HILLCREST CONTRACTING	$506,981.02
14-0363	MEADOWS ARBORETUM	FONTANA	SULLY-MILLER CONTRACTING	$86,262.00
14-0364	DUNE PALMS ROAD WIDENING	LA QUINTA	JACOBSSON ENGINEERING	$171,572.80
14-0365	VAN BUREN BLVD. PHASE III WIDENING	RIVERSIDE	ALL AMERICAN ASPHALT	$954,538.46
14-0366	ALESSANDRO COMMERCE CENTER	RIVERSIDE	FULLMER CONSTRUCTION	$288,489.00
14-0367	ONTARIO RANCH RD. AND "A" ST.	ONTARIO	LENNAR HOMES	$569,106.83
14-0368	LAWLESS RD. AND PIGEON PASS RD.	MORENO VALLEY	HILLCREST CONTRACTING	$14,550.00
14-0370	GOTHARD ST. AND CENTER AVE. TRAFFIC SIGNAL	HUNTINGTON BEACH	CITY OF HUNTINGTON BEACH	$344,902.28
14-0371	VARIOUS STREET IMPROVEMENT PROJECT	HUNTINGTON PARK	SULLY-MILLER CONTRACTING	$3,400.00
14-0372	WHITTIER BLVD. AND HACIENDA RD.	LA HABRA	EXCEL PAVING	$330,276.52
14-0373	DOLPHIN PARK	CARSON	CITY OF CARSON	$41,426.00
14-0374	2017/2018 CDBG STREET IMPROVEMENTS	RIVERSIDE	SEQUEL CONTRACTORS	$61,593.59
14-0376	NANDINA INDUSTRIAL CENTER	MORENO VALLEY	DUKE REALTY	$80,200.00
14-0377	WASHINGTON ST. TS INSTALLATIONS	TEMECULA	PULTE HOME COMPANY, LLC	$954,633.58
14-0378	MAJOR ARTERIAL PAVEMENT REHABILITATION	RANCHO CUCAMONGA	ALL AMERICAN ASPHALT	$100,085.84
14-0379	FIRESTONE BLVD. STREET IMPROVEMENT	DOWNEY	ALL AMERICAN ASPHALT	$139,507.88
14-0380	STREET LIGHTING FOR TERRA VISTA PARKWAY	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$118,388.00
14-0381	LOS PATRONES PARKWAY IMPROVEMENTS	RANCHO MISSION VIEJO	SUKUT CONSTRUCTION	$43,130.51
14-0382	ELECTRIC VEHICLE CHARGING STATIONS	SAN DIMAS	CITY OF SAN DIMAS	$102,000.00
14-0383	RIVERSIDE DOWNTOWN METROLINK STATION	RIVERSIDE	REYES CONSTRUCTION	$520,390.19
14-0384	STREET IMPROVEMENTS ON EASTERN AVE.	BELL	EC CONSTRUCTION	$271,528.86
14-0385	COLLEGE PARK TRAFFIC SIGNAL INTERCONNECT	CHINO	LENNAR HOMES	$415,470.00
14-0386	ATP CYCLE 3 PALM DR. SAFETY IMPROVEMENTS	DESERT HOT SPRINGS	DESERT CONCEPTS	$110,700.00
14-0387	CITYWIDE PAVEMENT REHABILITATION	MORENO VALLEY	ALL AMERICAN ASPHALT	$467,654.34
14-0388	EL PRADO RD. RECONSTRUCTION PROJECT	CHINO	ALL AMERICAN ASPHALT	$121,049.96

14-0389	RIVERSIDE DR. AND JOY ST.	LAKE ELSINORE	HARDESTY AND ASSOCIATES	$355,147.89
14-0390	ALAMEDA AVE. AND ROUTE 134 WB RAMPS	BURBANK	MCCORMICK CONSTRUCTION	$168,859.00
14-0391	RE-WIRE INTERSECTION WASHINGTON/MILES	LA QUINTA	CITY OF LA QUINTA	$49,285.00
14-0392	2018/2019 SB-1 MAINTENANCE AND TRAFFIC	RIVERSIDE	EBS	$1,019,399.38
14-0393	TS MODIFICATIONS AND INTERCONNECT	PALM DESERT	CITY OF PALM DESERT	$602,259.05
14-0394	ONTARIO RANCH LOGISTICS CENTER TS	ONTARIO	ONTARIO LAND VENTURES LLC	$1,131,215.15
14-0395	PARAMOUNT BLVD. MEDIAN ISLAND	DOWNEY	ALL AMERICAN ASPHALT	$19,515.82
14-0396	BUTTERFIELD STAGE RD.	TEMECULA	WOODSIDE HOMES	$1,104,209.22
14-0397	NEW TRAFFIC SIGNAL INSTALLATIONS	BELLFLOWER	CITY OF BELLFLOWER	$700,476.91
14-0398	TEMP VDS AT RESEARCH AND SCIENTIFIC	IRVINE	ARIZONA PIPELINE	$21,000.00
14-0399	SENIOR CENTER SCE	PERRIS	CITY OF PERRIS	$49,903.00
14-0400	EL PASEO PEDESTRIAN IMPROVEMENTS	PALM DESERT	CITY OF PALM DESERT	$931,355.98
14-0401	SANTA ANA RETAIL CENTER	SANTA ANA	PR CONSTRUCTION	$6,000.00
14-0402	STREET LIGHTING MODERNIZATION - PACKAGE 2	SANTA MONICA	CITY OF SANTA MONICA	$0.00
14-0403	INSTALL TRAFFIC SIGNAL CONDUIT	CARSON	RJ NOBLE	$33,006.09
14-0404	ELECTRIC VEHICLE INFRASTRUCTURE	SAN BERNARDINO	SAN BERNARDINO COUNCIL	$363,000.00
14-0405	103RD ST. GREEN IMPROVEMENT	LOS ANGELES	SEQUEL CONTRACTORS	$71,096.64
14-0406	TRAFFIC SIGNALS AT PIERSON BLVD.	DESERT HOT SPRINGS	CITY OF DESERT HOT SPRINGS	$600,922.54
14-0407	MCCALL BLVD. AND AQUA DR. TS	MENIFEE	LENNAR HOMES	$537,744.86
14-0408	CITYWIDE TS COMMUNICATION (EAST)	MENIFEE	CITY OF MENIFEE	$455,740.80
14-0409	MONTEREY RD. STREET IMPROVEMENT	SOUTH PASADENA	EC CONSTRUCTION	$263,469.09
14-0410	SAN GORGONIO VILLAGE TRAFFIC SIGNAL	BEAUMONT	LYLE PARKS JR. CONSTRUCTION	$116,416.02
14-0412	ALICIA PARKWAY ARTERIAL PAVEMENT	LAGUNA NIGUEL	ALL AMERICAN ASPHALT	$54,000.00
14-0413	TRAFFIC SIGNAL AT WARREN AND AUTO BLVD.	HEMET	CITY OF HEMET	$290,356.39
14-0415	MCCALL MESA TRACT 31098 TRAFFIC SIGNALS	MENIFEE	LENNAR HOMES	$906,446.07
14-0416	PEDESTRIAN COUNTDOWN SIGNAL IMPR.	WHITTIER	CITY OF WHITTIER	$347,766.66
14-0418	PINE AVE. STREET IMPROVEMENT	CHINO HILLS	ALL AMERICAN ASPHALT	$56,000.00
14-0419	SCHOOLSFIRST RH-2 OFFSITE STREET IMPROV.	TUSTIN	C.W. DRIVER	$357,493.00
14-0420	VALLEY BLVD. OFF-SITE IMPROVEMENTS	RIALTO	BIG BEN ENGINEERING, INC.	$107,510.00
14-0421	TRAFFIC SIGNAL INTERCONNECT	RANCHO MIRAGE	CITY OF RANCHO MIRAGE	$2,932,003.00
14-0423	MERIDIAN PARKWAY AND TRUCK ACCESS RD.	RIVERSIDE	PRIMUS BUILDERS, INC.	$292,200.80
14-0424	HWY 74 AND SOPHIE ST	COUNTY OF RIVERSIDE	COUNTY OF RIVERSIDE	$500,585.90
14-0425	ATP CYCLE 2 COMMUNITY LINKAGES	LYNWOOD	ALL AMERICAN ASPHALT	$159,913.97
14-0426	SHERMAN WAY STREETSCAPE IMPROVEMENTS	LOS ANGELES	SULLY-MILLER CONTRACTING	$279,440.45
14-0427	FIBER OPTICS COMMUNICATION DESIGN/TESTING	GLENDALE	CITY OF GLENDALE	$149,858.00
14-0428	NUEVO RD. BRIDGE RECONSTRUCTION	PERRIS	ALABBASI	$344,270.00
14-0429	ATLANTIC BLVD CORRIDOR IMPROVEMENT	COMMERCE	SHAWNAN	$184,763.47
14-0431	HIGHLAND SPRINGS AVE. IMPROVEMENTS	BANNING	ALL AMERICAN ASPHALT	$1,118,729.56
14-0434	POTHOLING LEGACY PARK IMPROVEMENT	CHINO	LEWIS MANAGEMENT CORP.	$20,000.00
14-0436	(2) TRAFFIC SIGNAL CABINETS	REDLANDS	CITY OF REDLANDS	$169,236.86
14-0437	CITYWIDE BICYCLE AND PEDESTRIAN IMPROV.	RIVERSIDE	CITY OF RIVERSIDE	$971,471.62

14-0438	ORCHARD HILLS BASIN REWORK	IRVINE	KEC ENGINEERING	$69,647.88
14-0440	PALM DR. STREET LIGHTING AND SAFETY IMPROV	DESERT HOT SPRINGS	ALL AMERICAN ASPHALT	$714,549.27
14-0441	INGLEWOOD INTERMODAL TRANSIT/PARK	INGLEWOOD	GRIFFITH COMPANY	$356,820.00
14-0442	UNION SOUTH BAY	CARSON	KATERRA CONSTRUCTION LLC	$160,708.75
14-0443	TR19006 ORCHARD HILLS	IRVINE	HILLCREST CONTRACTING	$1,497.69
14-0444	ATP CYCLE III - SAFE ROUTES TO SCHOOL	ONTARIO	EPSILON ENGINEERING	$64,452.00
14-0445	THE MERGE OFFSITE & RETAIL	EASTVALE	FULLMER CONSTRUCTION	$538,437.00
14-0446	CULVER DR. AND IRVINE BLVD.	IRVINE	HILLCREST CONTRACTING	$92,241.85
14-0447	CROSSWALK UPGRADES PHASE II	SANTA ANA	CITY OF SANTA ANA	$288,106.20
14-0448	CITYWIDE TS COMMUNICATION (WEST)	MENIFEE	CITY OF MENIFEE	$484,577.24
14-0449	FLORENCE AVE. WIDENING	SANTA FE SPRINGS	HARDY AND HARPER	$522,422.26
14-0450	TRAFFIC MANAGEMENT CENTER	FONTANA	CITY OF FONTANA	$1,259,299.83
14-0451	HAMNER PLACE	EASTVALE	LYLE PARKS JR. CONSTRUCTION	$263,454.08
14-0452	MIDTOWN COMMERCIAL TRAFFIC SIGNAL	BURBANK	CITY OF BURBANK	$3,004,555.26
14-0453	INNOVATION PARK (SPECTRUM 7) ON-SITE	IRVINE	HILLCREST CONTRACTING	$428,252.65
14-0454	BREA BLVD. RECONSTRUCTION	FULLERTON	HARDY AND HARPER	$119,609.43
14-0456	SUNDANCE CORPORATE CENTER	BEAUMONT	LISTER CONSTRUCTION	$273,042.00
14-0457	HIGHLAND AVE. REHABILITATION PROJECT	GLENDALE	VART CONSTRUCTION, INC.	$25,709.94
14-0459	HARLEY KNOX BLVD. AND REDLANDS AVE.	PERRIS	HILLCREST CONTRACTING	$29,677.00
14-0460	SAN JACINTO AVE. AND REDLANDS AVE. TS	PERRIS	CITY OF PERRIS	$27,811.00
14-0462	INSTALLATION OF EV CHARGING EQUIPMENT	BREA	PREFERRED POWER SOLUTIONS	$28,475.00
14-0463	TAHQUITZ CANYON WAY AND CIVIC DR. TS	PALM SPRINGS	CITY OF PALM SPRINGS	$436,624.08
14-0464	HAVEN AVE. AT MERRILL AVE. TRAFFIC SIGNALS	ONTARIO	LENNAR	$369,837.58
14-0465	WILMINGTON AVE. IMPROVEMENTS	COMPTON	SUPERIOR PAVEMENT MARKINGS	$697,928.49
14-0467	HAWK SIGNAL AT GAGE AVE.	HUNTINGTON PARK	CITY OF HUNTINGTON PARK	$194,731.00
14-0468	VARIOUS ARTERIAL AND RESIDENTIAL STREETS	GARDEN GROVE	RJ NOBLE	$91,754.03
14-0469	NEW TS AT GARFIELD AVE. AND MULLER ST.	BELL GARDENS	CITY OF BELL GARDENS	$305,717.02
14-0470	WALMART STORE NO. 2077-07	LAKE ELSINORE	SHAMES CONSTRUCTION CO., LTD	$261,104.10
14-0471	RRFB FIVE POINT	IRVINE	RJ NOBLE	$36,000.00
14-0472	PEDESTRIAN SAFETY IMPROVEMENTS	ORANGE	CITY OF ORANGE	$145,772.00
14-0474	CITYWIDE PAVEMENT REHABILITATION	MORENO VALLEY	HARDY AND HARPER	$455,500.00
14-0475	LAS VIRGENES RD. TRAFFIC SIGNALS	LOS ANGELES	COUNTY OF LOS ANGELES	$146,847.00
14-0476	FLOWER STREET BIKEWAY	SANTA ANA	CITY OF SANTA ANA	$757,163.09
14-0477	SAN FERNANDO ROAD REHABILITATION	GLENDALE	GJ GENTRY	$21,003.12
14-0478	STERLING AVE.	SAN BERNARDINO	ONYX PAVING	$93,230.33
14-0479	LYONS AVENUE AT APPLE STREET	SANTA CLARITA	CITY OF SANTA CLARITA	$130,099.00
14-0480	E. ANAHEIM ST. AND ATLANTIC AVE.	LONG BEACH	PR CONSTRUCTION	$41,197.79
14-0481	3670 W. IMPERIAL HIGHWAY STREET LIGHT	HAWTHORNE	POURNAMDARI, INC.	$20,388.00
14-0482	PEDESTRIAN HYBRID BEACON	MORENO VALLEY	SIDRA GROUP INC.	$135,507.51
14-0483	FY 2019/20 FLASHING YELLOW ARROW	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$287,056.83
14-0484	LONG BEACH BLVD. / 105 FWY INTERCHANGE	LYNWOOD	HARDY AND HARPER	$16,938.91

14-0485	A STREET IMPROVEMENTS	PERRIS	HILLCREST CONTRACTING	$203,256.19
14-0486	KATELLA AVE. WIDENING	ANAHEIM	ARCHICO DESIGN AND BUILD	$718,892.51
14-0488	N. VERDUGO RD. TRAFFIC SIGNALS	GLENDALE	CITY OF GLENDALE	$3,104,823.35
14-0489	CONDUIT ALONG BOB HOPE DR	RANCHO MIRAGE	CITY OF RANCHO MIRAGE	$24,360.00
14-0490	2020 SPRING PAVEMENT MANAGEMENT PROGRAM	LANCASTER	SULLY-MILLER CONTRACTING	$581,739.19
14-0491	CV LINK ON-STREET CLASS IV AND NEV PATH	PALM DESERT	GRANITE CONSTRUCTION	$208,782.33
14-0493	3190 ALABAMA STREET IMPROVEMENTS	REDLANDS	DUKE REALTY	$40,701.00
14-0494	20519 - GLENDORA	GLENDORA	CAL PACIFIC CONSTRUCTORS, INC.	$17,215.00
14-0495	UPGRADE EXISTING MARKED CROSSWALKS	MORENO VALLEY	CITY OF MORENO VALLEY	$289,800.00
14-0498	VENTURA BLVD: TYRONE AVE: MOORPARK	SHERMAN OAKS	PACIFIC STAR CAPITAL	$344,573.53
14-0499	TRAFFIC SIGNAL IMPROVEMENTS	CATHEDRAL CITY	CITY OF CATHEDRAL CITY	$1,569,506.54
14-0502	TRAFFIC SIGNAL INSTALLATION	GARDEN GROVE	CITY OF GARDEN GROVE	$794,496.00
14-0503	CASMALIA ST. IMPROVEMENT PROJECT	RIALTO	HARDY AND HARPER	$92,475.00
14-0505	LOOP REPAIR ON PHILADELPHIA AND GROVE	ONTARIO	PR CONSTRUCTION	$3,500.00
14-0506	VAN VLIET STREET LIGHTING	CHINO	LEWIS MANAGEMENT CORP.	$265,720.15
14-0507	LA BREA AND QUEEN RE-WIRE	INGLEWOOD	INLAND ENGINEERING SERVICES	$19,637.00
14-0510	VERNOLA MARKET PLACE	JURUPA VALLEY	WERMERS MULTI-FAMILY CORP.	$3,720.00
14-0511	9180 ALABAMA OFFSITE PACKAGE	REDLANDS	ALL AMERICAN ASPHALT	$82,174.83
14-0512	FOOTHILL BLVD. PAVEMENT REHABILITATION	RANCHO CUCAMONGA	ALL AMERICAN ASPHALT	$142,906.61
14-0513	VINEYARD AVE. AT SAN BERNARDINO RD.	RANCHO CUCMONGA	CITY OF RANCHO CUCAMONGA	$109,323.00
14-0515	GOETZ RD. WIDENING IMPROVEMENTS	PERRIS	ALABBASI	$701,785.43
14-0516	SIERRA AVE. PAVEMENT REHABILITATION	NORCO	ONYX PAVING	$34,342.00
14-0527	TS FOR BOX CULVERT - CACTUS/VETERAN'S WAY	MORENO VALLEY	LEWIS MANAGEMENT CORP.	$8,200.00
14-0528	BEVERLY CENTER RENOVATION	LOS ANGELES	BERGELECTRIC	$14,364.40
14-0530	PALOMAR AVE. WIDENING PROJECT	YUCCA VALLEY	ALL AMERICAN ASPHALT	$124,124.09
14-0531	MERIDIAN K4 SIGNALS	MORENO VALLEY	LEWIS MANAGEMENT CORP.	$843,440.26
14-0533	SADDLEBACK COLLEGE (T/M)	MISSION VIEJO	RJ NOBLE	$37,166.63
14-0534	EL SEGUNDO BLVD. AND DOTY AVE.	HAWTHORNE	SHAWNAN	$5,557.00
14-0535	EUCALYPTUS AVE. STREET IMPROVEMENTS	ONTARIO	ALL AMERICAN ASPHALT	$64,385.00
14-0536	ROSECRANS AVE. RESURFACING PROJECT (T/M)	MANHATTAN BEACH	ALL AMERICAN ASPHALT	$20,469.26
14-0537	HUNTER COURT	LAKE FOREST	ELEVEN WESTERN BUILDERS, INC.	$99,887.06
14-0542	SOLAR RADAR SPEED SIGNS	RIVERSIDE	LEWIS MANAGEMENT CORP.	$12,170.00
14-0545	REPLACE DAMAGED TS POLE SHAFT	DESERT HOT SPRINGS	CITY OF DESERT HOT SPRINGS	$28,231.00
14-0550	TS REPAIR AT ROSEMEAD / MARSHALL	ROSEMEAD	EFI ENGINEERING	$4,019.22
14-0559	SKYLINE RANCH	SANTA CLARITA	PARDEE HOMES	$22,410.00
14-0561	SOUTH GATE POLICE DEPT. PARKING LOT	SOUTH GATE	EC CONSTRUCTION	$20,640.12
14-0566	5TH STREET WEST AND AUTO CENTER DR.	PALMDALE	CITY OF PALMDALE	$360,815.00
14-0567	PROJECT BRUIN	OXNARD	BERGELECTRIC	$28,589.00
14-0569	AMAR RD. AND NOGALES ST.	WALNUT	ALL AMERICAN ASPHALT	$4,500.00
14-0572	PAVEMENT REHABILITATION PROGRAM	TEMECULA	RJ NOBLE	$49,682.20
14-0573	PERRIS MARCH PLAZA	PERRIS	ROCKWOOD CONSTRUCTION	$4,540.00

14-0575	859 N. DETROIT ST.	LOS ANGELES	JCA CONSTRUCTION COMPANY	$34,913.89
14-0577	UCR STUDENT SUCCESS CENTER	RIVERSIDE	BERGELECTRIC	$4,700.00
14-0578	LOS ROBLES HOSPITAL	THOUSAND OAKS	BERGELECTRIC	$3,500.00
14-0582	EMERGENCY REPAIR WORK	SOUTH GATE	CITY OF SOUTH GATE	$28,355.61
14-0584	ALISO VIEJO BEHAVORIAL HEALTHCARE	ALISON VIEJO	BERGELECTRIC	$3,500.00
14-0585	WILSHIRE BLVD. TEMPLE EVENTS BUILDING	LOS ANGELES	BERGELECTRIC	$3,940.00
14-0586	CPR PARKING LOT LIGHTING REPAIR	SYLMAR	ALL AMERICAN ASPHALT	$8,853.11
14-0587	GLASSELL ST. AND COLLINS AVE. LEFT TURN	ORANGE	CITY OF ORANGE	$284,331.07
14-0590	CHAPMAN AVE. AND FELDNER RD. LEFT TURN	ORANGE	CITY OF ORANGE	$259,463.82
14-0591	CHAPMAN AVE. AND FLOWER ST. LEFT TURN	ORANGE	CITY OF ORANGE	$281,728.94
14-0595	CHINO ADA RAMPS (T&M)	CHINO	MILLIE AND SEVERSON	$6,996.99
14-0596	13344 MAIN ST.	LOS ANGELES	MILLIE AND SEVERSON	$19,677.00
14-0598	INDUSTRIAL BLVD. AND SILICA DR.	VICTORVILLE	SULLY-MILLER CONTRACTING	$26,084.00
14-0600	SUNDANCE CHERRY AVE.	BEAUMONT	HARDY AND HARPER	$33,563.69
14-0601	13TH ST. PAVEMENT REHABILITATION	UPLAND	HARDY AND HARPER	$7,409.43
14-0607	SCHOOL CROSSWALK IMPROVEMENTS	RANCHO CUCAMONGA	CITY OF RANCHO CUCAMONGA	$131,078.68
14-0613	HENDERSON AVE.	PORTERVILLE	CA PROFESSIONAL ENGINEERING	$20,000.00
14-0618	BADILLO ST. IMPROVEMENTS	COVINA	SEQUEL CONTRACTORS	$24,420.00
14-0630	CONDUIT INSTALL, REWIRE & TS CABINET	REDLANDS	CITY OF REDLANDS	$111,312.71
14-0637	FIXED NETWORK POLES	FONTANA	CUCAMONGA VALLEY WATER DISTRICT	$29,000.00
14-0654	BATTERY BUS CHARGING INFRASTRUCTURE	NORWALK	CITY OF NORWALK	$102,155.91
14-0665	FY 2020-21 ANNUAL PAVEMENT MAINTENANCE	ORANGE	RJ NOBLE COMPANY	$1,830.02
14-0666	FY 2020-21 ROADWAY REHABILITATION	PLACENTIA	RJ NOBLE COMPANY	$1,830.02
14-0706	6240 PRESCOTT COURT	CHINO	ALLEN PROPERTIES	$6,205.00
			TOTALS:	$220,663,397.07

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*
4A, 4B, 4C	2.5%	CAT TRACKING INC. 17 COMMERCIAL AVE RIVERSIDE, CA | ESTIMATING@CATTRACKINGINC.COM	991122	C32	1000011750
1A, 2A, 6A-F	15.6%	PAVEMENT REHAB COMPANY 810 MARGUERITA AVE CORONA, CA | JAMIE@PAVEMENTREHAB CO.COM	1051347	C12+C8	1000064823

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.

JW
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.

JW

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 l s 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.

Elecnor Belco Electric, Inc.
Contractor Firm Name

John Wong
Name of Principal

Vice President
Title

Signature

Subscribed and sworn to before me by:

John Wong

This 2nd day of November, 2022.

My Commission Expires:

March 21, 2023 , Elisa Beth Lim

Notary Public

Bidder's Initials

*Please see attached

CALIFORNIA ALL- PURPOSE CERTIFICATE OF 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 San Bernardino }

On November 3, 2022 before me, Elisa Beth Lim, Notary Public
(Here insert name and title of the officer),

personally appeared John Wong,
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.

NCC1 ELISA BETH LIM Commission No. 2281937 NOTARY PUBLIC-CALIFORNIA SAN BERNARDINO COUNTY My Comm. Expires MARCH 21, 2023 NCC1

Notary Public Signature (Notary Public Seal)

ADDITIONAL OPTIONAL INFORMATION

DESCRIPTION OF THE ATTACHED DOCUMENT

City of Costa Mesa
(Title or description of attached document)

(Title or description of attached document continued)

Number of Pages ____ Document Date____

CAPACITY CLAIMED BY THE SIGNER

- ☐ Individual (s)
- ☐ Corporate Officer
  ____
  (Title)
- ☐ Partner(s)
- ☐ Attorney-in-Fact
- ☐ Trustee(s)
- ☐ Other ____

www.NotaryClasses.com 800-873-9865

INSTRUCTIONS FOR COMPLETING THIS FORM

This form complies with current California statutes regarding notary wording and, if needed, should be completed and attached to the document. Acknowledgments from other states may be completed for documents being sent to that state so long as the wording does not require the California notary to violate California notary law.

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

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: 11/2/2022

CONTRACTOR

John Wong

Elecnor Belco Electric,Inc.

Company Name

PROJECT: CITYWIDE NEW TRAFFIC SIGNAL AND HAWK SIGNAL INSTALLATION PROJECT, CITY PROJECT NO. 22-07

JW

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.

Bidder's Initials

BIDDER/APPLICANT/CONTRACTOR CAMPAIGN

CONTRIBUTION DISCLOSURE FORM

Proposer/Consultant/Applicant is required to identify any campaign contribution or cumulative contributions greater than $249 to any city council member in the twelve months prior to submitting an application, proposal, statement of qualifications or bid requiring approval by the City Council.

Date	Name of Donor	Company/Business Affiliation	Name of Recipient	Amount
NA				

Except as described above, I/we have not made any campaign contribution in the amount of $250 or more to any Costa Mesa City Council Member in the twelve months preceding this Application/Proposal.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

John Wong

Bidder/Applicant/Proposer

11/2/2022

Date

Bidder's Initials

EXHIBIT B

BID PACKAGE

CITY OF COSTA MESA

ORANGE COUNTY, CALIFORNIA

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

CITYWIDE NEW TRAFFIC SIGNAL AND HAWK SIGNAL INSTALLATION PROJECT

CITY PROJECT NO. 22-07

Prepared Under the Direction of

Seung Yang, P.E.

City Engineer

Copy No. _____ Checked by _____

TABLE OF CONTENTS

PAGE NUMBER

TABLE OF CONTENTS ..... i THRU v

SECTION A

NOTICE INVITING BIDS ..... N-1 THRU N-2

SECTION B

INFORMATION FOR BIDDERS B-1

1 PREPARATIONS OF BID FORM B-1

2 QUALIFICATION OF BIDDERS B-1

3 BID SECURITY B-1

4 NON-COLLUSION AFFIDAVIT B-1

5 SIGNATURE B-1

6 CORRECTIONS B-1

7 DELIVERY OF PROPOSAL B-1

8 BID DEPOSIT RETURN B-1

9 TAXES B-2

10 WITHDRAWAL OF BIDS B-2

11 AGREEMENT AND BONDS B-2

12 FORFEITURE FOR FAILURE TO POST SECURITY AND EXECUTE AGREEMENT B-2

13 BIDDERS INTERESTED IN MORE THAN ONE BID B-2

14 EXAMINATION OF SITE AND CONTRACT DOCUMENTS B-2

15 INTERPRETATION OF PLANS AND DOCUMENTS B-3

16 ADDENDA B-3

17 QUESTIONS TO THE ENGINEER B-3

18 EQUIVALENT MATERIALS B-3

Table of Contents
(CONTINUED)

PAGE NUMBER

19 EVIDENCE OF RESPONSIBILITY B-3

20 LEGAL RESPONSIBILITIES B-3

21 ANTI-DISCRIMINATION B-4

22 DRUG-FREE WORKPLACE POLICY B-4

23 BID PROTEST PROCEDURES B-4

24 ASSEMBLY BILL 626 ..... B-4

REQUEST FOR INTERPRETATION OF CONTRACT DOCUMENTS B-6

SECTION C

PROPOSAL ..... P-1 THRU P-11

SECTION D

GENERAL PROVISIONS GP-1

1-2 TERMS AND DEFINITIONS GP-2

1-3 ABBREVIATIONS GP-2

1-6 BIDDING AND SUBMISSION OF BID GP-3

1-6.1.1 REQUEST FOR INTERPRETATION GP-3

1-6.1.2 SOIL CONDITIONS GP-4

1-6.1.3 RETURN OF BID SECURITY GP-4

1-6.2 SUBCONTRACTING LISTING GP-4

1-7 AWARD AND EXECUTION OF THE CONTRACT GP-5

1-7.1.1 EXECUTION OF THE AGREEMENT GP-5

1-7.2 CONTRACT BONDS GP-5

2-1 WORK TO BE DONE GP-6

2-2 PERMITS GP-6

Table of Contents
(CONTINUED)

PAGE NUMBER

2-5 THE CONTRACTOR'S EQUIPMENT AND FACILITIES GP-6

2-5.2 TEMPORARY UTILITY SERVICES GP-6

2-5.4 HAUL ROUTES GP-7

2-10 CHANGES INITIATED BY THE AGENCY GP-8

2-8 EXTRA WORK GP-8

2-9 CHANGED CONDITIONS GP-8

3-1 ASSIGNMENT GP-8

3-4 AUTHORITY OF THE BOARD AND THE ENGINEER GP-8

3-5 INSPECTION GP-9

3-6 THE CONTRACTOR'S REPRESENTATIVE GP-10

3-7 CONTRACT DOCUMENTS GP-10

3-10 SURVEYING GP-11

3-10.3 LINE AND GRADE GP-11

3-12 WORK SITE MAINTENANCE GP-11

3-12.2 AIR POLLUTION CONTROL GP-12

3-12.6 WATER POLLUTION CONTROL GP-12

3-12.6.2 BEST MANAGEMENT PRACTICES (BMP'S) GP-13

3-12.6.3 STORM WATER POLLUTION PREVENTION PLAN (SWPPP) GP-13

3-12.6.4 DEWATERING GP-14

3-13.3 WARRANTY GP-15

4-4 TESTING GP-15

5-1 LAWS AND REGULATIONS GP-16

5-2 SPECIAL NOTICES GP-16

5-3 LABOR GP-16

Table of Contents
(CONTINUED)

PAGE NUMBER

5-3.3 PAYROLL RECORDS GP-16

5-3.5 APPRENTICES GP-16

5-4 INSURANCE GP-17

5-7 SAFETY GP-17

5-7.1 WORK SITE SAFETY GP-17

5-7.8 STEEL PLATE COVERS GP-18

6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF THE WORK GP-18

6-1.1 CONSTRUCTION SCHEDULE GP-18

6-1.3 DAILY REPORT SUBMITTAL GP-19

6-3 TIME OF COMPLETION GP-19

6-5 USE OF IMPROVEMENT DURING CONSTRUCTION GP-19

6-7 TERMINATION OF THE CONTRACT FOR DEFAULT GP-19

6-7.3 NOTICE OF TERMINATION FOR DEFAULT GP-19

6-7.4 RESPONSIBILITY OF SURETY GP-19

6-9 LIQUIDATED DAMAGES GP-20

7-3 PAYMENT GP-20

7-3.2 PARTIAL AND FINAL PAYMENT GP-20

7-3.2.1 PROMPT PROGRESS PAYMENT TO SUBCONTRACTORS GP-22

7-3.2.2 PROMPT PAY MONITORING AND ENFORCEMENT OF PROGRESS PAYMENTS GP-22

7-3.3 DELIVERED MATERIALS GP-23

7-3.4 MOBILIZATION GP-23

7-3.4.1 TRAVEL ROUTE AND TRUCKING AN EQUIPMENT GP-24

Table of Contents
(CONTINUED)

PAGE NUMBER

7-3.4.2 CONSTRUCTION SEQUENCE/ORDER OF WORK GP-24

7-4 PAYMENT FOR EXTRA WORK..... GP-24

7-4.2 BASIS FOR ESTABLISHING COSTS..... GP-24

7-4.2.1 LABOR..... GP-24

7-4.3 MARKUPS GP-25

7-4.3.1 WORK BY THE CONTRACTOR GP-25

7-4.3.2 WORK BY A SUBCONTRACTOR GP-25

7-6 SUMMARY OF PUBLIC CONTRACT CODE § 9204..... GP-25

SECTION E

SPECIAL PROVISIONS..... SP-1 THRU SP-102

SECTION F

MISCELLANEOUS CONTRACT DOCUMENTS (SAMPLE)

1 AGREEMENT (SAMPLE)..... 22 PAGES

2 COUNCIL POLICY .....D-1 - D-3

3 INSURANCE (SAMPLE) ..... 2 PAGES

4 BONDS..... 2 PAGES

5 PERMIT APPLICATION..... 1 PAGE

6 APPLICATION FOR BUSINESS LICENSE ..... 1 PAGE

SECTION G

APPENDICES

APPENDIX "A" PROJECT LOCATIONS AND MAP.....2 PAGES

APPENDIX "B" ENGINEERING DESIGN PLANS ..... 6 SHEETS

APPENDIX "C" CITY AND CALTRANS STANDARD DRAWINGS.....49 PAGES

CITY OF COSTA MESA
ORANGE COUNTY, CALIFORNIA
NOTICE INVITING BIDS

NOTICE IS HEREBY GIVEN that the City of Costa Mesa ("City") invites sealed bids, to be submitted electronically only, for the following project:

CITYWIDE NEW TRAFFIC SIGNAL AND HAWK SIGNAL INSTALLATION PROJECT, CITY PROJECT NO. 22-07

1. **BID SUBMISSION AND OPENING:** Bids must be submitted electronically via the City of Costa Mesa's PlanetBids portal before the deadline of **2:00 P.M., Wednesday, November 9, 2022**, at which time or shortly thereafter the City Clerk will open bids electronically. The bid results will be posted online via PlanetBids. No paper bids or any other form of submittal will be accepted. Any bid received after the scheduled closing time for the receipt of bids will be rejected. The City is not responsible for and accepts no liability in the event a response is late due to any network, internet, or any other technical difficulty or interruption. It shall be the sole responsibility of the bidder to ensure that his/her/its bid is received by the deadline.

   To access the bid documents and bid on this project, potential vendors and bidders must first register through the City's PlanetBids portal at: https://www.planetbids.com/portal/portal.cfm?CompanyID=45476.

2. **SCOPE OF WORK AND BID DOCUMENTS:** The scope of work generally consists of mobilization, installation of a new traffic signal at the intersection of W. 19th Street & Wallace Avenue; installation of a new HAWK signal at W. 18th Street across from Lions Park; installation of a new HAWK signal at Wilson Street across from Wilson Park; concrete sidewalk and curb & gutter modifications; curb access ramp modifications; notifications to businesses and residents; traffic signing; striping and markings; installation of pavement markers; and implementing traffic control.

   The plans, specifications, and bid documents for this project can be obtained via the City's PlanetBids portal at: https://www.planetbids.com/portal/portal.cfm?CompanyID=45476.

   It is the bidder's responsibility to ensure that the most current version of the solicitation, including any addenda, has been downloaded. Bids received without the applicable addenda will be rejected as incomplete.

3. **PRE-BID MEETING OR JOB WALK:** None.

4. **BID CONTENTS:** All bids must be submitted on the proposal form included in the bid documents. 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.

5. **BID SECURITY:** Each bidder must submit 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, to the Costa Mesa City Clerk **PRIOR** to the bid submission deadline. No bid will be considered unless such certified check, cashier's check, or bid bond is received by the City Clerk prior to the bid submission deadline.

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 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 Labor Code 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 works 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 (DIR) 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 Costa Mesa Public Services Department 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: http://www.dir.ca.gov; these rates are subject to predetermined increases. The prime contractor shall post a copy of the DIR'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 DIR.

9. **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.

10. **RETENTION:** The City withholds five percent (5%) of each progress payment as retention. Pursuant to Public Contract Code section 22300, the successful bidder may substitute certain securities for money withheld by the City to ensure performance of the contract. At the request and expense of the contractor, securities equivalent to the amount withheld shall be deposited with the public agency, or with a state or federally chartered bank in this state as the escrow agent, who shall then pay those moneys to the contractor. Securities will be returned to the contractor upon satisfactory completion of the contract.

11. **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.

12. **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.

13. **ADDITIONAL REQUIREMENTS:** This project is subject to local, State, and Federal regulations and requirements, as detailed in the bid documents.

For all inquiries, please contact Administrative Secretary: Janet Zuazo, Public Works Department, via e-mail at janet.zuazo@costamesaca.gov.

Brenda Green, City Clerk
City of Costa Mesa
Dated: October 5, 2022

INFORMATION FOR BIDDERS

1. PREPARATION OF BID FORM: The City of Costa Mesa (City) requires that bids be submitted on the proposal available on *PlanetBids* at such time and place as is stated in the Notice Inviting Bids. All information requested in the bid forms must be provided. All bids shall be submitted electronically via the City's public bidding platform, *PlanetBids* **only**. No other form of submittal shall be accepted. 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 **rejected**. Each Bidder is responsible for acknowledging all 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 package.

3. BID SECURITY / BID BOND: 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. This original bid security / bid bond must be submitted to the City Clerk's Office *at least one hour* ***PRIOR*** to the bid submission deadline. Any and all **late** submittals of the bid security / bid bond **shall** be rejected, and it is the bidder's responsibility, *not* the delivery service, to ensure said bid security / bid bond is delivered timely to the City Clerk's office. 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: Via the *PlanetBids* platform, the bid must be *electronically* or *digitally* signed in the name of the Bidder and must be person or persons duly authorized to sign the bid on behalf of the Bidder.

6. CORRECTIONS: Any corrections made to the submitted bid must be made electronically via *PlanetBids*.

7. DELIVERY OF PROPOSAL: Proposals shall be submitted electronically via PlanetBids: *https://www.planetbids.com/portal/portal.cfm?CompanyID=45476*. No other form of submittal shall be accepted by the City.

8. BID DEPOSIT RETURN: Deposits of three of 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 5th 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:

T0 A/E:

SECTION C

PROPOSAL

FOR THE

CITYWIDE NEW TRAFFIC SIGNAL AND HAWK SIGNAL INSTALLATION PROJECT, CITY PROJECT NO. 22-07

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 **CITYWIDE NEW TRAFFIC SIGNAL AND HAWK SIGNAL INSTALLATION PROJECT, CITY PROJECT NO. 22-07,** 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 ONE HUNDRED FIFTY (150) 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:

BID SCHEDULE PROPOSAL

ITEM #	BID ITEM DECRIPTION	QTY.	UNIT	UNIT PRICE (in figures)	ITEMS TOTAL (in figures)
Project "A": NEW TRAFFIC SIGNAL AT W. 19TH STREET & WALLACE AVENUE					
1A	Mobilization and Demobilization	1	L.S.		
2A	Implement Traffic Control, including all Equipment, Material, Labor, and Set Up (includes removal at the end of project)	1	L.S.		
3A	Furnish and Install New Traffic Signal, including all Appurtenant Material, Equipment, Labor, and Construction to Produce a Full Functioning Traffic Signal that is Connected and Fully Communicates with the City's Traffic Management Center (TMC)	1	L.S.		
4A	Complete Signing, Striping, and Markings per Plan	1	L.S.		
5A	Implement Traffic Signal Interconnect and Full Functionality with the City's Traffic Management Center (TMC)	1	L.S.		
6A	Construct Two (2) Intersection "Bulb-Outs" at the Northerly Intersection of West 19th St. and Wallace Ave., including All Demolition & Haul Away, Construction of Concrete Sidewalk (4-inch Concrete over 4-inch C.M.B.), A.D.A. Curb Ramps per Plan, Curb & Gutter per Plan, Asphalt Concrete (A.C.) Slot Pave, and All Other Ancillary Work Needed for Completion per Engineer's Direction.	1	L.S.		
Project "B": NEW HAWK SIGNAL AT W. 18TH STREET ACROSS FROM LIONS PARK					
1B	Mobilization and Demobilization	1	L.S.		
2B	Implement Traffic Control, including all Equipment, Material, Labor, and Set Up (includes removal at the end of project)	1	L.S.		
3B	Furnish and Install New HAWK Signal, including all Appurtenant Material, Equipment, Labor, and Construction to Produce a Full Functioning HAWK Signal	1	L.S.		
4B	Complete Signing, Striping, and Markings per Plan	1	L.S.		

Project "C": NEW HAWK SIGNAL AT WILSON STREET ACROSS FROM WILSON PARK					
1C	Mobilization and Demobilization	1	L.S.		
2C	Implement Traffic Control, including all Equipment, Material, Labor, and Set Up (includes removal at the end of project)	1	L.S.		
3C	Furnish and Install New HAWK Signal, including all Appurtenant Material, Equipment, Labor, and Construction to Produce a Full Functioning HAWK Signal	1	L.S.		
4C	Complete Signing, Striping, and Markings per Plan	1	L.S.		
	TOTAL BID PROPOSAL FIGURES:			$	

TOTAL BID PROPOSAL (Words):

_____

_____

The award of the Contract shall be based on the lowest responsive Bid amount, and the City reserves the right to delete one or more bid items and/or to increase and/or to decrease bid items' quantities.

The CITY also reserves the right to reject all Bids.

_____
Bidder's Initials

PROPOSAL BID 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).

6. Bidder agrees to initial or notarize (if applicable) all pages on P-1, P-1a, P-1b, P1-c, and through P-11 uploaded onto *PlanetBids*.

_____
Bidder's Initials

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

Respectfully Submitted,

Contractor's Business Name	Contractor Title
Business Address: Street	Singed By Title
City State Zip	Contractor's License No. and Classification Exp. Date
Business Phone Number	Date
Name Title	Residence: Street
City State Zip	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: _____

	Can Sign	Must Sign
Name_____	☐	☐
Name_____	☐	☐
Name_____	☐	☐

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

Bidder shall signify receipt of all Addenda here, if any:

Addendum No.	Date Received	Bidder's Signature

CONSTRUCTION PROJECT REFERENCES

In order to more fully evaluate your firm's background and experience for the project herein proposed, it is requested that you submit a list of Public Works and/or similar construction projects completed, or in progress, within the last 24 months. This information will be used to evaluate whether the bid is responsive and or responsible to the call for bids.

Date Project Awarded	Awarding Agency	Agency's Contract Administrator Contact Information

_____
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 (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***

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

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.

_____
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 I s 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: CITYWIDE NEW TRAFFIC SIGNAL AND HAWK SIGNAL INSTALLATION PROJECT, CITY PROJECT NO. 22-07

_____
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.

_____
Bidder's Initials

BIDDER/APPLICANT/CONTRACTOR CAMPAIGN

CONTRIBUTION DISCLOSURE FORM

Proposer/Consultant/Applicant is required to identify any campaign contribution or cumulative contributions greater than $249 to any city council member in the twelve months prior to submitting an application, proposal, statement of qualifications or bid requiring approval by the City Council.

Date	Name of Donor	Company/Business Affiliation	Name of Recipient	Amount

Except as described above, I/we have not made any campaign contribution in the amount of $250 or more to any Costa Mesa City Council Member in the twelve months preceding this Application/Proposal.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

_____

Bidder/Applicant/Proposer

_____

Date

_____

Bidder's Initials

SECTION D
GENERAL PROVISIONS

PART 1

SECTION 1 – GENERAL

1-2 GENERAL

[Add the following:].

Except as hereinafter provided, the provisions of the latest edition of the Standard Specifications for Public Works Construction (“Green Book”), and all amendments thereto, adopted by the Joint Cooperative Committee of Southern California Chapter, American Public Works Association, Southern California District and Associated Contractors of California; hereinafter referred to as Standard Specifications, are adopted as the "Standard Specifications of the City of Costa Mesa" and shall be considered as a part of these specifications. Copies of the Standard Specifications are available from the publisher:

BNi Building News

1612 S. Clementine Street

Anaheim, California 92802

(714) 517-0971

Where specified in these specifications, the latest edition of the California Building Code, based on the latest edition of the International Building Code, the latest edition of the "Standard Specifications and Standard Plans of the State of California, Department of Transportation, Division of Highways," "Standard Plans of the Orange County Environmental Management Agency," and "Los Angeles County Flood Control District, Design Manual, Standard Drawings" shall apply or unless otherwise noted in these specifications or at the direction of the ENGINEER.

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.

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

The following modifications are made to the "Standard Specifications." If there is a conflict between the "Standard Specifications" and these modifications, these modifications shall have first precedence.

1-2 TERMS AND DEFINITIONS

[Add or redefine the following:].

(a) AGENCY	The City of Costa Mesa, California, hereinafter referred to as "CITY."
(b) BOARD	The City Council of the City of Costa Mesa, California, hereinafter referred to as "BOARD."
(c) CONTRACT DOCUMENTS	Documents including but not limited to the following: The proposal form P-1 through P-9b, Notice Inviting Bids, Standard Specifications, General Provisions, Special Provisions, Plans, Bonds, Insurance Certificates, Agreement, and all Addenda setting forth any modifications of the documents as further specified in contract agreement.
(d) ENGINEER	The administrating officer of the City of Costa Mesa or his authorized representative hereinafter referred to as ENGINEER.
(e) BIDDER	Any individual, firm, partnership, corporation, or combination thereof, submitting a bid proposal for the work contemplated in the contract documents, acting directly or through a duly authorized representative, hereinafter referred to as BIDDER.
(f) LEGAL ADDRESS OF CONTRACTOR	The legal address of the Contractor shall be the address given on the Contractor's bid and is hereby designated as the place to which all notices, letters or other communications to the Contractor shall be mailed or delivered.
(g) LABORATORY	An established laboratory approved and authorized by the ENGINEER for testing materials and work involved in the contract.

1-3 ABBREVIATIONS

CALTRANS	State of California, Department of Transportation, Division of Highways
O.C.E.M.A.	Orange County Environmental Management Agency
L.A.C.F.C.D.	Los Angeles County Flood Control District

1-6 BIDDING AND SUBMISSION OF THE BID

1-6.1 General

[Add the following:].

Proposal shall be made and submitted on proposal forms P-1 through P-9a 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 each sheet of the proposal forms at the bottom right hand corner.

No person, firm, partnership, corporation, or combination thereof shall be allowed to make or file or be interested in more than one bid for the same work, unless alternate bids are called for. A person, firm, partnership, corporation, or combination thereof who has submitted a sub-proposal to a BIDDER or who has quoted prices on materials to a BIDDER is not thereby disqualified from submitting a sub-proposal to or quoting prices to the other bidders. If, on the opening of bids, more than one bid appears in which the same person, firm, partnership, corporation or combination thereof is interested as a principal, all such bids shall be rejected.

Proposals with interlineations, alterations, or 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.

A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5 of the Labor Code. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.

1-6.1.1 Request for Interpretation

If any person contemplating submitting a bid is in doubt as to the meaning of any part of the Plans, Specification, or other proposed Contract Documents, or finds discrepancies in, or omissions from the drawings or specifications, (It, he, she) may make a request to the ENGINEER, in writing, for an interpretation or correction thereof pursuant to the provisions in the Information for Bidders section of these specifications. 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 or delivered to each person receiving a set of Contract Documents at (its, his, her) last address of record. The CITY will not be responsible for any other explanations or interpretations of the Contract Documents.

1-6.1.2 Soil Conditions

The BIDDER shall inspect the soil conditions before submitting a bid. 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.

1-6.1.3 Return of Bid Security

Any BIDDER may withdraw its 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.

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 45 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.

1-6.2 Subcontractor Listing

[Add the following:].

The ENGINEER, as duly authorized officer, may consent to subcontractor substitution requested by the Contractor subject to the limitations and notices prescribed in Section 4107 of the Public Contract Code.

1-7 AWARD AND EXECUTION OF THE CONTRACT

1-7.1 General

[Add the following:].

The award of contract, if awarded, will be to the lowest responsive and responsible bidder whose proposal complies with all requirements of the Notice Inviting Bids and Section 1-6 of these 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 of Award to the BIDDER that the contract is ready for execution**. The contract will be awarded within thirty (30) days of 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.

1-7.1.1 Execution of Agreement

The Agreement shall be signed by the successful BIDDER and returned to the CITY no later than **fourteen (14) days from Notice of Award** of the Contract by the CITY. Failure to comply with insurance and bonding requirements as specified in the Agreement and in Section 1-7.1 of these General Provisions 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.

1-7.2 Contract Bonds

[Add the following:].

The "Faithful 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 Faithful Performance Bond shall also be kept by the Contractor in full force and effect for at least one (1) year following the filing of the Notice of Completion.

CONTRACTOR 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.

SECTION 2 – SCOPE OF THE WORK

2-1 WORK TO BE DONE

[Replace in its entirety with the following:].

The scope of work generally consists of mobilization, installation of a new traffic signal at the intersection of W. 19th Street & Wallace Avenue; installation of a new HAWK signal at W. 18th Street across from Lions Park; installation of a new HAWK signal at Wilson Street across from Wilson Park; concrete sidewalk and curb & gutter modifications; curb access ramp modifications; notifications to businesses and residents; traffic signing; striping and markings; installation of pavement markers; and implementing traffic control; and all other work as required as shown on the Plans and specified within these Contract Documents. The CONTRACTOR shall furnish all labor, materials, tools, equipment and incidentals necessary to perform and complete the Work as shown on the Plans and these Contract Documents, and to the satisfaction of the ENGINEER.

2-2 PERMITS

[Add the following:].

All permits and licenses shall be obtained in sufficient time to prevent delays to the work.

In the event that the CITY has obtained permits, licenses or other authorizations applicable to the work, the Contractor shall comply with the provisions of said permits, licenses and other authorizations.

- The Contractor is directed to Appendix 'C' - Caltrans Encroachment Permit and shall pay the permit fee, obtain the double permit rider, and comply with the conditions of said permit.

2-5 THE CONTRACTOR'S EQUIPMENT AND FACILITIES

2-5.1 General

[Add the following:].

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.

2-5.2 Temporary Utility Services

[Add the following:].

The Contractor shall provide for his employees an adequate supply of clean, potable drinking water, which shall be dispensed through approved sanitary facilities.

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.

2-5.4 Haul Routes

[Add the following:].

In order to protect the City streets from deterioration due to hauling of materials, the Contractor shall submit to the ENGINEER (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.

Waste Hauler Requirements

The California Green Building Standards Code, 2016 Edition, California Code of Regulations, Title 24, Part 11, impacting waste diversion as documented in the City of Costa Mesa's Municipal Code Chapter 4 of Title 8, requires that all construction and demolition related projects divert 65% of project waste generated from the landfill. Consequently, permitted building projects relating to construction and demolition, newly constructed buildings, additions, alterations, interior and exterior demolitions, etc., are required to divert a minimum of 65% of nonhazardous construction and demolition waste from the landfill by recycling, reuse, or salvage. Generally, these materials include brick, drywall, other masonry, cardboard, green waste, paper, carpet, lumber, plastic, concrete, and/or metals. Asphalt, concrete, excavated soil and land-clearing debris should be 100% diverted from disposal. The County provides a suggested list of locations that are meeting and/or exceeding the 65% diversion requirement and may be used for recycling construction and demolition material.

The City of Costa Mesa requires that all hauling activity in Costa Mesa comply with one of the waste hauling options for your construction and demolition related project:

- Use Franchise Waste Hauler
- Self-Haul Permit - https://www.costamesaca.gov/city-hall/city-departments/public-services/waste-collection-and-recycling

A Construction and Demolition Reporting Form as provided in the Miscellaneous Document Section of these Specifications must be completed and submitted by the Contractor to the CITY prior to the release of retention monies.

2-7 CHANGES INITATED BY THE AGENCY

2-7.1 GENERAL

[Add the following:].

ENGINEER shall be the duly authorized officer of the CITY who may grant the changes prescribed in this section.

2-8 EXTRA WORK

[Add the following:].

The extra work as defined in this section of the Standard Specifications and any work done by the Contractor beyond the lines and grades shown on the plans shall only be performed when ordered in writing by the ENGINEER. In absence of such written order, any such work by the Contractor shall be considered unauthorized and will not be paid. Work so done may be ordered to be removed at the Contractor's expense.

2-9 CHANGED CONDITIONS

[Add the following:].

The Contractor shall promptly act to supply all information to the ENGINEER for proper evaluation. Failure to do so shall constitute a waiver of any payment for delays suffered by the Contractor.

SECTION 3 – CONTROL OF THE WORK

3-1 ASSIGNMENT

[Replace the 1st sentence with the following:].

No contract or portion thereof may be assigned without written consent of the BOARD.

3-4 AUTHORITY OF THE BOARD AND THE ENGINEER

[Add the following:].

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.

3-5 INSPECTION

[Add the following:].

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 established by the ENGINEER to defray the cost for such service.

All work, which has been inspected and deemed defective in its construction or does not meet all of the requirements of the plans and/or specifications by the ENGINEER 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 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 is has been placed and material placed outside the limits of the project. No compensation will be allowed for disposing of rejected or excess material.

3-6 THE CONTRACTOR'S REPRESENTATIVE

[Add the following:].

Contractor shall file with the ENGINEER the addresses and telephone numbers where its 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.

3-7 CONTRACT DOCUMENTS

3-7.1 General

[Add the following:].

Contractor will obtain from the ENGINEER, free of charge, copies of plans, general provisions, special provisions and additions to the Standard Specifications that are reasonably necessary for the execution of work.

Contractor shall, at its own expense, obtain copies of the Standard Specifications and Standard Plans and Specifications of CALTRANS, for his general use.

If after the Contract is awarded it appears that the work to be done, or any matter relative thereto, is not sufficiently detailed or explained in the specifications and plans, the Contractor shall apply to the ENGINEER for such further explanations as may be necessary and shall conform to such explanation or interpretation as part of the Contract.

All scaled dimensions are approximate. Before proceeding with the work, the Contractor shall carefully check and verify all dimensions and quantities and shall immediately inform the ENGINEER or his representative of any discrepancies.

3-10 SURVEYING

[Replace with the following:].

3-10.1 General

The Contractor will perform and be responsible for the accuracy of setting all required survey stakes adequate for the construction of the project.

3-10.3 Line and Grade

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 City Inspector. 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.

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.

3-12 WORK SITE MAINTENANCE

3-12.1 General

[Replace 2nd paragraph with the following:].

Unless the construction dictates otherwise, and unless otherwise approved by the ENGINEER, Contractor shall furnish and operate a self-loading motor sweeper with a functional water spray nozzle system at least once each working day to keep paved areas in the Work zone and along all haul routes acceptably clean whenever construction, including restoration, is incomplete.

3-12.2 Air Pollution Control

[Add the following:].

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.

No separate payment will be made for any work performed nor material used to control dust resulting from Contractor's performance of the work or from public traffic, either inside or outside the right-of-way. Full compensation for such dust control will be considered to be included in the prices paid for the various items of Work involved.

3-12.4.1 General

[Add the following:].

All surplus materials shall be removed from the site of the Work within five (5) days after completion of the Work causing the surplus materials.

3-12.6 Water Pollution Control

3-12.6.1 General

[Add the following:].

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.

Project Soil Disturbance is: **less than 1 acre** (No General Construction Permit required)

Construction activity subject to the Construction Permit includes clearing, grading, disturbance to the ground such as stockpiling, work area, 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 have an account with the State for SMARTS (Storm Water Multiple Application and Report Tracking System). The CONTRACTOR shall contact the

CITY with their user ID so that the CITY will grant the CONTRACTOR access as a Data Submitter.

The CONTRACTOR shall complete the NOI within SMARTS https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp The CONTRACTOR will notify the CITY when the NOI is ready for the CITY to submit to the State. The CONTRACTOR shall pay all fees associated with the NOI process. The CONTRACTOR shall also complete all required reports within SMARTS as required by the General Permit and the Project's Storm Water Pollution Prevention Plan (SWPPP).

The CONTRACTOR shall complete the Annual Report and NOT within SMARTS. Once the CITY has been notified, the CITY will review and submit to the State for processing. A copy of the latest permit is available at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

The CONTRACTOR is hereby directed to read the Construction Permit thoroughly and comply with the requirements as specified therein.

3-12.6.2 Best Management Practices (BMPs)

[Add the following:].

The Contractor shall install and maintain the appropriate Best Management Practices (BMPs) to protect water quality within the project limits through the duration of the Project.

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.

Payment for furnishing, installing and maintaining BMPs inclusive of sweeping the Project site as required or directed by the ENGINEER shall be included in the other various bid items associated with the work and no additional payment will be allowed thereof.

3-12.6.3 Storm Water Pollution Prevention Plan (SWPPP)

[Add the following:].

If a General Construction Permit is required pursuant to Section 3-12.6.1 of these General Provisions, the following Storm Water Pollution Prevention Plan (SWPPP) requirements shall be adhered to:

The Contractor is responsible for the preparation and implementation of a SWPPP as required by the Construction Permit. The Contractor is responsible for completing all parts of the SWPPP including, REAPs, monitoring, sampling, rain gauge records, weather reports, submitting pictures of every third storm, non-authorized discharge reports, Ad-Hoc reports, Annual Reports, post construction BMPs and other requirements of the SWPPP.

The completed SWPPP must be signed by a QSD (Qualified SWPPP Developer). The completed SWPPP must be submitted to the resident engineer for City review and acceptance, prior to uploading to SMARTS. The Contractor will be responsible for uploading an electronic format of the SWPPP into SMARTS. 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 must have QSP (Qualified SWPPP Practitioner). 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.

3-12.6.4 Dewatering

[Add the following:].

Unless otherwise directed in these Special Provisions, 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.

Standby pumping equipment shall be on the job site. A minimum of one standby unit shall be available for immediate installation should any well unit fail. The design and installation of well points or deep wells shall be suitable for the accomplishment of the work. Drawings or details indicating the proposed dewatering system shall be submitted to the CITY for review.

The Contractor shall dispose of the water from the work in a suitable manner without damage to adjacent property.

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.

3-13.3 WARRANTY

[Replace 2nd sentence of 1st paragraph with the following:].

The warranty period shall start on the date the Work is accepted by the Board.

SECTION 4 – CONTROL OF MATERIALS

4-4 TESTING

[Add the following:].

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 complete and pay for the initial soils, compaction, and material tests. Any subsequent soil, compaction, and material tests deemed necessary due to the failure of initial tests will be at the Contractor's expense and deducted from the payment due.

SECTION 5 – LEGAL RELATIONS AND RESPOSIBILITIES

5-1 LAWS AND REGULATIONS

[Add the following:].

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.

5-2 SPECIAL NOTICES

[Add the following:].

In addition to the special notices requirement to be served by Personnel Delivery or Certified Mail, special notices may also be served by the utilization of FedEx or UPS express service with a confirmed delivery receipt. Service shell be effective on the date of the receipt of the delivery confirm issued by FedEx or UPS.

5-3 LABOR

5-3.3 Payroll Records

[Add the following:].

In order to verify compliance with the Labor Code, Contractor shall furnish to the ENGINEER, weekly, for the duration of the contract period, copies of his payroll statements showing wages paid to each employee during the preceding week and the employee work classification. Use of Form DH-C-347, Payroll Statement of Compliance, is an acceptable method of fulfilling the above requirement.

5-3.5 Apprentices

[Replace with the following:].

Attention is directed to the provisions of Sections 1777.5 and 1777.6 of the Labor Code concerning the employment of apprentices by the Contractor or any subcontractor under it. The Contractor and any subcontractor under it shall comply with the requirements of those Sections in the employment of apprentices.

Information relative to apprenticeship standards, wage schedules and other requirements may be obtained from the Director of Industrial Relations, Ex-officio the Administrator of Apprenticeship, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.

5-4 INSURANCE

[Replace with the following:].

The minimum amounts and types of insurance coverages are as stated in the Agreement (sample copy attached). Prior to bid submittal the BIDDER shall keep fully informed of the latest insurance requirements of the City of Costa Mesa and shall comply with all other provisions of Section 5-4 of the Standard Specifications.

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 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.

5-7 SAFETY

5-7.1 Work Site Safety

5-7.1.1 General

[Add the following:].

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.

5-7.8 Steel Plate Covers

5-7.8.1 General

[Add the following:].

All steel plate covers utilized for the project must be slide resistant. A non-slip coating will be required on the side of the steel plate that that will be utilized for the driving or walking surface.

SECTION 6 – PROSECUTION AND PROGRESS OF THE WORK

6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF THE WORK

6-1.1 Construction Schedule

[Replace the 1st Paragraph with the following:].

The Contractor's proposed Construction Work Schedule shall be submitted to the ENGINEER for approval within ten (10) working days after the date of the BOARD's execution of the Contract Agreement. The Construction Work Schedule shall be supported by written statements from each supplier of materials or equipment indicating that all orders have been placed and acknowledged, and setting forth the dates that each item will be delivered. The Construction Work Schedule shall provide sufficient detail to delineate the main milestones start and end dates for each activity with chronological relationships of all the activities of Work showing the number of working days required to complete the entire project within the Contract Days. The schedule shall also incorporate the requirements of Section 402-5 of the Standard Specifications to complete the Work within the Contract Days. Prior to issuing the Notice to Proceed, the ENGINEER will schedule a preconstruction meeting with the Contractor to review the proposed Construction Work Schedule, delivery dates, activity milestone dates, arrange utility coordination, discuss construction methods and staging, and clarify inspection procedures.

The Contractor shall submit progress reports to the ENGINEER by the tenth day of each month. The report shall include an updated Construction Work Schedule. All revisions shall be completed within three days after review by the ENGINEER. The Contractor shall submit requests for changes in the schedule to the CITY for approval at least three (3) working days prior to performing any work. Any deviations from the original approved Construction Work Schedule shall be explained and identified in the updated Construction Work Schedule. Progress payments will be withheld pending receipt of any outstanding reports.

The Contractor shall furnish the ENGINEER with a 3-week look ahead-schedule in a tabular format at every weekly construction meeting. The 3-week look ahead schedule shall utilize the main milestones within the approved Baseline Construction Schedule with updates and include sub-activities.

[Add the following:].

6-1.3 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.

6-3 TIME OF COMPLETION

6-3.1 General

[Replace the 1st Sentence with the following:].

The Contractor shall begin the Work within **ten (10) Working Days** after the date the Contract is executed by CITY unless a later start date is agreed upon by the CITY and Contractor within a written Notice-to-Proceed. The Work shall be completed within **ONE-HUNDRED FIFTY (150) Working Days** from the date set in the Notice-to-Proceed or the first day of commencement of Work, whichever occurs first.

6-5 USE OF IMPROVEMENT DURING CONSTRUCTION

[Add the following:].

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.

6-7 TERMINATION OF THE CONTRACT FOR DEFAULT

6-7.3 Notice of Termination for Default

[Replace the 1st Paragraph with the following:].

The ENGINEER will make the determination if the Contractor had failed to commence satisfactory corrective action within 5 working days after the receipt of the notice to cure, or to diligently continue satisfactory and timely correction of the default thereafter, and will take action as allowed by the Contract Documents.

6-7.4 RESPONSIBILITIES OF SURETY

[Add the following:].

Within 3 working days of receipt of the written notice of termination for default, the Surety shall provide the services needed to maintain the project in accordance with the Contract Documents. The services shall maintain the existing traffic control in place and the maintenance of the project site until the Engineer’s review and acceptance of the Surety’s plan for course of action.

6-9 LIQUIDATED DAMAGES

[Replace the 1ST Paragraph with the following:].

The CONTRACTOR shall pay to the CITY the sum of **$3,500** per calendar day, for each and every calendar day's delay in finishing the Work in excess of the number of Working Days prescribed within these General Provisions and the Agreement, or per the direction of the Engineer. Liquidated damages are calculated per Chapter 12 of the latest edition of the Caltrans Local Assistance Procedures Manual (LAPM).

SECTION 7 – MEASUREMENT AND PAYMENT

7-3 PAYMENT

7-3.1 General

[Replace the 1ST Paragraph with the following:].

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 shown on the drawings, 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 payment will be made for any item that is not specifically set forth in the Bid Proposal. 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.

When no bid item is provided for work/improvement shown or indicated on the plans and specifications, payment for such work/improvement will be considered to be included in various applicable items of work.

7-3.2 Partial and Final Payment

[Replace the 1st Paragraph in its entirety with the following:].

The closure date for the purpose of making partial progress payments will be the last day of each month. The Contractor may request, in writing, that such monthly closure date be changed. The ENGINEER may approve such request when it is compatible with the CITY's payment procedure.

[Replace the 2nd Paragraph in its entirety with the following:].

Each month, the Contractor shall meet with the Engineer, a minimum of three (3) working days prior to the submittal of the progress payment to the AGENCY, to finalize and receive approval regarding the measurement of the Work performed through the closure date and the estimated value of the progress payment based on the Contract Unit Prices or as provided for in the Standard Specifications. Any progress payment submitted without such approval will be considered incomplete and returned to the Contractor and no

payment shall be considered until such approval is obtained.

[Replace the 3rd Paragraph in its entirety with the following:].

The amount retained and deducted by the BOARD shall be 5% of the progress estimates for all progress payments. No reduction in the amount of retention will be allowed. However, after 50% of the work has been completed, if the BOARD finds that satisfactory progress is being made, it may make any of the remaining progress payments in full for actual work completed. The final payment of the retention amount to the Contractor shall be made thirty-five (35) days after the date of the recording of the Notice of the Completion of the work after it is accepted by the CITY. The 5% withheld from each progress payment shall not include monies withheld for stop notices or other withholding by the CITY. The monies withheld for stop notice and other withholdings shall be in addition to the 5% withheld for retention.

[Add to end of Section the following:].

Contractor shall comply with the requirements of Division 2, Part 1, Chapter 7, Section 7107 of the California Public Contract Code.

The lead time for processing invoices for the monthly progress payments approved by the ENGINEER for inclusion on the warrant list of the CITY is governed by the rules and regulations established by the Finance Department of the CITY. Monthly payments will be processed and paid in accordance with the rules and regulations established or revised by the said Finance Department.

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.

After completion of the Contract, the BOARD shall, upon recommendation of the ENGINEER, accept the Work as completed and authorize the Final Payment.

The Final Payment shall be the entire sum found to be due the Contractor after deducting therefrom all previous payments and all amounts to be kept and all amounts to be retained under the provisions of the Contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

No certificate given or payment made under the Contract, except the final certificate or Final Payment, shall be conclusive evidence of full or substantial performance of this Contract; and no payment shall be construed to be an acceptance of any defective work or improper material.

The acceptance of Final Payment by the Contractor shall release the CITY, the BOARD,

and the ENGINEER from any and all claims or liabilities on account of work performed by the Contractor under the Contract or any alterations thereof.

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.

[Add the following:].

7-3.2.1 Prompt Progress Payment to Subcontractors

Contractor shall comply with the requirements of Division 2, Part 1, Chapter 7, Section 7200 of the California Public Code.

The CONTRACTOR agrees to pay each subcontractor under this Agreement for satisfactory performance of its contract no later than 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 7 days after the retention payment is received by the CONTRACTOR.

Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the CITY. 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. This clause applies to both DBE and non-DBE prime contractors and subcontractors.

City will be strictly monitoring the Contractor for prompt payment to all subcontractors.

[Add the following:].

7-3.2.2 Prompt Pay Monitoring and Enforcement of Progress Payments

The City of Costa Mesa will 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.

7-3.3 Delivered Materials

[Replace in its entirety with the following:].

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.

Materials delivered, but not in place, will not be classed as work done, except as otherwise provided in these Specifications.

7-3.4 Mobilization

[Replace in its entirety with the following:].

Mobilization shall consist of all 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.

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; including resetting curb drains through new curbing.

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.

7-3.4.1 Travel Route for Trucking and Equipment

Plans indicating the travel route for the Contractor's equipment movement in and out of the work site must be submitted concurrently with the Haul Route Plan (Section 2-5.4) to the ENGINEER at the pre-construction meeting for approval prior to commencement of any work. The travel route plans, which meet the City's requirements, will be approved and returned to the Contractor; otherwise, further revisions are required until they are acceptable to the City. The approved travel plans shall be strictly adhered to by the Contractor during all phases of the construction.

Any deviation from these requirements is not permitted. All the Contractor's operations will be ceased at once if the Contractor violates any of these requirements. No further payments will be made to the Contractor until problems are resolved according the City's requirements.

7-3.4.2 Construction Sequence/Order of Work

In order to minimize the inconveniences to the residents and businesses, the contractor shall construct the Project and sequence the work where no two adjacent streets are closed at one time, and/or the nearest parking is no more than 300' from the intersection of the street being closed to traffic. The Contractor shall maintain adjacent streets open for ingress and egress and for parking.

7-4 PAYMENT FOR EXTRA WORK

7-4.2 Basis for Establishing Costs.

7-4.2.1 Labor

[Add the following:].

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.

7-4.3 Markups

7-4.3.1 Work by the Contractor

[Replace in its entirety with the following:].

The allowance for overhead and profit to be added to the Contractor's costs shall be as follows:

Labor:	20%
Materials:	15%
Contractor Owned Equipment	15%
Equipment Rental	10%*
Other Items and Expenditures	10%

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

* Equipment Rental rates shall be based on the latest applicable Caltrans Equipment Rental Rates.

7-4.3.2 Work by a Subcontractor

[Replace in its entirety with the following:].

When all or any part of the extra work is performed by a Subcontractor, the markup established in 7-4.3.1 shall be applied to the Subcontractor's actual cost of such work. A markup of five (5) percent on the first $5,000 of the subcontracted portion of the extra work and a markup of five (5) percent on work added in excess of $5,000 of the subcontracted portion of the extra work may be added by the Contractor.

No markups will be allowed for second tier or higher subcontractors.

[Add the following:].

7-6 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.

SECTION E

SPECIAL PROVISIONS

PART 1-8

[Add the following Section:].

PART 1

GENERAL

100-1 GENERAL

Additions/Modifications to Standard Specifications

The following additions are made to the latest edition of the "Standard Specifications for Public Works Construction" (The "Greenbook"), 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 latest edition of the 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.

If the item of work is identified within the Proposal section of these Specifications, then the following bid item descriptions will provide the corresponding bid item numbering within each corresponding section of the Standard Specifications under the Subsection entitled "Measurement and Payment" or "Payment". All other sections and subsections shall conform to the Standard Specifications unless modified herein.

The unit prices and lump sum amounts to be paid for under the bid items listed in the Proposal shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals necessary for the completion of the work and for performing all work contemplated and embraced under the Contract, in accordance with the Plans and Contract Documents. This shall include the Contractor's costs involved with bonding, insurance, worker's compensation, overhead, financing, obtaining required permits and permit fees, mobilization, traffic control, public convenience and safety, protective barricading/fencing, sanitary facilities, storage of equipment and materials, security against theft and vandalism, project site maintenance, dust and runoff control, clean-up

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, .and all other items related to the work.

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.

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.

Payment for unit price work shall be made for the actual quantities of Contract Items removed, constructed, or disposed of in accordance with the Plans and these Specifications. Measurement of Unit Price work shall be specified in the Standard Specifications, Section 7-1, "Measurement of Quantities for Unit Price Work." Payment for Lump Sum work shall be paid for at the price indicated in the Bid, in accordance with the Standard Specifications, Section 7-2, "Lump Sum Work."

Payment for all work shall be included in the various bid items. No additional compensation shall be made therefore. Work associated with each bid item shall include, but not be limited, to the bid descriptions set forth herein.

100-2 MOBILIZATION AND DEMOBILIZATION

100-2.1 General

Mobilization shall comply with Section 7-3.4 of the General Provisions.

100-2.2 Measurement and Payment

BID ITEM NOS. 1A, 1B, AND 1C: *MOBILIZATION AND DEMOBILIZATION*

Measurement and Payment for Mobilization and Demobilization shall be included in the **Lump Sum (LS) Price** basis. It shall be considered full compensation for obtaining all business licenses and permits, as required for the entire project, from all related agencies, including, but not limited to, utility companies, private and public agencies and the CITY; and complying with the requirements specified in those licenses and permits; coordination, field office facility, all required submittals specified within these Specifications, and incidentals necessary to perform all related items of work. Progress

payments for Mobilization and Demobilization bid item shall be paid for in accordance with the completion percentage of the Project to the Contractor and shall include the cost of such mobilization/demobilization and administration during the entire Contract period. No additional compensation will be allowed.

Mobilization shall include compliance with water and air quality laws; maintaining dust control at all times; furnishing all water required for the construction work; protection of utilities, survey monuments, trees, fences, walls, landscaping and other facilities.

Moblilzation shall include all related “de-moblization” costs, including the removal of any remaining Underground Service Alert (USA) utility markings or other construction paint markings, by means of wet sand blasting or other pre-approved method on the sidewalk, curb/gutter and pavement.

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 relocations of the facility to accommodate the construction of an improvement, and removal of existing planters, trees, shrubs, and bushes.

The contractor shall confine his operations and work area to the street right-of-way and is responsible for securing an adequate storage site for equipment and materials. No encroachment into private property will be permitted without prior written consent of the property owner and Engineer. Obtaining this consent will be the responsibility and at the cost of the Contractor. The Contractor shall provide supervisory personnel to keep the construction site in a safe condition at all times.

The Contractor shall submit a Construction Schedule at least ten (10) working days prior to commencing work. All revisions shall be completed within three days after review by the Engineer. The Contractor shall submit requests for changes in the schedule to the City for approval at least three (3) working days prior to performing any work.

The Contractor is noted that this project is being coordinated with parkway concrete repair project, the asphalt paving project, and slurry seal project within the same project limits. The contractor to perform the work shall be the concrete contractor and upon completion of their work, the asphalt contractor will overlay or level the streets with asphalt concrete. Within minimum two weeks after the completion of the asphalt contractor’s work, the slurry project will commence. The City reserves the right to include or exclude streets.

In order to minimize the inconveniences to the residents and businesses, the contractor shall construct the project and sequence the work where no two adjacent streets are closed at one time, and/or the nearest parking is no more than 300 feet from the intersection of the street being closed to traffic. The Contractor shall maintain adjacent streets open for ingress and egress and for parking. Approval of the staging and work

plan shall be at the discretion of the City.

No construction activities will be allowed on streets that are receiving trash pick-up or sweeping services on the same day. A copy of the CR&R Waste Collection Map will be available upon request. The Contractor shall coordinate with the trash hauler in preparing the construction schedule. The Contractor shall provide a map showing the schedule of the work, which should coordinate with the trash and mail schedule, to the City at the preconstruction meeting. Slurry seal application operations shall occur within two (2) days after scheduled trash pickup days.

100-3 CONTROL OF THE WORK

100-3.1 Water Pollution Control and Best Management Practices

Contractor shall follow the water pollution control and Best Management Practices (BMPs) guidelines enumerated in Section 3-12.6 of the “Standard Specifications for Public Works Construction” (The “Greenbook”), and also Section 3-12.6 of the General Provisions stated within the “Standard Specifications” of this Project and these contract bid documents.

100-4 ADDITIONAL WORK ITEMS

100-4.1 General

This work item entails work beyond the Scope of Work established within the Plans, Specifications, and Standard Specifications as directed by the ENGINEER with a specified Contract allowance

PART 3
CONSTRUCTION METHODS
SECTION 300 – EARTHWORK

[Add the following:].

300-0 EARTHWORK IN STATE RIGHT-OF-WAY

300-0.1 General

All earthworks performed within the State of California Department of Transportation ("Caltrans") Right-of-Way shall conform to the requirements of Section 19 of the latest edition of the "Standard Specifications and Standard Plans of the State of California, Department of Transportation, Division of Highways" with the appropriate Caltrans, City, and other applicable agency encroachment permits procured.

300-1 CLEARING AND GRUBBING

300-1.1 General

[Add or redefine the following:].

Section 300-1, "Clearing and Grubbing," of the Standard Specifications is supplemented by the following:

Contractor shall field verify existing grades and shall accept site as is, for no other grading shall be performed by the CITY.

- 300-1.3 Removal and Disposal of Materials
- 300-1.3.1 General

All materials removed shall be disposed of in a legal manner at an appropriate Disposal Site.

- 300-1.3.2 Requirements

A. Bituminous Pavement
Saw cutting of edges to be joined is required.

B. Miscellaneous
In addition to the work outlined in Section 300-1.1 of the Standard Specifications, the following items of work are included under Clearing & Grubbing unless otherwise covered by specific bid item.

1. Maintaining dust control at all times by watering during the entire time of the project, whether extended or not, including developing a water supply and furnishing and placing all water for all work done in the contract, including water used for extra work.
2. Application of soil sterilant, if applicable, or as directed by the ENGINEER.
3. Protection of utilities, structures, improvements and other facilities within the construction zone, except those specifically shown on the plans to be removed or relocated.
4. Removal and disposal of existing natural and artificial objectionable material within the limits of construction.
5. Verification of existing locations and elevations as shown on the plans or directed by the ENGINEER.
6. Replacement of disturbed traffic signs, street names, mailboxes, property owner signs, fences, landscaping, protection of temporary construction fences and all appurtenances, striping and markings as required to the satisfaction of the ENGINEER. Also, includes the installation of safe pedestrian pathway by installing orange netting or other approved method of safely directing pedestrians through a protected path.
7. This item shall also be interpreted to include the removal or relocation of any additional items in conflict with the proposed work not specifically mentioned herein or covered by specific bid item as directed in the field by the Engineer, which may be found within the work limits whether shown or not shown on the plans to be removed or relocated.
8. All surplus material three (3) inches or smaller shall be uniformly spread and compacted in the street sub grade. No material greater than three (3) inches in any dimension shall be used in the top twelve (12) inches of the sub grade. No nesting of rocks shall be allowed.
9. Unclassified fill shall consist of all fill unless separately designated. Construction of unclassified fill included preparing the area on which fill is to be placed, and the depositing, conditioning, and compaction of fill material.
10. Complete all demolition and removal work associated with the removal of AC, underlying PCC, PCC curb/gutter, as designated on the drawings for removal, unless otherwise defined.
11. Any structural or non-structural demolition work involved for the construction of the project and Contractor shall be responsible for disposing in a legal manner.
12. Determining and maintaining a straight edge in areas where AC joins existing edge of pavement.
13. No burning will be permitted.
14. No accumulation of flammable material shall remain on or adjacent to the right-of-way.

SECTION 302 – ROADWAY SURFACING

302-4 SLURRY SEAL SURFACING

[Add the following within each Subsection:].

302-4.1.1 PREPARATION OF EXISTING FOR SLURRY SEAL

Before applying slurry seal, the Contractor shall perform the following:

- Notices and No Parking postings. The contractor shall notify all the residents on any street that is impacted by the slurry seal operations by the end of the working day, on the Wednesday prior to slurry sealing the roadway. All operations for a Monday through Sunday work week shall have notices delivered by the prior Wednesday. The notice to each resident shall be on a format that is acceptable to the Engineer, with all contents of the notice being approved by the Engineer at least three weeks prior to having any slurry seal work performed. No Parking" signs are to be posted at least two working days prior to performing any slurry seal work.

- Plane all buckled pavement flush with existing adjacent pavement after the cleaning process.

- Remove all excess bitumen in bituminous pavement by burning or other method which is to be approved by Engineer.

- Clean all oil stained asphalt surfaces and apply "oil seal" produced by Industrial Asphalt or an approved equal to all oil stained surfaces prior to slurry application.

- Clean all loose materials, silt, vegetation, and other objectionable material on the existing surface by a method as specified or approved by the Engineer. The surface shall be free of water, dust, and foreign materials.

- Before construction starts, all cracks shall be sprayed with "Suppress Herbecide EC" a non-select organic weed and grass killer solution manufactured by Westbride Agricultural Products and a direct kill application (spectrocide) combination or approved equal. The contractor shall apply the organic weed and grass killer solution twice, at two (2) weeks apart from application. If a 3rd application is necessary, all cracks shall be sprayed with "Round-up", a non-select weed and grass killer solution manufactured by Monsanto Company and a direct kill application (spectrocide) combination or approved equal for no additional cost to the City. The Contractor shall remove all weeds and vegetation fourteen (14) days after the chemical application or as recommended by the manufacturer. The Contractor shall assure that vegetation and weeds are completely eliminated.

- To facilitate inspection, the chemical solution shall be mixed with purple dye before spraying. The Contractor shall be directed to spray against those cracks – without purple color appearing – at no additional cost to the City before any construction.

- The weed and grass killer solution shall be applied at a rate as recommended by manufacturer.

- Sweep the surface with a rotary broom to remove all loose material.

- Clean thoroughly by using compressed air to blow out loose material, and then brush with a wire brush to remove more stubborn material from all depressions and cracks not reached by the rotary broom.

- Wash existing pavement; it must be damp but without water standing before slurry.

- May use alternate cleaning methods only with prior approval of the Engineer.

- Remove all existing raised pavement markers (RPM) including reflective markers.

- Remove by wet sandblasting, or by hand-operated grinder, all existing and/or visual striping and pavement markings prior to the application of the slurry seal. Temporary striping marking shall be placed and maintained until the final striping and markings are placed.

- Remove by hand-operated grinder all existing and/or visual thermoplastic markings including markings, striping, and crosswalks prior to the application of the slurry seal.

- Furnish and maintain temporary markings until the final striping and markings are placed.

- Immediately ahead of the mixer for slurry seal, pre-water the pavement by a pressure water distribution system equipped with a fog-type spray bar which will completely fog the surface of the pavement. The surface should be damp but with no free water standing in front of the slurry box.

- Cover any manholes, water valve covers, and brick and concrete crosswalks with heavy removable plastic cover materials to prevent the adhesion of construction materials.

- Remove the tape covering material from manholes, water valves, and brick and concrete crosswalks as soon as the slurry application is completed remove and clean any deposited construction materials on the surface of these exiting structures as soon as possible.

- Coordinate with the City's Fire Department and obtain their approval before starting any work.

- Be responsible for maintaining location of and access to, all waterline valves during construction.

- Restore traffic delineation prior to opening street to traffic.

- Use only reflective slurry tabs; Non-reflective slurry tabs will not be allowed.

302-4.1.2 OIL SEAL

All accumulation of oil and foreign materials shall be scraped and removed from the asphalt surface prior to the application of oil seal. Any fresh petroleum deposits should be dried using heat prior to application of oil seal.
Oil seal shall be applied per manufacturer's recommendations. Severity of the petroleum stain should dictate the amount of application. Oil seal should be brushed onto the stained surface insuring the total stain is well covered.

302-4.1.3 SLURRY SEAL TYPE II

Slurry seal material and construction shall conform to Sections 203 and 302-4 of the Green Book and the following additions and revisions.

Slurry shall be quickset emulsion aggregate slurry seal cationic (CQS---1h) and shall have an additive oflatex. The latex shall be added at the emulsion plant after weighing the asphalt and before the addition of mixing water. The latex shall be added at a rate of 2.5% percent of the weight of the emulsified asphalt. The cost for the latex additive shall be included in the unit price for no additional cost to the City.

A final report for slurry mix design shall be submitted to the City for verification and all slurry mix design must be tested and approved by the specified laboratory prior to commencing work.

After mix proportions have been determined by the laboratory which has been approved by the City, the Contractor shall place one or more trial mixes either at the job site or at a location where small spreads of the slurry would not be objectionable.

The Contractor shall submit samples of aggregate, emulsion, retardant or accelerator, and the other required substances to the City to verify mix design submitted by the Contractor.

The cement mixing test will not be required for quickset cationic emulsion asphalt.

The aggregate bin shall be calibrated in 2-ton increments in order that an accurate estimate may be made of the amount of material used for each load. Prior to the beginning of slurry operations, the Contractor shall furnish, at no cost to the City, current licensed weighmaster's certificate indicating the net weight capacity of the aggregate bin.

The Contractor shall furnish calibrated vehicle weight scales at the stockpile site for use by the Agency. The portable scales will be utilized for inspection and all mixers shall be weighed prior to transit. All equipment and tools necessary for the field measurement of the emulsion and aggregate by the Agency shall be furnished and maintained by the Contractor.

The Contractor shall be responsible for the initial setup of the weigh scales at the stockpile site and all necessary relocations during slurry seal operations.

The Contractor shall apply the slurry using a minimum of two continuous mixers, one mixer to apply slurry with the other machine is in transit to and from the batch site. The Contractor shall provide a coordinator, at least one competent quickset man one competent driver for the mixer applying slurry, and one shuttle driver for the machine in route to reload. The Contractor shall also provide sufficient laborers for any hand work and clean up required to insure proper progress of work. Transit mix trucks shall not be used.

The spreader box shall be equipped with flexible material in contact with the pavement and shall be maintained so as to prevent loss of slurry outside the limits to be covered. It shall be adjustable to assure a uniform, controlled spread and shall be equipped with suitable drags that will erase ridges. It shall be mechanical or hydraulic type equipped with a steering device.

Prior to any change the Contractor shall thoroughly clean all emulsion tanks and mixing units to prevent any chemical reaction between the two emulsions.

Insofar as possible, slurry seal shall be applied to cul-de-sac areas and tress shaded areas in the early morning to allow proper curing.

Those areas that cannot be reached by regular spreading machine shall be spread by hand or by a small machine to completely cover those areas within the limitations of construction.

Sufficient water must be use to obtain a mix consistency that is smooth and homogeneous and does not segregate on standing. The water shall not exceed the content specified in the mix design.

Prior to the time of delivery of each shipment of asphalt emulsion, the Contractor shall

deliver to the City certified copies of the test report for that emulsion. The test report shall indicate the name of the vendor, type and grade of asphalt emulsion delivered, date and point of delivery, quantity delivered, delivery ticket number, purchase order number, and results of the specified tests. The test report shall be signed by an authorized representative of the vendor, shall certify that the product delivered conforms to the standard specifications and is compatible with the proposed aggregate for the type and grade indicated. In addition, samples of each shipment of asphalt emulsion shall be taken upon arrival at the job site and furnished to the Engineer; a minimum of three of those samples, more if deemed necessary, to be selected by the Engineer shall be tested for continued test reports, the testing required in connection with those reports and all additional resting shall be provided by the Contractor at no cost to the City.

No material from that shipment of asphalt emulsion shall be utilized or employed in performance of the work until the certified test reports and samples of the material have been furnished to, check by, and verified by the Engineer.

If test results do not conform to the requirements of these special provisions, the unacceptable slurry seal shall be removed and replaced at the Contractor's expense. Continued application of slurry will not be allowed until it can be shown to the Engineer's satisfaction that the mix conforms to the approved mix design. The Contractor shall, at the direction of the Engineer, repair and reseal all areas of the streets which have not been sealed properly and completely. No extension of time will be allowed for delays due to repairs, resealing, or improper mix. Any additional tests required by the Engineer prior to continued slurry application and the additional slurry required to correct the previously rejected slurry application shall be at the Contractor's expense.

The approximate rate of application coverage shall be from 1/8" to approximately 3/8" maximum with a coverage of 3/16" desired. For bidding purposes, the Contractor shall assume the application rate of slurry shall be between 1,100 and 1,400 square feet per extra long ton.

The Contractor shall verify weather condition prior to the application of slurry; however, no application shall commence before 8:00 a.m., or after 1:00 p.m. The streets to be sealed shall be closed from the time of application begins until the mixture has achieved sufficient set of 4 to 5 hours to be opened to traffic, or as directed by the Engineer. The full width of the roadway shall be open for use by public traffic no later than 5PM. No residential streets shall be closed to traffic before 8:00 a.m. or after 5:00 p.m.

If lumping, ball, or unmixed aggregate is observed, the slurry shall be removed from the pavement. It shall also be removed if coarser aggregate particles settle to the bottom of the mix. Streaks, such as those caused by oversized aggregate, shall be repaired at once with a hand squeegee.

No longitudinal or transverse streaking, bleeding (flushing), or loss of cover aggregate shall be accepted after application. Under the direction of the Engineer, Contractor shall remove all rejected areas and repair them to the acceptable degree by the Engineer. All cost for correction work shall be borne by Contractor.

The streets to be sealed with slurry shall be sealed from edge of pavement to edge of pavement.
Excessive build-up causing unsightly appearance shall not be permitted on longitudinal or transverse joints. Unless otherwise approved, the overlap at joints will not be less than 1" or greater than 3" and shall be feathered. Joints between asphalt pavement and concrete pavement and/or concrete gutters shall be completely and neatly sealed without excessive overlap onto concrete; any unsightly and objectionable excess shall be immediately removed as required.

The start and finish of a slurry application shall be a straight line which, unless otherwise approved by the Engineer, shall be obtained by laying a strip of building paper or other material, approved by the Engineer, on the pavement surface. After application of slurry, the paper shall be removed, leaving a straight edge.

All cul-de-sacs the Contractor shall slurry seal first to allow an extended cure time for the cul-de-sacs locations. Spillage resulting from hauling operations along or across any public traveled way shall be removed immediately by the Contractor at its expense.

The finished surface of the slurry seal shall be at least as smooth as the original pavement surface. Any corrugations on the surface creating vibrations noticeable by passengers in an automobile driving over the slurry sealed surface at legal speeds will result in rejection of the slurry seal construction.

Following curing of the applied slurry, the roadway shall be uniformly black in color and shall exhibit no streaking. Where the completely slurry is not uniform in color, the slurry application will be rejected. Any overlap onto concrete gutters is unacceptable and shall be removed immediately. All curbs, gutters, sidewalks and driveways shall be maintained free of loose aggregate and shall be swept as necessary or as directed by the City Engineer. Any stains resulting from the slurry sealing or paving shall be removed to the City's satisfaction. Any slurry seal application that has been rejected will be removed by cold planning to the original pavement. A new slurry seal application shall then be placed on the pavement. Any Pavement of slurry seal rejected shall be removed and replaced with the cost borne by the Contractor.

The Contractor shall be responsible for covering all asphalt pavement surfaces with an application of slurry seal in designated areas. This will include, but not be limited to, asphalt pavement directly adjacent to edges of structures, fences, walls, planters, walkways, driveways, lawns, and porches. The Contractor shall prevent the slurry seal

from being deposited on any of these facilities and/or improvements and shall remove any splattering or spillage.

The Contractor shall provide such flagmen and barricades as required to protect the uncured slurry from vehicular traffic. Any damage to the uncured slurry shall be the responsibility of the Contractor.

The Contractor shall have a sufficient number of men on the job at all times to properly protect the freshly laid material and to correct any irregularities resulting from spillage, unsatisfactory materials or any other inconsistency as the work progresses. All discrepancies encountered in the application of slurry shall be immediately corrected to the satisfaction of the Engineer.

Upon Completion of each working day, the Contractor shall clean up the street or roads including all utility covers and all ground occupied by him in connection with the work. All work performed by the Contractor shall be left in a neat and presentable condition.

At the end of each day's work and at other times when construction operations are completed or suspended, all equipment and other obstructions shall be removed from the roadway.

Any slurry seal repair work performed by the Contractor shall be reviewed and approved by the Engineer. The cost of any repair work and removal of the damaged slurry seal shall be borne by the Contractor.

302-4.1.4 CRACK SEAL

This work shall consist of sealing all transverse and longitudinal cracks, and/or combination thereof, routing grooves along random cracks; and placing sealing material in the grooves, and as directed by the Engineer.

302-4.1.4.1 Material

Grooves for transverse and longitudinal cracks, and/or combination thereof; shall be cut, to the dimensions as stated, with concrete saws equipped with diamond blades. Each groove shall be cut in one pass of the saw.

Grooves for sealing random cracks shall be routed by any method that will produce a groove of the approximate shape and dimension as stated.

Joint sealant shall conform to the requirements of ASTM Designation: D 3405 as modified herein or to the following:

Joint Sealant shall be a mixture of paving asphalt and ground rubber. Ground rubber shall be vulcanized or a combination of vulcanized and vulcanized materials ground so that 100 percent will pass a No. 8 sieve. The mixture shall contain not less than 22 percent ground rubber, by weight. Modifiers may be used to facilitate blending.

The sealant shall have a Ring and Ball softening point of 135 °F minimum, when tested in accordance with AASHTO Designation: T 53.

The material shall be capable of being melted and applied to cracks and joints at temperatures below 400°F. When heated, it shall readily penetrate grooves ¼ inch wide or wider.

Section 4.2 of ASTM Designation: D3405 is modified to read:

Penetration at 77°F. (25°C), 150g, 5s, shall not exceed 120.

Section 4.5 of ASTM Designation: D3405 is modified to read:

Resilience – When tested at 77°F. (25°C), the recovery shall be a minimum of 50 percent.

Each lot of joint sealant shipped to the job site, whether as specified herein or conforming to ASTM Designation: D 3405, as modified herein, shall be accompanied by a Certificate of Compliance as provided in Section 6-1.07, “Certificates of Compliance,” of the Standard Specifications, and shall be accompanied with storage and heating instructions and cautions.

Immediately prior to placing bond-breaker, or, in the case of random cracks, sealant, the joint, or routed crack, shall be cleaned by blast cleaning or by hand methods and then cleaned with high pressure air fets to remove all residue and foreign materials from the groove. Joint and routed crack surfaces shall be fry at the time the sealant is applied.

A bond-breaker of a shape and material recommended by the manufacturer of the sealant, or as approved by the Engineer, shall be placed in the groove of transverse of longitudinal joints, and/or combination thereof.

Joint-Sealant materials shall be heated and placed in conformance with the manufacturer’s written instructions and the details shown on the plans. Joint-sealant materials shall not be placed when the pavement surface temperature is below 50°F.

The finished joint sealant shall be bonded to the faces of the joint groove. There shall be no separation or opening between the sealant and the faces of the joint groove, and there

shall be no crack, separation, or other opening in the sealant.

302-4.1.4.2 Equipment

Router: Shall be so designed to follow random cracks accurately and in accordance to the requirements of the specifications and current Environmental Agency standards.

Compressor: An air compressor capable of a minimum of 85 to 150 cfm shall be used.

Asphalt-Rubber Sealant Machine: Shall have an oil jacketed pump heat transfer oil circulation system with a minimum of 200 gallons and an agitation system. There shall be a positive pumping system on the machine. The machine shall have a minimum melting capacity of 100 gallons per hour.

302-4.1.4.3 Application

Routing: Crack seal shall be applied to all cracks equal to, or greater than ¼" wide. Random cracks equal to or greater than 1/8" wide up to and including cracks 1/4" wide will be routed to a minimum width of 1/4" wide and 1/2" deep, and cracks greater than 1/4" wide up to and including cracks of 3/4" wide shall be routed to a minimum width of 3/4" wide and 3/4" deep by mechanical means. Cracks greater than 3/4" wide shall be blown with compressed air of not less than 100psi. Cracks less than 1/8" wide shall not be sealed under this work..

The Contractor shall protect all existing utility covers, survey monuments, traffic detector loops and pull boxes during the routing operation and shall repair or replace any damaged facilities to its original condition. The existing facilities shall include but not be limited to the above items.

Removing: All routed material, dirt, vegetation, and foreign debris shall be blown and/or removed from the cracks including alligatoring cracks prior to the end of each work day. All cracks shall be free from moisture, all dirt, routed material, vegetation and foreign debris.

Crack Filling: The routed and cleaned cracks shall be filled with specified sealant from the bottom up to the surface in such a manner which does not result in sealant bridging or entrapped air pockets. (With larger cracks, settlement and temperature shrinkage may occur, thus requiring a second application to bring the material up to surface). Immediately after material installation, the material shall be squeegeed as level as possible. Poorly squeegeed material and crack filled material that separates from the crack shall be rejected. Because of the nature of the material, there may be variance above or below the pavement level. Alligatoring crack areas shall also be entirely covered with crack seal material.

Sweeping: Following slurry seal operations, streets shall be swept with a power vacuum sweeper. The Contractor shall perform vacuum sweeping of all slurry sealed streets a minimum three (3) times: twenty-four (24) hours after application of the slurry (or the following Monday if applied on a Friday) and for period of two (2) weeks after application of slurry seal to remove all accumulations of loose material and maintain streets in a “ravel free” condition. The Contractor shall make complete (curb-to-curb) passes on all scheduled sweeps. Where commercial street sweeping vehicles cannot remove loose material, including but not limited to driveways, sidewalks, and curb ramps, hand sweeping or equal shall be performed. The frequency and location of sweeping will be on as needed basis as determined by the Engineer for no additional cost to the City.

Two weeks following the completion of slurry seal operations, the Contractor shall repair all power steering marks, rough seam lines, and any other defects as directed by the City Engineer.

Miscellaneous: Spillage resulting from hauling operation along or across any public traveled way shall be removed immediately by the Contractor at its expense.

The Contractor shall prevent the crack seal materials from being deposited on all existing facilities and/or improvements and shall remove any splattering or spillage.

The Contractor shall provide such flagmen and barricades as required to protect the uncured crack seal materials from vehicular traffic. Any damage to the uncured crack seal materials shall be the responsibility of the Contractor.

The Contractor shall have a sufficient number of men on the job at all times to properly protect the freshly laid material and to correct any irregularities resulting from spillage, unsatisfactory materials or any other inconsistency as the work progresses. All discrepancies encountered in the application of crack seal materials shall be immediately corrected of the satisfaction of the Engineer.

Upon completion of each working day, the Contractor shall clean up the streets or roads including all utility covers and all ground occupied by him in connection with the work. All work performed by the Contractor shall be left in a neat and presentable condition.

Temporary markings shall be placed and maintained until the final striping and markings are placed.

The Contractor shall be responsible for maintaining location of, and access to all waterline valves during construction.

At the end of each day’s work and at other times when construction operations are completed or suspended, all equipment and other obstructions shall be removed from the roadway.

302-5 ASPHALT CONCRETE PAVEMENT

[Add the following within each Subsection:].

302-5.1 General

Asphalt Concrete (AC) shall conform to Section 203-6 of the Standard Specifications, with Section 92, "Asphalt" of Caltrans Standard Specifications and Special Provisions, and as modified herein.

- AC base course shall be Type III-B2-PG-64-10 (3/4” sieve size).
- AC leveling course shall be III-D-PG-64-10 (3/8” sieve size) (up to 0.08 foot thick).
- AC surface course shall be Type III-C3-PG-64-10 (1/2” sieve size) and at least 0.16 foot thick.

All areas for reconstruction and leveling shall be marked in the field by the ENGINEER.

The Contractor is not allowed to drive his/her fully loaded trucks on the new asphalt concrete mat.

Sub-grade preparation shall conform to Section 301-1 of the latest edition of the Standard Specifications for Public Works Construction.

Unless otherwise directed by the ENGINEER, the finished surface of the new leveling course shall be 2-inches thick at the center/crown of roadway, tapering to 0 inches thick approximately one foot from the edge of the gutter lip.

Finished surface of the new pavement shall be flush with the edge of the gutter, if there is a bike lane or crosswalk with curb ramps (A.D.A. path of travel). The finished surface of the new pavement shall be 3/8” higher than the edge of the gutter for all other conditions.

The Contractor shall be responsible for maintaining location of and access to, all water valves, water line gate valves and manholes during construction.

Contractor shall schedule paving operations to ensure that construction equipment does not drive over new A.C. material.

At least 24 hours of “cool off” time shall occur between A.C. lifts.

Contractor shall protect and preserve the entire existing pavement outside construction limits in the same condition as existing. Contractor shall replace and/or repair the damaged area to the satisfaction of the ENGINEER at no cost to the City.

Unless otherwise noted below, there are no special equipment requirements, the contractor shall comply with all provisions of the latest edition of the Standard Specifications for Public Works Construction.

302-5.2 Not Used

[Replace with the following:].

302-5.2 Asphalt Removal and Replacement

The Contractor shall remove the existing AC pavement section down to the elevation as depicted on the Plans. All work shall comply with the applicable sections of the Standard Specifications as required.

Sub-grade preparation shall conform to Section 301-1 of the Standard Specifications.
The Contractor shall replace and compact the aggregate base section to the required elevation as specified on the Plans. The aggregate base material shall be ¾" CMB and conform to Section 200-2.4 "Crushed Miscellaneous Base" of the Standard Specifications.
The existing AC pavement shall be saw-cut to full depth to provide a clean, neat, and straight pavement break. Then the join between the existing pavement and the new pavement shall be sealed. A layer of tack coat shall be applied to all vertical-cut faces and between subsequent HMA lifts.

All excavated material shall be hauled and disposed of by the Contractor in accordance with these Special Provision and Standard Specifications.

The Contractor can elect to bring the entire AC Base Course to the existing finished grade prior to cold milling operations.

302-5.4 Tack Coat

Prior to placing asphalt concrete, all existing surfaces shall be cleaned by blowing air, water and/or broom, and the crack seal applied as part of the cold milling operation shall be set and inspected. The surface shall be free of water, dust, and all foreign materials before any tack coat is applied.

The Tack Coat shall be applied to all exposed surfaces.

302-5.5.1 Surface Preparation

Prior to placing asphalt concrete, all existing surfaces shall be cleaned by blowing air, water and/or broom. All striping and markings shall be removed by grinding or by some other approved method before placing asphalt concrete surface course, and skin patching. The surface shall be free of water, dust, and all foreign materials before any tack coat is applied.

Prior to the application of new AC surface course, the Contractor shall locate and tie-out all manholes and valve covers before commencing work.

Asphalt concrete shall be compacted to achieve at least 95 percent of the relative compaction.

The Contractor is not allowed to drive his/her fully loaded trucks on the new asphalt concrete mat.

302-5.6 Rolling

Initial or breakdown compaction shall consist of a minimum of three coverages of a layer of asphalt concrete. 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 asphalt concrete 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 asphalt concrete to be joined by an adjacent pass shall not be rolled until adjacent pass has been laid.

Subgrade preparation shall conform to Section 301-1 of the Greenbook, and shall be included in the unit price bid for “Asphalt Concrete.”

Asphalt concrete shall be placed with a paving machine equipped with a Preco attachment or an approved equal device for use in obtaining constant cross-slope and maximum joint quality.

At all locations where new asphalt concrete pavement is joining or overlaying existing asphalt pavement, the Contractor shall provide straight neat lines and transition the last twenty (20) feet of new pavement to form a smooth transition with the existing pavement.

Contractor shall protect and preserve the entire existing pavement outside construction limits in the same condition as existing. Contractor shall replace and/or repair the damaged area to the satisfaction of the Engineer at no cost to the City.

302-5.8 Not Used

[Replace with the following:].

302-5.8 FORTA-FI® Fiber-Reinforced Asphalt Cement Concrete

The following are the manufacturer's (FORTA Corporation) specifications for the FORTA-FI® Fiber-Reinforced Asphalt Cement Concrete. Any questions should be addressed to the manufacturer as provided here in subsection 2.1. *Substitutes for this fiber-reinforced product must be equal or better and approved by the ENGINEER.*

1.1 Submittals:
- A. Submit copies of manufacturer's literature for fibers including:
  1. Product data
  2. Brochures
  3. Written instructions to suppliers
  4. Written instructions to installers
  5. Material safety data sheets (MSDS)
- B. Submit copies of certificate prepared by asphalt material supplier, stating that the specified fibers were added to each batch of asphalt delivered to the project site. Each certificate should be accompanied by one copy of each batch delivery ticket indicating product name, manufacturer and quantity of fiber-reinforcement added to each asphalt load.

1.2 Quality Assurance:
- A. Fiber Manufacturer to provide technical assistance from design through construction for use of fiber reinforcement.

1.3 Delivery, Storage, and Handling:
- A. Deliver fiber-reinforcement in sealed, undamaged containers with labels intact and legible, indicating material name and lot number.
- B. Deliver fiber-reinforcement to location where it will be added to each batch or loaded into the mixer.
- C. Store materials covered and off the ground. For ease of handling, do not allow boxers to become wet.

2.1 Manufacturer's Information:
FORTA Corporation
100 FORTA Drive
Grove City, PA 16127
(800) 245-0306
www.fortacorp.com
www.forta-fi.com

2.2 Materials:
- A. FORTA-FI® [Hot-Mix Asphalt (HMA), Warm-Mix Asphalt (WMA), and Hot / Cold-Patch (PAT)] fiber-reinforcement with virgin polyolefins and virgin aramids.
- B. Fiber-Reinforcement: FORTA-FI® fibers with the following typical physical properties:
  1. Nominal Specific Gravity (Bulk Relative Density): 0.91 and 1.44

2. Nominal Material Types: Virgin Polyolefins and Virgin Aramid
3. Maximum length: 0.75-inch
4. Match fiber blend of materials to application installation types:
    i. Hot Mix Asphalt is designated blend HMA,
    ii. Warm Mix Asphalt is designated blend WMA, and
    iii. Patching is designated blend PAT

2.3 Batching and Mixing:

A. To avoid the formation of fiber balls or not mixed fibers, add sealed plastic bags of fibers into the mixer.
B. Add fiber-reinforcement at 1.0 pound per ton (lb / ton).
C. Order product for Pub Mill Mixers for minimum batch size regarding tons per batch to pounds per bag of product.
D. Order Product for Drum Type Mixers and the anticipated production rate of tons per hour (typically seconds per ton, dosage timing) regarding one-pound per bag of product.
E. Order fiber-reinforcement materials for one-pound per ton of asphalt materials and allowing for overages, production, and occasional errors based on past experience.

2.4 Pub Mill Mixers and Mixing Operations:

A. Ensure adequate start, stop, and dosage change information is easily communicated between batch control operations and fiber addition activities.
B. Add complete bags of fibers just before aggregate is discharged into the pug mill mixer.
C. Immediately before or immediately after the dried aggregate is added to the pub mill, the bags of fibers should be added and discharged into the pug mill with the aggregate.
D. Add complete bags of fibers at the general nominal batch size agreed to by operations and mixture design specifications.
E. Do NOT open the bags and add or discharge into the pub mill.
F. Dry mixing proceeds for the standard length of time as specified in the mixture design specifications.
G. The proper quantity of bitumen (asphalt cement, liquid) is added to the pub mill and wet mixing proceeds for the standard length of time as specified in the design mixture specifications.
H. The asphalt batch is accumulated and discharged normally.
I. The asphalt batch is discharged to a haul vehicle or storage.

2.5 Drum Type Mixers and Mixing Operations:

A. Ensure adequate start, stop, and rate change information is easily communicated between drum control operations and fiber addition activities.
B. Add complete bags of fiber at a point in the mixing process after fines collection and before the addition of liquid asphalt.
C. Add fibers after the fines collection to ensure the fibers do not clog filters.
D. Add fibers before the liquid asphalt addition.
E. Add complete bags of fibers at the general nominal rate agreed to by operations and mixture design specifications.
F. Do NOT open the bags at any point in the loading process.
G. Mixing should proceed for the standard length of time as specified in the mixture

design specifications.

H. The proper quantity of bitumen (asphalt cement, liquid) is added to the drum and wet mixing process for the standard length of time as specified in the mixture design specifications.
I. The asphalt batch Is accumulated and discharged normally.
J. The asphalt batch is discharged to a haul vehicle or storage.

3.1 Placement:

A. Discharge fiber-reinforced asphalt cement concrete into locations as directed and in accordance with the project.
B. Place asphalt cement concrete in accordance with the provision of other sections and with additional instructions as follows.
C. Avoid over-using long tine rakes or other tools that will align fibers or disrupt the homogeneous, uniform 3-dimensional, fiber dispersion when moving asphalt cement concrete.
D. Using a lute, “come along,” or a flat tined pitch-fork (potato fork) may be useful for moving asphalt cement concrete.
E. Remove any observed fiber balls from mixture if they occur.
F. Adjust operations regarding any observed fiber balls.

3.2 Compaction:

A. Verify timing for initial and final compaction rather than just a visual determination.
B. Hand Compaction / Finishing: Use appropriate tools as required.

302-7 PAVEMENT FABRIC

302-7.1 General

[Add the following:].

302-7.2 Placement

The Contractor shall place subgrade stabilizing fabric upon the prepared subgrade. The subgrade shall be scarified and compacted prior to the placement of the fabric. Care shall be taken not to overwork the subgrade.
The subgrade fabric shall be *Mirafi 600X* or approved equal and shall be placed on entire subgrade areas before placing asphalt concrete (A.C.) base course. Overlap shall be 48-inches. The contractor shall follow the manufacturer’s recommendations for installation of the fabric.

Furnish and place engineering fabric in accordance with Section 302-7 of the Standard Specifications.

The engineering pavement fabric shall conform to Section 213-1 of the Standard Specifications.

302-9 ASPHALT RUBBER HOT MIX (ARHM)

302-9.1 General

[Add the following:].

Asphalt Rubberized Hot Mix (ARHM) shall conform to Section 203-11 of the Standard Specifications and as modified herein.

- The Asphalt Rubber Hot Mix Surface Course shall be Gap-Graded ARHM-GG-C-PG 64-16 (1/2" sieve size) and at least 0.15 foot thick

Finished surface of the new pavement shall be flush with the edge of the gutter for entire project area.

Contractor shall schedule paving operations to ensure that construction equipment does not drive over new AC material.

The Contractor is not allowed to drive his/her fully loaded trucks on the new ARHM mat.

Contractor shall protect and preserve the entire existing pavement outside construction limits in the same condition as existing. Contractor shall replace and/or repair the damaged area to the satisfaction of the ENGINEER at no cost to the City.

Unless otherwise specified herein, there are no special equipment requirements to perform the work and the contractor shall comply with all equipment specifications of the Standard Specifications.

302-9.2 Tack Coat

[Add the following:].

Prior to placing the ARHM surface course, all receiving surfaces shall be cleaned by blowing air, water and/or broom. The surface shall be free of water, dust, and all foreign materials before any tack coat is applied.

The Tack Coat shall be applied to all exposed surfaces.

302-9.3 Distribution and Spreading

[Add the following:].

At least 24 hours of "cool off" time shall occur between A.C. lifts.

All temporary striping and markings shall be removed by grinding or by some other

approved method before placing asphalt concrete surface course, and skin patching.

Asphalt concrete 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.

302-9.6 Manholes (and Other Structures)

[Add the following:].

The Contractor shall be responsible for maintaining location of and access to, all water valves, water line gate valves and manholes during construction.
Prior to the application of new AC surface course, the Contractor shall locate and tie-out all manholes and valve covers before commencing work and comply with these Special Provisions.

The Contractor shall measure the bridge height clearance at the SR 73 north and south bridges after placement of the AC leveling course at the specified roadway location to confirm that the min. 15’-0’ clearance will be achieved after placement of final surface course. Contractor to measure the final height from same location to confirm min.15’-0” clearance after final placement and compaction of surface course. If the measurement reduces the min. 15’-0” clearance, the Contractor shall be required to grind and re-pave the non-conforming area until compliance has been achieved and accepted by the ENGINEER.

The Contractor is directed to Section 403 within these Special Provisions with respect to raising, adjusting or reconstructing utilities to grade.

302-5.6 Rolling

302-5.6.1 General

[Add the following:].

Initial or breakdown compaction shall consist of a minimum of three coverages of a layer of asphalt concrete. 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.

The top layer of each lane, once commenced, shall be placed without interruption. The Contractor shall roll the newly laid asphalt concrete 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 asphalt concrete to be joined by an adjacent pass shall not be rolled until adjacent pass has been laid.

Pneumatic rollers **shall not be used** without prior approval of the ENGINEER.

302-9.5 Joints

At all locations where new asphalt concrete pavement is joining or overlaying existing asphalt pavement, the Contractor shall provide straight neat lines and transition the last twenty (20) feet of new pavement to form a smooth transition with the existing pavement.

302-9.8 Measurement

[Replace the first Sentence with the following:].

ARHM shall be measured by the TON

302-9.9 Payment

[Replace the first paragraph with the following:].

SECTION 303 – CONCRETE AND MASONRY CONSTRUCTION

303-5 CONCRETE CURBS, WALKS, GUTTERS, CROSS GUTTERS, ALLEY INTERSECTIONS, ACCESS RAMPS, AND DRIVEWAYS

303-5.1 Requirements

303-5.1.1 General

[Replace the entire Subsection with the following:].

Concrete curbs, walks, gutters, spandrels, cross gutters, alley intersections, access ramps, and driveways shall be constructed of Portland cement concrete and comply with Section 201-1 of the Standard Specifications. The following class of concrete shall be used per each type of improvement:

- Curb and Gutter, Spandrels, Cross Gutters, Alley Intersections, and Driveways – **560-C-3250.**
- Sidewalks and Access Ramps – **520-C-2500**

The following AC type and Crushed Miscellaneous Base (CMB) shall be used with respect to each type of improvement:

- Asphalt Concrete Base Course shall conform to Section 302-5 of these Special Provisions.
- Crushed Miscellaneous Base (CMB) shall be ¾" fine and comply with Section 200-2.4 of the Standard Specifications.
- AC Sidewalk – Surface Course (Type III-C3-PG64-10 (½" sieve size)) in conformance with Section 203-6 of the Standard Specifications.

Curing compound shall be applied in accordance with the provisions of the GREENBOOK.

CITY Standard Drawings

The following CITY Standard Drawings shall apply or per the direction of the ENGINEER:

- Curb and Gutter shall conform to Nos. 312 and 314.
- Concrete Sidewalk shall conform to Nos. 411, 412, and 413, (and 414 where necessary). 4" Min PCC/4" CMB.
- Driveways shall conform to Nos. 313, 513, and 514.

- Cross-gutters shall conform to No. 415 or per Standard Plan No. 122-2 or 123-2 in the “Standard Plans for Public Works Construction,” also known as the A.P.W.A. Standard Plans.

Caltrans Standard Plans

The following Caltrans Standard Plans shall apply:

- Americans with Disabilities Act (ADA) Access Ramps - Construction shall conform to Caltrans Standard Drawing No. A88A adjusted to meet the latest ADA regulations and requirements. The width of the wheel chair access ramp “W” shall be a minimum of five (5’) foot wide.

303-5.1.1 a) ADA Access Ramps

The Contractor shall inspect the location of the Access Ramps to be re-constructed prior to beginning the work to determine the appropriate Caltrans Standard Plan Ramp Case to be constructed. If the work entails removing and replacement of existing concrete sidewalk outside the ramp work limit area as identified in these Specifications or as shown on the Plans, he/she shall notify the ENGINEER prior to initiating the work.

The Contractor shall construct all necessary variable height-retaining curb at the back of the curb ramp as well as other retaining curb, if required, pursuant to the appropriate Caltrans Standard Plan ADA Ramp Case as determined by the Contractor and accepted by the ENGINEER. The Contractor shall relocate all street signs effected by the ramp construction to a condition equal to or better than existing.

The detectable warning surface shall be Armor-Tile replaceable truncated domes or approved equal. Contractor shall submit a sample of the detectable warning surface to the ENGINEER for approval, prior to the start of construction. The color shall be **yellow**. The truncated dome mat shall be installed across the entire width of the bottom of the access ramp and shall be installed per the manufacturer's installation recommendations, or as directed by the ENGINEER.

The Contractor shall ensure safe passage by pedestrians during the ADA ramp construction and afford one safe crossing of the street at all times. The Contractor shall set-up all required signage and barricades within the work zone to provide safe pedestrian passage.

AC Tie-in

The Contractor shall saw cut, remove, and reconstruct a minimum of a two (2) foot width (slot patch) of adjoining structural section of the pavement to the limits of the ADA Ramp construction (BCR joint to ECR joint). The AC structural section to be replaced shall be

8” AC Base Course/8” CMB or 12” full depth AC Base Course with compaction as required by the Standard Specifications.

If there is an asphalt concrete adjoining sidewalk to be reconstructed to tie into the new concrete ramp, a one-foot (1’) adjoining pavement section shall be removed and replaced with a structural section of 4” AC Surface Course/4” CMB.

Curb and Gutter

The Contractor shall sawcut and remove existing curb and gutter, and construct either Type "C-6” curb and gutter or "C-8" curb and gutter pursuant to the existing curb and gutter condition conforming to the CITY Standard Drawing No. 312, rolled curb and gutter and/or modified curb and gutter at locations marked in the field by the ENGINEER or as designed on the Plans.
SPECIAL NOTE: In order to comply with ADA requirements cross slope of gutter plate and AC at wheelchair ramp locations shall not exceed 5% grade in the gutter pan.

SPECIAL NOTE: Curing compound shall be applied in accordance with the provisions of the GREENBOOK.

Removal of the Concrete Curb and Gutter and AC shall conform to Section 401 “Removal” of the Standard Specifications.

Existing Landscape Areas

All existing landscaping/irrigation/backfill removed, as part of the access ramp construction shall be replaced in-kind and made a part of the work in conformance with these Special Provisions and Standard Specifications at no additional cost to the CITY.

Other Existing Facilities and Obstructions

The Contractor shall protect all existing improvements within the work area not designated to be removed in-place and intact and shall replace any existing improvements damaged by his/her operations at no additional cost to the CITY.

The Contractor shall locate and protect the traffic signal home-run within the slot patch and ramp area and coordinate with the City with respect to the signal loop replacement work as shown on the plans or as required. If the Contractor damages the existing signal loop conductor/conduit or other wiring to the signal pull box, all damage to said existing improvements shall be repaired/replaced to an in-kind condition pursuant to the required specifications and the system shall be restored for full operation at no cost to the City.

The Contractor shall mark, protect, adjust, and re-set all utility boxes/vaults within the reconstructed area. Additionally, the Contractor shall replace any existing marked,

labeled or stamped concrete on the face of curb of existing utilities, which include, but not limited, to water, sewer, gas, etc.

303-5.1.1 b) Curb and Gutter

Per CITY Standards, weakened plane joints are required every ten feet (10') and felt paper every forty feet (40'). Transitional curb and gutter shall be ten feet (10') from one type to the other. No construction joints will be permitted.

303-5.1.1 c) Concrete Sidewalk

The Contractor shall reconstruct existing concrete sidewalk and/or construct new concrete sidewalk around obstructions, install new concrete sidewalk, reconstruct or construct new ADA wheelchair ramps including monolithic curb, meandering sidewalk, retaining curb at back of the sidewalk, and other miscellaneous concrete construction conforming to these Special Provisions and as shown on the Plans. The Contractor may be directed to reconstruct concrete walkways within private properties in order to join new improvements. Prior to initiating the work outside the City rights-of-way, the City will obtain the necessary right of access documents from the private property owner.

If there is an asphalt concrete adjoining sidewalk to be reconstructed to tie into the new concrete sidewalk, a one-foot (1') adjoining pavement section shall be removed and replaced with a structural section of 4" AC Surface Course/4" CMB.
The Contractor shall inspect the location of the concrete sidewalk work area to be re-constructed prior to beginning the work. If the work entails removing and replacement of existing concrete sidewalk outside the work limit area as depicted within these Specifications or as shown on the Plans, he/she shall notify the ENGINEER prior to initiating the work.

<u>Existing Landscape Areas</u>

All existing landscaping/irrigation/backfill removed as part of the concrete walkway construction shall be replaced in-kind and made a part of the work in conformance with these Special Provisions, Standard Specifications, and as directed by the ENGINEER at no additional cost to the CITY.

The Contractor shall place new sod or seed and top soil to match the existing grass species in the areas adjoining the newly constructed concrete improvements that were disturbed by his/her operations. The Contractor may be directed by the ENGINEER to sod or seed other areas as necessary in conformance with these Specifications.

Top Soil shall be Modified Class "A" Topsoil and shall consist of 80% content of Class "A" Topsoil per the Standard Specifications and 20% content of processed wood product of type "I" organic soil amendment per the Standard Specifications.

The Contractor shall protect all existing improvements within the work area not designated to be removed in-place and intact and shall replace any existing improvements damaged by his/her operations. Any damage beyond the construction limit shall be repaired at the Contractor's expense per Section 400-1 of the Standard Specifications.

The Contractor shall protect and support existing irrigation lines and sprinkler heads in place and intact. The Contractor shall adjust the heads to the proper level upon completion of the new sidewalk replacement.

The Contractor shall furnish and install all new pipe sizes to match existing, but no less than ½" schedule 40, PVC pipe, to tie into existing pipes. New sprinkler heads shall be equal to or better than existing inclusive of all appurtenances. All work shall conform to the applicable sections of the Standard Specifications and as directed by the ENGINEER. The Contractor may salvage and reuse sprinkler heads that are still in reusable and functional condition for use at locations from which they were removed.
The Contractor shall cut interfering portions of existing irrigation lines and cap all ends for future reconnection at the time that the work is started at each location. All repair and replacement of the irrigation system shall be done within five (5) days or sooner after disconnection. During disconnection period of existing irrigation systems, the Contractor shall maintain the existing grass, trees, shrubs, and other existing landscape in a live condition with a temporary irrigation system and/or shall water the landscaped areas by hand. Homeowner's water supply shall not be used without written consent from each homeowner.

The Contractor shall modify, relocate or replace and/or extend all encountered irrigation lines or sprinkler heads so as to give full coverage to landscape area.

The Contractor may be directed to extend the existing sprinkler system or place a P.V.C. sleeve under the new sidewalk improvements into the landscaped area between the curb and sidewalk and other locations as necessary as determined in the field by the ENGINEER.

Prior to accepting work, the Contractor must turn the system on, and it must work properly in the presence of and to the satisfaction of the Engineer and property owner. The Contractor shall replace any damaged and dead grass or landscaping beyond construction limits resulting from Contractor's operation or insufficient water supplies at no cost to the CITY.

Other Existing Facilities and Obstructions

Contractor shall adjust to grade existing water meter boxes (WM) to the new grade of the sidewalk. The water meter and water line shall be protected in place. Broken water meter boxes shall be removed and replaced by the Contractor, contact Mesa Water District to obtain and pickup new WM box. WM box shall be furnished to the Contractor at no cost.

The Contractor shall protect in-place the existing mail boxes or relocate them if they do not meet U.S. Post Office standards (see the Standard Plans section, if applicable). The Contractor shall provide a new post in case the existing one cannot be saved as determined by the ENGINEER in the field. The Contractor shall relocate the existing mailboxes which conflict with construction of the sidewalk or pedestrian path of travel with prior approval of the U.S. Post Office Post Master and the ENGINEER.

The Contractor shall relocate any street signs, which interfere, or conflict with construction of the sidewalk. A minimum 4-foot wide path of travel shall be required.

Sidewalk obstruction flare construction shall be per City Standard Drawing No. 413 or as shown on the Plans or as depicted within these Specifications.

At certain addresses, the Contractor will be directed to remove concrete and/or other improvements in the right-of-way. Upon the completion of the removal of existing concrete improvements within the parkway, including the underlying aggregate base for which no replacement is required, the Contractor shall backfill the void with Modified Class "A" Topsoil for placing new sod or seed as directed in those respective bid items.

303-5.1.1 d) Concrete Cross-Gutter

Contractor shall sawcut and remove existing improvments and reconstruct cross-gutter conforming to City of Costa Mesa Standard Drawing No. 415 or per Standard Plan No. 122-2 or 123-2 in the “Standard Plans for Public Works Construction,” also known as the A.P.W.A. Standard Plans, and applicable sections of the Standard Specifications, as directed by the ENGINEER.

Eight (8) inches of Crushed Miscellaneous Base (CMB) shall be required under all new cross gutters.
Concrete shall be class 560-C-3250. (High early strength concrete mix)

Crushed Miscellaneous base material and construction shall conform to Subsections 200 and 301 of the The “Greenbook,” and as directed by the Engineer. The sieve size shall be ¾” (fine).

New improvements shall be constructed to grades as indicated on the plans to provide a proper flow line with the existing improvements as indicated on the plans.

All cross gutters and spandrel work shall be done in phases in order to provide one travel lane in each direction at all times. Contractor shall provide steel plates to bridge excavations for vehicles at no cost to the City in order to provide vehicle access.

303-5.1.1 e) Concrete Driveway Approach

Contractor shall sawcut and remove existing improvments and construct P.C.C. Driveway Approach per City of Costa Mesa Standard Drawing Nos. 313, 513, and 514 and also to Standard Plan No. 110-2, Type "B" in the "Standard Plans for Public Works Construction," also known as the A.P.W.A. Standard Plans. All work shall conform to the applicable portions of Section 303-5 of the Standard Specifications. Six (6) inches of Crushed Miscellaneous Base (CMB) shall be required under all new driveways.

The Contractor shall adjust all existing utility boxes and conduit, or water meter boxes within the new driveway approach, to its new finished grade, and the adjustment shall be included in the bid price per square foot of Residential Driveway or Commercial Driveway. Removals and/or relocations necessary for driveway construction are to be paid as part of this bid item, except where a separate bid item exists for a stated removal or relocation item of work.

Concrete shall be class 560-C-3250.

Crushed Miscellaneous base material and construction shall conform to Subsections 200 and 301 of the The "Greenbook," and as directed by the ENGINEER. The sieve size shall be ¾" (fine).

If there is existing asphalt concrete adjoining into the new concrete driveway approach, a one-foot (1') adjoining pavement section shall be removed and replaced with a structural section of 6" AC Surface Course/6" CMB.

Asphalt concrete for slot paving shall be ¾" for base course and ½" for surface course, which is covered in Section 400-4 of Standard Specifications (latest edition).

Soils and aggregate tests shall conform to State of California test methods which may be substituted for designated ASTM test methods as noted herein. Laboratory maximum density tests shall be per Method 2 of Subsection 211-2.1. The correction for oversize materials as stated in Test Method No. California 216 shall be replaced with Note 2 of ASTM D1557.

New improvements shall be constructed to grades as indicated on the plans to match existing improvements and field condition with proper grade to form a safe and smooth riding surface.

Contractor shall provide steel plates to bridge excavations for vehicles at no cost to the City in order to provide access to driveways if requested by the resident.

303-5.9 Measurement and Payment

[Replace the entire Subsection with the following:].

BID ITEM NO. 6A: ***CONSTRUCT TWO (2) INTERSECTION "BULB-OUTS" AT THE NORTHERLY INTERSECTION OF WEST 19TH ST. AND WALLACE AVE.,, INCLUDING ALL DEMOLITION & HAUL AWAY, CONSTRUCTION OF CONCRETE SIDEWALK (4-INCH CONCRTE OVER 4-INCH C.M.B.), A.D.A. CURB RAMPS PER PLAN, CURB & GUTTER PER PLAN, ASPHALT CONCRETE (A.C.) SLOT PAVE, AND ALL OTHER ANCILLAY WORK NEEDED FOR COMPLETION PER ENGINEER'S DIRECTION***

A. Remove Existing and Reconstruct Concrete Sidewalk [4" Portland Cement Concrete (P.C.C.) over 4" Crushed Miscellaneous Base (CMB)] Including ADA Ramps

Measurement and Payment for this task shall be per the unit price bid per **Square Foot (S.F.)** as constructed in accordance with these Special Provisions, Standard Specifications, and as shown on the Plans. The Work Limits is as shown on the Plans and shall include, but not limited to, the following Work:

1. Saw cutting, clearing and grubbing, unclassified excavation, furnishing, placement and compaction of 4" CMB, placement of concrete, removing tree roots encounter within the excavation limits, blocking out and/or widening existing tree wells.
2. Restoration of existing sprinkler systems including any reducers required for different pipe sizes, and from existing or new pipes to the sprinkler heads, connection points, all fittings, all tees and ells, backfill material for pipe trench, and all miscellaneous materials for proper installation and/or modification for construction of complete sprinkler system removed by sidewalk replacement operations.
3. Furnish and place Modified Class "A" Topsoil, landscaping, plants and new sod as disturbed by operations.
4. Re-grading the areas adjacent to the new sidewalk construction to transition to join new improvements.
5. Adjusting water meter boxes and water valves to grade within replacement area.
6. Replacement, or repair to the existing curb drains during construction operations.
7. At certain addresses, the Contractor will be directed to remove parkway concrete and/or other improvements in the right-of-way. Upon the completion of the removal of existing concrete improvements within the parkway, including the underlying aggregate base for which no replacement is required, the Contractor shall backfill the void with Modified Class "A" Topsoil for placing new sod or seed as directed in those respective bid items.

Payment shall be considered full compensation for furnishing all labor, materials, equipment, and disposal costs to complete the Work and no additional compensation will be allowed.

B. Remove Existing and Reconstruct C-6 Curb & Gutter over 6" Crushed Miscellaneous Base (CMB) with 2' Asphalt Concrete (A.C.) Slot Pave

Measurement and Payment for this task shall be per the unit price bid per **Lineal Foot (L.F.)** as constructed in accordance with these Special Provisions, Standard Specifications, and as shown on the Plans. This bid item shall include the removal and disposal of existing curb and gutter, sawcutting, unclassified excavation, furnishing and placing CMB below curb and gutter, root removal, temporary AC pavement, repair of AC slot pavement adjacent to the proposed curb & gutter removal and construction, construction of variable curb height to meet existing sidewalk and existing improvements, depressed curb for driveway approach, curb drain removal and replacement, replacement of any damaged irrigation lines and sprinkler heads, replacement of any damaged grass, paint red curb, replacements of any survey monuments and/or ties; replacement of any damaged traffic signal home-run or wiring to the signal pull box, and other work as required to complete the work. No additional compensation shall be allowed.

C. Remove Existing and Reconstruct C-8 Curb & Gutter over 6" Crushed Miscellaneous Base (CMB) with 2' Asphalt Concrete (A.C.) Slot Pave

Measurement and Payment for this this task shall be per the unit price bid per **Lineal Foot (L.F.)** as constructed in accordance with these Special Provisions, Standard Specifications, and as shown on the Plans. This bid item shall include the removal and disposal of existing curb and gutter, sawcutting, unclassified excavation, furnishing and placing CMB below curb and gutter, root removal, temporary AC pavement, repair of AC slot pavement adjacent to the proposed curb & gutter removal and construction, construction of variable curb height to meet existing sidewalk and existing improvements, depressed curb for driveway approach, curb drain removal and replacement, replacement of any damaged irrigation lines and sprinkler heads, replacement of any damaged grass, paint red curb, replacements of any survey monuments and/or ties; replacement of any damaged traffic signal home-run or wiring to the signal pull box, and other work as required to complete the work. No additional compensation shall be allowed.

D. Remove & Reconstruct P.C.C. Cross-Gutter, Spandrel, Local Depression, and P.C.C. Pad with 3' Asphalt Concrete (A.C.) Slot Pave

Measurement and Payment for this task shall be 8" Portland Cement Concrete (P.C.C.) over 8" Crushed Miscellaneous Base (C.M.B.) per the unit price bid per **Square Foot (SF)** and shall include sawcut, removal and disposal of existing P.C.C., asphalt and miscellaneous improvements, excavation and subgrade preparation, Crushed Miscellaneous Base, forms, steel reinforcement, steel plates, and all labor, materials, equipment and incidentals as required to complete the work. No other compensation will be allowed.

SECTION 314 – TRAFFIC STRIPING, CURB AND PAVEMENT MARKINGS, AND PAVEMENT MARKERS

[Replace the entire Section with the following:].

314-1 GENERAL

The striping, markings and signing shall be reinstalled at existing locations in accordance the latest edition of the State of California Standard Plans and Specifications, City Details for Striping and Markings, as modified within these Special Provisions, and as specified by the ENGINEER. 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 contractor shall record the existing Striping and Markings for the entire project limits on the Plans and provide to the Engineer prior to removal operations.
Contractor shall restore pavement traffic striping and marking damaged during construction to original condition.

314-2 REMOVAL OF TRAFFIC STRIPING AND CURB AND PAVEMENT MARKINGS

314-2.1 General

All striping must be removed by the wet sandblasting method with immediate cleanup of residue. No "blacking out" or temporary covering will be allowed. Such removal shall be by a vacuum attachment operating concurrently with the blast cleaning operations. Reflective striping tape may be used, except that it shall not be applied to final surfaces. It shall be completely removed from all surfaces prior to placement of subsequent work.

All pavement markers shall be removed without damaging the pavement.

314-3 TEMPORARY STRIPING, SIGNING, RAISED PAVEMENT MARKERS

The Contractor shall be responsible for the placement of all required temporary signing, striping, and markings and the removal of existing stripes and markings in the installation

of required temporary striping.

Spotting shall be completed prior to the removal of any temporary striping of traffic control devices. Existing temporary stripes and markings shall be removed prior to painting new ones, but in no case shall any section of street be left without proper striping for more than 24 hours or over weekends or holidays.

Traffic striping and markings shall be removed before any change is made in the traffic pattern. Removal shall be coordinated with the installation of new pavement markings to provide continuous, non-conflicting guidance to public traffic.

Should temporary striping be required on the finished asphalt surface, the method and configuration must be approved by the ENGINEER for approval prior to placement.

At no time shall the street be open to traffic without delineation to separate opposing traffic. Temporary delineation type shall be at the inspector's discretion.

In general, temporary reflectorized markers are the preferred type of temporary delineation.

314-4 PERMANENT STRIPING AND PAVEMENT MARKERS

314-4.1 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.

314-4.2 Premarking

If the markings are not visible, the Contractor will be required to premark 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.

314-4.3 Striping Standards

The Contractor shall conform to the following requirements:

1. All traffic lines shall conform to the Caltrans Standard Plans and Standard Specifications, (latest edition) and any amendments thereto, and these Special Provisions.

2. City standards are provided for Stop Legends, Stop Bars, Crosswalk striping within Appendix B of these Specifications.

3. The Contractor shall install traffic striping, markings, arrows and messages pursuant to the “Striping/Pavement Marking Chart” and sketch where provided. All work and materials shall conform to the requirements of Caltrans Standard Specifications (latest edition).

4. The following striping details shown in Caltrans Standard Plans A20A-D and A24A-E shall be routinely used for traffic lines.

Line	Detail	Pavement Marker Info
Yellow Centerline (Residential)	2	Type D
Double Yellow (Residential)	22	Type D
Skip White	9	Type G
Two-Way Left-Turn Lane	32	Type D
Channelizing Stripe	38B	Type G
Lane Drop Stripe	37B	Type C

5. All crosswalks, turn arrows, stop and yield bars and messages, and all other pavement legends except "Bike Lane" shall be installed in thermoplastic.

6. All yellow school crossings shall be upgraded to the Higher Visibility Crosswalk type Continental per 2018 Caltrans Standard Plans, Plan No. A24F. The crosswalks shall be 8 feet minimum using inside dimensions. The blocking shall be 24 inches wide with 24-inch min gaps or as required for alignment for wheel tracks. If the street intersects at an intersection where there is an existing Yellow Crosswalk due to the vicinity of the School, the crosswalk shall be painted and refreshed for the entire intersection. If the cross-street has a different pattern for crosswalk then the Contractor shall confer with the City staff for the direction on installing the appropriate type.

7. Bike lane stripes and messages shall be painted per Caltrans Standard Plan No. A20D, Detail 39 and 39A.

8. The first three (3) raised pavement markers for any white line at an intersection shall be Type "C" for the opposite direction of travel.

9. Two coats of paint shall be applied. The second coat shall be applied seven (7) days following the first application.

314-4.3.1 Thermoplastic Pavement Marking Material

All stop bars, crosswalks, Legends, and arrows shall be replaced using thermoplastic, and conform exactly to the City of Costa Mesa stencil types.

Thermoplastic shall be composed of Alkydloid/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.

314-4.3.2 Raised Pavement Markers (RPM)

The Contractor shall remove and replace all RPMs 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.

314-4.3.3 Blue “Fire Hydrant” Raised Pavement Markers

The Contractor shall furnish and install blue reflective raised pavement markers on new pavement at existing fire hydrant locations. The Contractor shall install the raised pavement marker within seven (7) days following the second application of traffic striping paint. The new marker location shall be in accordance with the Typical Hydrant Marker Location Standard Drawing and the following requirements:

1. Two-way Streets or Roads: Markers shall be placed six (6) inches from edge of painted centerline on the side nearest the fire hydrant. If the street has no centerline, the marker shall be placed six (6) inches from the approximate center of the roadway on the side nearest the hydrant. See Figures 1 through 3 of the above-mentioned standard.

2. Streets with Left-Turn Lane at Intersection: Markers shall be placed six (6) inches from edge of painted white channelizing line nearest the hydrant. See Figure 4 of the above-mentioned standard.

3. Streets with Continuous Two-Way Left-Turn Lane: Markers shall be placed six

(6) inches from the edge of the painted yellow barrier line on the side nearest the fire hydrant. See Figure 5 of the above-mentioned standard.

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 striping sketch.

The Contractor shall "cat track" for striping and markings no later than 24 hours after the application of the slurry/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 **seven (7) days** following the application of the slurry/ACSC.

The Contractor shall apply the thermoplastic no sooner than **seven (7) days** nor later than **twelve (12) days** following the application of the slurry/ACSC.

All legends, including limit lines, shall be striped within **72 hours** after the street (if applicable) has received the final surface course.

314-4.3.3.1 Truncated Domes or Detectable Warning Surfaces

Truncated domes or detectable warning surfaces shall be installed on existing access ramp surfaces. Detectable warning surfaces shall comply with City Standards and the California Building Code Title 24, and shall consist of vitrified polymer composite, with at least 25% by weight aluminum oxide, nominally 0.20" thick, colorfast and UV stable. Panels must be anchored to the sidewalk access ramp surface in accordance with manufacturer's recommendations. The color of the panels shall be black except for ramps adjacent to or within one block of a school. Ramps within one block of a school shall have yellow truncated domes. Contractor shall submit a sample of the detectable warning surface to the ENGINEER for approval, prior to start of construction.
Grind Ramp Lip to 0” Curb Face:

On all ramps to be retrofitted with a truncated dome, if an existing lip exists as the bottom of the ramp adjacent to the flowline, the Contractor shall grind the existing curb ramp lip to achieve a 0” curb face. The grind shall be tapered at the edge of the ramp surface, as appropriate, to avoid creating a sharp elevation drop-off and shall be 0” to ½” deep and shall be at least 6” wide in a straight-line-grade. Grades within the grind area shall also be limited to 8.33%. The price of grinding the lip shall be included in the unit price for retrofitting the existing curb ramp.

314-4.3.5.1 Painting Curbs

Where existing red, yellow, or other colored curb is removed and replaced, the Contractor shall paint the newly constructed curb (the curb face and top of curb) its original existing color. The paint material shall be water base and shall be Pervo Paint or approved equal. For red colored paint, it shall be Pervo Paint #3123 or approved equal. For yellow colored paint, it shall be Pervo Paint #6003 or approved equal.

All work shall comply with Section 91 of the current Caltrans Standard Specifications. The painting of the newly constructed curbing shall be completed within seventy-two hours after the new curb and gutter has been poured.
Paint residual shall not remain on the sidewalks, gutter pans, or other places beyond the limits of the curb face and the top of curb painted. The Contractor shall remove the paint beyond the limits as soon as possible after the painting is completed.

The Contractor shall notify the Engineer at least two (2) working days prior to commencement of the work. All work shall be performed to the satisfaction of the Engineer.

314-4.5 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.

314-5 Measurement and Payment

Bid Item Nos. 4A, 4B, and 4C: *COMPLETE SIGNING, STRIPING, AND MARKINGS PER PLAN*

Measurement and Payment for **"Complete Signing, Striping, and Markings per Plan"** shall be included in the Contract price bid per **Lump Sum (LS)** and shall include and shall include full compensation for removal of existing striping, legends, and markings; furnishing all materials, services, sawcut, tools labor and equipment and incidentals as necessary to perform all the work involved. No additional compensation will be allowed.

All pavement markers and delineators shall be in accordance with Section 81 "Miscellaneous Traffic Control Devices" of the latest edition of the Caltrans Standard Specifications (including the Revised Standard Specifications) as modified within these Special Provisions. All striping and pavement markings shall be in accordance to Section 84 "Markings" of the latest edition of the Caltrans Standard Specifications (including the Revised Standard Specifications) as modified within these Special Provisions, and

comply with the Caltrans Standard Plans, and the latest edition of the California Manual on Uniform Traffic Control Devices (CA MUTCD), and as specified by the ENGINEER.

The Contractor shall furnish all material, services, labor and equipment necessary for the required pavement preparations, layout and completing the pavement markings.

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.

PART 4

EXISTING IMPROVEMENTS

SECTION 400 – PROTECTION AND RESTORATION

400-1 GENERAL

400-1.1 Removal and Restoration of Existing Improvements

Contractor shall remove and restore all existing improvements including but not limited to, removing and installing mailboxes, fences, walls, driveways, bricks, pavers, relocation of existing drain pipe, removing tree roots and restoring planters, sprinklers, and landscaping and irrigation system.

Contractor shall restore or replace to a condition equal to or better than existing condition. All replacement and restoration work shall be coordinated with the City and completed to satisfaction of the City.

400-2 PERMANENT SURVEY MARKERS

[Replace with the following:].

Unless otherwise provided in the Special Provisions, the Contractor shall be responsible for protecting all existing horizontal and vertical survey controls, monuments, ties and benchmarks located within the limits of the project. If any of the above require 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 licensed to practice surveying, inventory all existing survey monuments and ties and establish sufficient temporary ties and bench marks to enable the points to be reset after completion of construction by the Contractor's Surveyor or Civil Engineer licensed to practice surveying. A copy of this inventory shall be submitted to the Engineer.

Submitted documents shall include field notes and sketches which must contain existing information of centerline control points, survey monuments and swing ties to be replaced such as existing L.S. No. or R.C.E. No., Per Parcel Map No. ___, or Tract Map No. ___, and other related information; they must be sealed and signed by the civil engineer or land surveyor registered by the State of California. The monument resetting work shall comply with the Subdivision Map Act, Orange County, California State requirements, and applicable CITY Codes.

[Add the following Subsection:].

400-2.1 CITY Standard Drawings

- Standard Drawing No. 613 or 615.

Any ties, monuments and benchmarks 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 its sureties shall be liable, at Contractor's expense, for any resurvey required due to its negligence in protecting existing ties, monuments, benchmarks or any such horizontal and vertical controls.

400-2.2 Survey Monuments

Reset tie monument shall have at least four (4) control points.

The Contractor shall obtain prior approval from the ENGINEER before setting new survey monuments and ties.

New survey monuments shall be set on new pavement surface with a 2.5” (minimum) P.K. nail, spike, or equal and brass washer with an R.C.E. or a L.S. tag. Four (4) new control lead and tack swing ties shall be set on top of curb for each new survey monument.

If existing notches of a monument are on the manhole ring, said notches must be ground out after a new PCC collar is constructed around the manhole. The Contractor shall provide four points (monuments) of four-foot tangent over ties. Requirements shall be per the preceding paragraph.

If the Contractor fails to reset ties and monuments and fails to set new centerline ties, the CITY will hire private professional engineers or land surveyors to perform the work and will deduct such cost from the contract. The deduction shall include the cost of the CITY personnel time involved.

The Contractor must submit a corner record for each monument to the County of Orange for approval. The Contractor shall submit all approved monuments to the CITY before final payment.

The Contractor shall also submit to the CITY field notes and sketches for all existing control ties and monuments to be protected in place. These documents must be signed and sealed by either the Professional Licensed Land Surveyor or Civil Engineer registered in California.

400-3 PAYMENT

[Replace the last sentence with the following:].

SECTION 402 – UTILITIES

402-1 LOCATION

402-1.1 General

[Add the following:].

Locations of utilities shown on plans are approximate only and are based on a search of available records.

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 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 402-1.1 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 plans pursuant to its location operations as required under this subsection of the Standard Specifications.

Upon completion of the Project, the CONTRACTOR shall be required to remove, to the satisfaction of the ENGINEER, all utility locator markings and utility tie-out paint markings that either the CONTRACTOR, the CITY or utility companies make during the course of the work from the surfaces of sidewalks, driveway approaches, curb and gutters, using the removal method acceptable to the ENGINEER. Any damage to the existing improvements due to CONTRACTOR'S removal operation, shall be included in the various applicable items of work, and no additional compensation will be allowed therefor.

The CONTRACTOR shall notify owners of the utility companies at least two (2) working days in advance of any work (See Subsection 402-4 of these Special Provisions for utility contact information).

402-1.2 Payment

[Replace with the following:].

Payment for utility location by the Contractor shall be included in the bid prices for the various items of work requiring utility location and no further compensation will be allowed.

402-2 PROTECTION

[Add the following:].

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 all applicable sections 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.

402-2.1 Payment

Payment for utility protection by the Contractor shall be included in the bid prices for the various items of work requiring utility protection and no further compensation will be allowed.

402-4 RELOCATION

[Add the following:].

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 its 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 companies at least two (2) working days in advance of any work:

AT&T (right-of-way) Valentina Gipson 3939 E Coronado St, Rm 2030 Anaheim, CA 92807 (o) 714-618-9132 Email: vk3921@att.com	**Cost Mesa Sanitary District** Javier Ochiqui, Management Analyst 290 Paularino Avenue Costa Mesa, CA 92626 (o) 949-645-8400 Email: jochiqui@cmsdca.gov
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 Emergency) Email: phill@mesawater.org	**Costa Mesa Sanitation District** Marc Esquer, District Engineer (o) (949) 645-8400 x241 (c) 949-473-2522 Email: mesquer@cmsdca.gov

Mesa Water District **Mark Pelka** 1965 Placentia Ave. Costa Mesa, CA 92627 (o) (949) 207-5451 Email: phill@mesawater.org	**Costa Mesa Sanitation District** Nabila Guzman, Construction Notices 290 Paularino Avenue Costa Mesa, CA 92626 (o) 949-645-8400, ext. 230 Email: nguzman@cmsdca.gov
Irvine Regional Water District Brianna Palecek 15600 Sand Canyon Ave. Irvine, CA 92618 (o) 949- 453-5811 Email: Palecek@irwd.com **utility requests*	**Orange County Water District (OCWD)** **Chris Olsen** P.O. Box 8300 Fountain Valley, CA 92728 (o) 714-378-3200 (c) 714-378-3240 (24-hour Emergency) Email: colsen@ocwd.com Email: utilityrequest@ocwd.com
Irvine Regional Water District Kelly Lew 15600 Sand Canyon Ave. Irvine, CA 92618 (o) 949-453-5586 (p) 949-729-7300 (24-hour) Email: lew@irwd.com	**Orange County Sanitation District (OCSD)** Daniel Lee P.O. Box 8127 Fountain Valley, CA 92728 (o) 714-593-7348 (c) 714-593-3301 (24-hour Emergency) Email: Dlee@ocsd.com
CA Regional Water Quality – Santa Ana Region Mark Smythe 3737 Main St., Suite 500 Riverside, CA 92501 (o) 951-782-4130 (c) 951-543-8523 Email: msmythe@waterboards.ca.gov	**Mpower Communications, Inc.** **Mark Denning** 2698 White Road Irvine, CA 92614 (o) 949-864-0296 (c) 949-547-6455 Email: mdenning@telepacific.com
Metropolitan Water District of So. California Civil Engineering Substructures Section Shoreh Zareh P.O. Box 54153 Los Angeles, CA 90054 (o) 213-217-7474 (c) 626-844-5610 (24-hour) Email: szareh@mwdh2o.com	**SCE (Utility Notice Requests)** Kasy Chapman 7333 Bolsa Ave. Westminster, CA 92683 (o) 714-895-0109 (c) 800-611-1911 (24-hour) Email: kasey.chapman@sce.com
Metropolitan Water District of So. California Civil Engineering Substructures Section Melissa Choi P.O. Box 54153 Los Angeles, CA 90054 (o) (213) 217-7516 Email: mchoi@mwdh2o.com	**SCE (Service Planner – Orange Coast S/C)** Stephen Lee 7333 Bolsa Ave. Westminster, CA 92683 (o) 714-397-4706 Email: Stephen.M.Lee@sce.com
Southern California Gas Co. (Transmission) P.O. Box 2300 Chatsworth, CA 91313-2300 (o) 818-701-4546 Email: SoCalGasTransmissionUtilityRequest@semprautilities.com	**Southern California Gas Co.** Alfredo Gutierrez (o) 213-231-7515 (o)714-385-3386 Email: rclendineng@semprautilities.com

Charter Communications Utility Research Requests E-mail: DL-SOCAL-CHARTER-ENGINEERING@CHARTER.COM	**Charter Communications** Don Simons Construction Manager, Zone 8 7142 Chapman Ave. Garden Grove, CA 92841 (o) 714-591-4871 Email: don.simons@charter.com
Spectrum Time Warner Cable Jose Roman 12051 Industry St. Garden Grove, CA 92841 (o) 714-591-4846 (c) 657-263-3641 Email: jose.roman@charter.com	**Verizon Communications** Matt Bergine Engineer IV Specialist-Network Engineering & Operations (o) 949-417-7841 (c) 714-822-6207 Email: matt.bergine@verizon.com
OCTA – Stops & Zones Kyle Poff 550 S. Main St. Orange, CA 92863 (o) 714-560-5833 Email: kpoff@octa.net **OCTA (Detour Coordination)** Dispatch: 714-265-4330	**Verizon Communications** **Switchboard** (o) 703-547-2000
Newport-Mesa Unified School District **Steve Morris** (o) (714) 679-9891 (f) (714) 424-7503 Email: smorris@nmusd.us	**DIGALERT.ORG** (24-HR) 811 2 days before digging.

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 abandonments. 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.

[Replace the Section Title with the following:].

SECTION 403 – MANHOLE AND VALVE ADJUSTMENT AND RECONSTRUCTION

403-1 GENERAL

[Replace with the following:].

Contractor shall adjust existing manholes and water valves to grade conforming to all applicable sections of the latest edition of the Standard Specifications, Mesa Water District (MWD) Standards, and to the provisions of the City of Costa Mesa Standard Plans.

The Contractor shall notify affected utility owners at least 5 working days in advance of the need to commence work required prior to paving operations and again for work required after paving operations. The Contractor shall mark locations of utility vaults where utility companies specifically state adjustments shall be made after paving. If it is found to impractical for the utility owner to complete remodeling or adjustment to structures, as evaluated by the ENGINEER, then the Contractor shall be absolved of further responsibility in connection therewith, and the structure shall be adjusted to grade by the utility owner under permit or ordinance procedure established by the CITY for utility cuts in pavement.

The manhole and valve box locations and distance from curb to center shall be marked on the curb face by the Contractor.

[Replace entire Subsection with the following:].

403-3 MANHOLES AND VALVES IN ASPHALT CONCRETE PAVEMENT

[Replace with the following:].

403-3.1 Storm Drain and Sanitary Sewer Manholes

All Storm Drain (SD) and Sanitary Sewer (SS) Manholes are to be protected from debris prior to construction and shall be thoroughly cleaned of any construction debris, which may have entered the manhole due to the Contractor's operations.
Work shall include the removal or furnishing of grade rings as necessary to adjust the manhole to grade.

The method of adjusting manholes in areas for resurfacing shall be as follows:

The asphalt pavement immediately adjacent to the manhole shall be removed, the manhole shaft extended with adjustment ring(s) to proper grade, the manhole frames and covers replaced, the manhole frames set in concrete, and the pavement replaced with a minimum of 2 inches of asphalt concrete. The finished grade of the cover shall be ¼ inches below the finish grade of the asphalt pavement. The asphalt pavement material shall conform to the surrounding pavement and AC pavement requirements of these Special Provisions.

Existing SD and SS manholes shall be adjusted to new pavement grade **48 hours** after paving operation.

The Concrete for the SD and SS manholes shall be **560-C-3250.**

Contractor shall notify the Costa Mesa Public Services Department for coordination of SD manhole adjustments and Costa Mesa Sanitary District (CMSD) or Orange County Sanitation District (OCSD) for coordination of SS manhole adjustments at least two working days prior to beginning work.

403-3.1 Water Valves

Water valves shall be protected in place and shall be accessible at all times during construction.

Valve covers shall be marked as to their location by the contractor prior to the placement of the pavement. The contractor shall furnish new valve cans if existing cans are damaged during operation. Existing covers shall be adjusted to new pavement grade **48 hours** after paving operation.

Contractor shall notify the respective water district at least 2 working days prior to beginning work. All work adjusting water valve cans and covers to grade shall be inspected and approved by MWD.

Valve boxes shall be checked with a valve key for proper operation.

The Concrete for the valve covers and collars shall be **560-C-3250.**

The Contractor shall be responsible for maintaining location of, 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 his cost.
All existing broken water sleeves shall be removed and replaced by the Contractor who shall contact the respective utility to pick up new sleeves for replacement.

SECTION 404 – COLD MILLING

404-1 GENERAL

[Add the following:].

Cold milling of existing asphalt is required to remove damaged pavement and to permit new asphalt pavements to adhere to the existing surface and shall be performed per Plans and in accordance with Section 404, “Cold Milling” of the Standard Specifications, and as modified herein.

The existing asphalt concrete pavement shall be cold milled from the finished surface to a depth of two **(2)** inches from edge of gutter to edge of gutter. The final depth, width, length and shape of the cut shall be 2” below the lip of gutter as indicated on the Plans. The final cut shall result in a uniform surface conforming to the typical cross section(s) except as otherwise directed by the ENGINEER. Except as otherwise called for on the Plans, all A.C. pavement cuts shall be cut to neat, clean, and straight lines to the satisfaction of, and as directed by, the ENGINEER.

The existing asphalt concrete pavement shall be header cut at a depth of (2) inches below the existing pavement, ranging from the edge of gutter to (7) foot wide, along both sides of the street. The limits will be marked in the field by the Engineer. The work shall comply with Section 302-5 of the latest edition of the Standard Specifications for Public Works Construction.

Burning or heat planning will not be permitted. The planed pavement shall provide a maximum bond surface suitable for resurfacing.

The cold milled material shall be the responsibility of the Contractor to remove and dispose of from the Project limits in accordance with all laws and regulations.

404-1.1 Crack Sealing

Upon completion of the required cold mill depth, the Contractor shall inspect, sweep, and seal all cracks equal to or greater than ¼” wide and equal to or greater than 1” deep as follows:

Clean entire crack to a depth of up to 1” using sandblasting, brushing, and air blowing techniques as required to provide a crack free from all debris, dust, loose material and moisture. Gouging or plowing may be required to remove incompressible debris deep in the crack. The cleaned crack shall be filled with granulated tire rubber, plasticizer and filler, as manufactured by Crafco as Road Saver 203, or approved equal. All crack filler material shall be in conformance with the manufactures specifications. The crack sealant placed shall be slightly below the cold milled pavement surface to avoid over-application and wicking through the new AC surface during compaction of the AC Base and Surface Course lifts. Deep cracks greater than 1” should be filled with sand and covered with a thin layer of sealant.

The sealant product shall conform to the following specifications:

ASTM D6690, D3405, AASHTO M173 and Federal SS-S-164 and SS-S 1041C.
All holes greater than 4” in diameter that exceed the cold mill depth specified shall be cleaned of loose materials, filled with Asphalt Concrete Type III-B2-PG-64-10 (3/4” sieve size), and compacted to a smooth even surface with the adjacent existing milled pavement prior to placement of the AC Base or Leveling Course.

404-1.2 Existing Facilities

Survey Monuments

Surveyor's street and property line monuments, not scheduled for removal shall be protected in accordance with the Standard Specifications and these Special Provisions.

Utilities

The CITY has made every reasonable effort to locate and mark on the Plans all known metal roadway improvements such as sewer manhole covers, water valve covers, catch basin covers, which, if struck, could damage the cold milling cutting drum and/or carbide tipped cutting teeth and makes no guarantee that it has successfully done so, therefore, Contractor must thoroughly inspect the work site in advance of the cold milling operation to minimize the risk of striking any unseen under surface object(s) and shall include in the price bid for cold milling the removal work, additional amount sufficient to cover the cost of damage related down time and the cost of repair of damage to said cold milling cutting drum and/or carbide tipped cutting teeth.

Curb and Gutter

Care shall be exercised not to damage adjacent concrete gutters or curbs. Gutters or curbs damaged shall be replaced at the Contractor's expense.

404-8 DISPOSAL OF MILLINGS

[Add the following:].

Residue from grinding shall not be permitted to flow or travel into gutters, onto adjacent street surfaces or parkways. All residues shall be completely removed by sweeping and properly disposed. No washing of residues into drainage structures will be allowed.

404-10 PAVEMENT TRANSISTIONS

[Add the following:].

Where required, temporary asphalt concrete ramps shall be installed to meet all current ADA accessibility requirements. Additionally, temporary asphalt concrete shall be placed at all cross-street transition sections, and driveways, as required for grade change conformance tapers.

PART 6

TEMPORARY TRAFFIC CONTROL

SECTION 600 – ACCESS

600-1 GENERAL

[Add the following:].

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.

600-2 VEHICULAR ACCESS

[Add the following:].

Trenches left open overnight shall be bridged in a safe and acceptable manner at all driveways and walkways to provide safe access.

The Contractor shall provide access as required to accommodate special circumstance at any residence including access for disabled, impaired, special medical needs, etc.

The Contractor shall use temporary asphalt surfacing at his own expense as required to maintain traffic in a safe and nondisruptive manner. The Contractor shall construct temporary AC ramps to provide safe and driveable access to residents and businesses. Transitional and temporary asphalt concrete shall be removed prior to placement of new AC pavement.

600-3 PEDESTRIAN AND EMERGENCY ACCESS

[Add the following:].

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.

Contractor shall provide emergency access for the fire trucks and other emergency vehicles at all times and notify the Police and Fire Departments in writing two (2) working days prior to construction.

The Contractor shall provide access as required to accommodate special circumstance at any residence including access for disabled, impaired, special medical needs, etc.

SECTION 601 – TEMPORARY TRAFFIC CONTROL FOR CONSTRUCTION AND MAINTENANCE WORK ZONES

601-1 GENERAL

[Add the following:].

Traffic control shall also conform with the provision of the latest edition of Work Area Traffic Control Handbook (WATCH) published by Building News, Inc, within the City Right-of-Way and pursuant to the Caltrans Standard Plans and Specifications within the Caltrans Right-of Way, and the Plans and Specifications.

The Contractor shall perform all work for this Project Monday through Friday, except City observed holidays, and shall be allowed to work from 7:00 a.m. to 3:30 p.m. on residential streets, and from 8:30 a.m. to 3:30 p.m. on arterial and collector streets (see City's Master Plan of Highways for reference), or unless directed otherwise by the ENGINEER. The Contractor may be allowed to work additional hours on Saturdays and Sundays pursuant to and at the discretion of the ENGINEER.

Special Conditions to Traffic Control and Limitations to Working Hours

Lane closures shall be allowed per the traffic control and working hours shown in the City approved Temporary Traffic Control Plan (TTCP). Minor deviations from the requirements concerning hours of work, which do not change the cost of the work, may be permitted by the ENGINEER upon the written request of the Contractor, provided that traffic will be better served and the work expedited. The Contractor shall obtain prior written approvals from the Engineer before adopting such deviations.

601-2 TEMPORARY TRAFFIC CONTROL PLAN (TTCP)

[Add the following:].

The Contractor shall submit to the City a complete Temporary Traffic Control Plan (TTCP) in accordance with the Plans, the Standard Specifications, the Caltrans' Manual of Traffic Controls in Construction and Maintenance Zones (latest edition) within Caltrans Right-of-Way, these Special Provisions and the standards contained in the Work Area Traffic Control Handbook (WATCH) within City Right-of-Way, published by Building News, Inc. (latest edition).

NOTE: Contractor to be aware of the following restrictions to any and all work being performed within the City of Costa Mesa when developing the TTCP, unless otherwise directed by the ENGINEER:

a. Any work within a two (2) block radius of any school will be performed during a school break or on weekends. Contractor shall coordinate work schedule with ENGINEER, prior to commencing of proposed improvements.

b. Contractor is not allowed to perform any work adjacent to the Orange County Fair Grounds from Friday prior to the start of the Orange County Fair to the Monday after the Fair ends. During this time, Contractor shall coordinate with

the Engineer locations of the streets, as specified in the City's Orange County Fair Moratorium Map, prior to commencing of proposed improvements.

c. The Contractor shall not be allowed to perform any work from the Monday before Thanksgiving to the Monday after New Year's Day on Arterial streets, and during the week of any Holiday (Sunday through Saturday) on Residential streets. During this period, all work shall be completed, all travel and/or traffic lanes shall be restored to a safe condition, be fully operational, and shall be opened to vehicular traffic.

d. During elections, no work will be allowed within six hundred feet (600') from polling place including no parking of construction equipment or employee vehicles within said distance of 600 feet.

e. Prior to commencement of any work within City limits, the contractor shall coordinate with the ENGINEER so that the work performed will not interfere with any special events occurring in the City throughout the year.

f. Any night or weekend work shall be approved by the City a minimum of five (5) working days prior to the scheduled construction of the streets affected.

601-3 TEMPORARY TRAFFIC CONTROL (TTC) ZONE DEVICES

601-3.4 Operations and Maintenance

[Add the following:].

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. The Contractor shall be responsible for the project safety on a 24-hour basis each calendar day for the entire duration of the project.

The City will only provide inspection during the designated construction hours Monday through Friday and as approved by the ENGINEER for Saturday and Sunday work in accordance with the work hours defined herein. Any work done without inspection is at the Contractor's risk and subject to rejection. The replacement costs for rejected work will be borne by the Contractor.

The Contractor shall provide access as required to accommodate special circumstance at any residence including access for disabled, impaired, special medical needs, etc. At all times the Contractor shall provide a safe and walk able temporary sidewalk with a minimum width of thirty-six inch (36") 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 at no additional cost to the City.

The Contractor shall protect and preserve all the existing pavement outside construction limits in the same condition as existing. Contractor shall replace and/or repair the

damaged area to the satisfaction of the ENGINEER at no cost to the CITY if damaged by the Contractor.

The Contractor shall limit excavations for curb and gutter, driveways, sidewalk, cross-gutter and spandrels work that will leave an open excavation for only one weekend in a continuous two-week period.

601-3.5 Signs and Signage

601-3.5.1 General

[Add the following:].

The Contractor shall use illuminated or reflective warning/construction signs at both ends of construction area, and at appropriate locations or as directed by the ENGINEER for the entire duration of the project. Solar powered flashing arrow boards will be required for all lane closures and may be required for other traffic control. In addition to other delineation, the Contractor shall be responsible for the project safety on a 24-hour basis. Where construction signing conflicts with existing signing, the Contractor shall cover existing signs in a manner approved by the ENGINEER.

In order to minimize interruption to the construction and the inconvenience to the motorists, the Contractor must post traffic control signs at all applicable approaches to forewarn traffic. All signs must be visible and readable to the traffic from a minimum distance of 75 feet.

The Contractor shall install C-18 ROAD CONSTRUCTION AHEAD, C-17 with APPROPRIATE SPEED LIMIT, and C-13 END CONSTRUCTION signage and as required pursuant to the Plans and Specifications.

The Contractor shall furnish, install, post and maintain in place "No Parking - Tow Away" signs of a minimum height of forty-two (42) inches (from ground finish surface to top of sign) on temporary traffic control devices (even if streets have posted "No Parking" signs), which shall be posted at least **72 hours** prior to commencement of roadwork, unless otherwise directed by the ENGINEER. 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 five (5) working days prior to posting. The signs shall be spaced at a maximum of 50 feet from the street intersection and/or from each adjacent sign and at 200 feet spacing within each alley. 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 weekend or holiday begins.

When directed by the ENGINEER, the Contractor shall provide flagmen to direct the traffic, at no additional contract cost to the CITY.

Coordination of Traffic Control with Residents, Utilities, and other Agencies

The Contractor shall complete the following coordination efforts with residents, affected utilities, and other agencies as part of the Temporary Traffic Control work:

a. Scheduling

The Contractor shall submit the Construction Work Schedule to the CITY for review and acceptance pursuant to Section 6-1.1 of the General Provisions. This schedule shall provide affected residents and businesses ample “on-street” parking within an 800-foot distance from their residence and/or businesses’. Requests for changes in the schedule shall be submitted by the Contractor to the CITY for approval at least three (3) working days prior to the scheduled construction of the streets affected.

b. Notification

Two (2) weeks prior to construction, the Contractor shall be responsible for all notification to the residents and the businesses, and provide project status updates to affected residences and businesses informing them of the pending Project and Scope of Work, unless otherwise directed by the ENGINEER. The Contractor shall submit a resident notification letter to the CITY for approval at least five (5) working days prior to delivery. The Contractor shall hand deliver copies of the approved notification letter and a newsletter (copies provided by the CITY) to the affected residences and businesses prior to the scheduled construction of the streets. This notification letter shall state the date and time of restricted travel on the affected streets. Failure to meet the approved schedule requires that the Contractor immediately notify residents of the cancellation for that day's work and reschedule construction of the affected area at a later date, at no cost to the CITY. Notification of rescheduled work shall follow this same procedure.

Notify the ENGINEER five (5) working days before commencing any work as stated in “a” above.

Notify the trash pick-up company “Costa Mesa Disposal” and all other trash haulers licensed to do business within the city of Costa Mesa of the schedule of work and the limitation of access. Coordinate with trash haulers and residents to ensure that regularly scheduled trash collection will occur. Contact Public Services Department at (714) 754-5307 for addresses of Costa Mesa Disposal and other trash haulers; also notify U.S. Postal Service and all other affected utilities (Edison, sewer, water, gas, telephone, etc.).

Coordinate with Orange County Transportation Authority to plan and to accommodate bus routes at least five (5) working days prior to commencement of any work, which will affect any of their facilities.

601-3.6.4 Barricades

[Add the following:].

Type I, II, and III barricades shall be used at all approaches, per standards and as directed by the Engineer. The Contractor shall employ sufficient traffic barriers to prevent traffic from entering the construction areas.

601-4 TEMPORARY TRAFFIC STRIPING AND PAVEMENT MARKINGS

The Contractor shall provide temporary delineation as depicted in the TTCP and as directed and approved by the ENGINEER. Temporary delineation shall include wet nozzle sandblasting of conflicting markings, installation and removal of temporary centerlines or lane lines, detour signing, barricading, replacement of traffic lines, and markings in their proper locations upon termination of the detour phase.
Provide temporary travel lane delineation, as required, at all times. Temporary flexible reflective stick on markers (slurry markers) may be applied.

Any locations yielding a situation that is not considered driveable by the ENGINEER shall be resolved by the Contractor at the direction of the ENGINEER. The Contractor shall not be paid for such corrective action and shall be charged for any costs incurred by the City for corrective action.

Provide temporary traffic restriping at the conclusion of any working day for any centerline or lane line, which is obliterated by construction for a distance longer than 65 feet.

601-4.3 Removal

[Replace with the following:].

Removal shall conform with Section 314-2 of these Special Provisions.

The Contractor shall provide the first coat of permanent traffic restriping in accordance with Section 314 of these Special Provisions.

601-4.4 Measurement
601-4.5 Payment

[Replace both with the following:].

601-5 TRAFFIC LANE WIDTHS AND CLEARANCES

601-5.2 Lanes Widths

[Add the following:].

The minimum lane width shall be 10 feet. There shall be a minimum of 5-foot clearance from open excavations deeper than 4-inches, and 24-inches clearance from other obstructions and any excavations less than 4-inches unless authorized by the Engineer. The clearance requirements from open excavations may be reduced if K-railing (if the contractor so chooses) with crash cushions are utilized; the specification and layout of the K-rails with crash cushions shall conform to Caltrans' standards and shall be approved

by the ENGINEER; all costs for K-rails and crash cushions shall be borne by the Contractor.

[Add the following Subsection:].

602 MEASUREMENT AND PAYMENT

BID ITEM NOS. 2A, 2B, AND 2C: ***IMPLEMENT TRAFFIC CONTROL, INCLUDING ALL EQUIPMENT, MATERIAL, LABOR, AND SET UP (INCLUDES REMOVAL AT THE END OF PROJECT)***

Measurement and Payment for **"Implement Traffic Control, including All Equipment, Material, Labor, and Set Up (includes removal at the end of Project)"** shall be at the contract price bid per **Lump Sum (LS)** and shall be considered full compensation for providing the Temporary Traffic Control Plan (TTCP), coordination, notifications, signage, and all labor, materials, equipment, and other related work as required to implement the TTCP as shown on the Plans, in accordance with all applicable sections of these Special Provisions, Standard Specifications, Caltrans Standard Specifications and Pans, and Caltrans Permit conditions, and no additional compensation will be allowed. The progress payment for Temporary Traffic Control shall be based on the completion percentage of the entire Project as determined by the ENGINEER.

PART 7

STREET LIGHTING AND TRAFFIC SIGNAL SYSTEMS

SECTION 701 – CONSTRUCTION

701-1 GENERAL

[Add the following:].

The following additions are made to the "Standard Specifications." If there is a conflict between the "Standard Specifications" and these additions, these additions shall have precedence. Provisions of the Standard Specifications and Standard Plans (2018) of the State of California, Department of Transportation (Caltrans) shall apply to all construction materials, methods, and payment for traffic signal and lighting work, except as stated herein.

701-1 GENERAL

701-17 TRAFFIC SIGNAL CONSTRUCTION / MODIFICATION

[Modify this Subsection per the following:].

Sections 86 and 87 of the *2010* Standard Specifications and Standard Plans of the State of California, Department of Transportation (Caltrans), Division of Highways, shall apply to all construction materials, methods, and payment, except as stated herein for Traffic Signal Construction. The Contractor shall visit the site during the bidding phase to estimate the quantities for replacement of existing systems as specified. Contractor shall also obtain existing record drawings for further verification of striping layout, which is also covered under Section 314-1 of these Special Provisions. Any changes or deviations between the plans and field markings shall be at the ENGINEER's discretion at no additional expense.

Caltrans Std. Spec's. §4-1.03
Scope of Work – Project and Work Description:

The Project consists of modification of the existing traffic signal at Harbor Boulevard and Hamilton Street. Work includes but is not limited to furnishing and installation of new vehicle indications, new conduit, new pull boxes, new pedestrian push button, new traffic signal pole on new foundation to be constructed by the Contractor, and rewiring of the intersection including termination of new signal cable and conductors in existing traffic signal cabinet.

Caltrans Std. Spec's. §8-1.02
Schedule:

The Contractor shall initiate procurement of traffic signal equipment immediately upon contract authorization and begin assessment of utility locations. The Engineer shall approve the scheduling and sequence of all construction work prior to performing the

construction activity. The Contract shall contact each utility company to coordinate and schedule work and provide written correspondence to the Engineer.

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. During the course of construction, no additional compensation will be provided for the correction of the differences between the plans and in the field.

The Contractor shall attend a pre-construction meeting within one (1) week following contract award. No actual project working days shall be charged for these activities. The Contractor shall notify the City in writing of the start date of actual field construction.

It is the intent of the City to provide the Fourteen (14) week period for furnishing and delivery of equipment prior to start of construction activity. Excavation, conduit installation, pull boxes and foundations should be coordinated in a most expedient manner to minimize the disruption and inconvenience of an extended construction schedule. Construction once started shall be pursued daily through project completion.

The Contractor is responsible for securing an adequate storage site for equipment and materials. The Contractor shall provide supervisory personnel to keep the construction site in a safe, neat and orderly condition at all times. No Materials or equipment shall be stored at the job sites unless approval is issued by the Engineer.
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 drawings, specifications, and other related documents.

Caltrans Std. Spec's. §56-3.01C(2)
Foundations:

Portland Cement Concrete (PCC) shall conform to Section 90-2, "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. Anchor bolts and cages shall be furnished and installed by the Contractor conforming to Caltrans standards. The contractor shall verify the bolt pattern of each pole prior to foundation installation.

Existing pole foundations shall be completely removed. All material removed for pole foundations shall become the property of the Contractor and disposed of outside the work site by and at the expense of the Contractor on the same day of excavation. Contractor shall define the exact location and depth of all utilities in the vicinity of proposed foundations. After all utility locations are exactly established, the Contractor shall contact Engineer for authorization of specific pole foundation location.

Caltrans Std. Spec's. §56-3.02
Steel Standards, Poles, Pedestals, and Posts:

Contractor shall furnish and install new traffic signal pole with all necessary 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.

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 be maintained in a neat and orderly condition and safe pedestrian pathways provided at all times 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.

Caltrans Std. Spec’s. §87-21.03B
Maintaining Existing and Temporary Electrical Systems:

The Contractor shall schedule work to maintain full signal operations daily each peak period, without exception. The Contractor shall furnish and install temporary wiring and hardware as required to maintain the signal operational daily during peak periods, at no additional contract expense. Traffic signal communications shall remain in operation daily each peak period; work shall be carefully coordinated to maintain fiber optic communications service.

Caltrans Std. Spec’s. §86-1.02B and §87-1.03B
Conduit and Accessories and Conduit Installation:

Conduit shall conform to the provisions in Section 86-1.02B, “Conduit and Accessories” and shall be installed to the provisions in Section 87.103B, “Conduit Installation” of the Caltrans Standard Specifications, unless otherwise approved by the Engineer.

Conduit shall be High Density Polyethylene (grey color) – HDPE, IPS SDR11 GPE, or Schedule 80 PVC, unless otherwise approved 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.

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.

Rock wheeling shall be allowed only if authorized in writing by the Engineer. The Engineer prior to work shall approve the method of rock wheeling. Conduit installation under pavement, curb/gutter areas shall be by boring method approved by the Engineer.

No open cutting shall be permitted for streets in City moratorium areas, unless City Standard roadway repair moratorium compliance measures are implemented. Any work in designated moratorium areas will include AC pavement mill and overlay work extending 50’ beyond the damaged area, within each affected travel lane.

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 ore 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, 411, 413 and 414 for sidewalk replacement. All existing plant and irrigation materials including but not limited to sod, trees and bushes damaged by trenching or boring work shall be replaced in kind, at no additional compensation.

Within pull boxes, conduit shall be placed to meet minimum clearances between the pull box 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 existing and proposed cable and/or conductors. Work shall conform to Caltrans Standard Specifications 86-1.02B and 87-1.03B. The ends of conduit termination in pull boxes and controller cabinets shall be sealed with an approved type of sealing compound.

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 51 mm (2”). Use minimum bending radius as permitted by Appendix H of ICEA S-19/NEMA WC 3 and SMFO cable manufacturer's recommendations.

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 immediately after installation of conductors. 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 each day; final resurfacing shall be completed within five (5) working days on all streets and all trenches maintained in a safe condition.

Work shall include furnishing and installing 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, modification of conduit entrances, 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 shall be lowered, modified and/or adjusted as required to accommodate the intended improvements at no additional compensation. The Contractor shall determine the exact location of all underground facilities within improvement area, by hand digging if necessary, and 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.

Caltrans Std. Spec's. §86-1.02C and §87-1.03C
Pull Boxes and Installation of 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 lightweight fiber material, Christy "Fiberlyte", or Engineer approved equal.

All pull boxes shall be factory-made standard size No.5 pull boxes with extension unless otherwise noted on the plans or directed by the Engineer. The cover marking for each pull box shall read "TRAFFIC". Pull boxes shall be provided with locking mechanisms as specified in the State Standard Plans and shall be gray in color.

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 51 mm above the bottom of the pull box, the top portion of the opening shall be not less than 203 mm from the top of the pull box. The 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 51 mm.

Pull box Installation Details - The bottom of pull boxes installed in the ground or in sidewalk areas shall be bedded in at least 152 mm of crushed rock and shall be grouted prior to the installation of conductors. The grout shall be between 51 mm and 25 mm in depth and shall be sloped towards the drain hole. A layer of roofing paper shall be placed between the grout and the crushed rock sump. A 25 mm 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 87-1.03E, "Excavating and Backfilling for Electrical Systems" of the State Standard Specifications except that the backfill material shall not contain rocks graded larger than 25 mm.

Where the sump of an existing pull box is damaged 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 in accordance with the State Standard Specifications at the cost of the Contractor and not the City.

Pull box Adjustments - 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 pull box grade is lower that the adjacent surface area grade at no additional cost to the City. Work shall conform to Caltrans Standard Specifications 87-1.03C. 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 to these specifications.

Caltrans Std. Spec's. §86-1.02F and §87-1.03F
Conductors and Cables and Conductors and Cables Installations:

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."

Caltrans Std. Spec's. §86-1.02F(1)(c)(ii)
Bonding Jumpers and Equipment Grounding Conductors:

Bonding and grounding of metal conduit shall conform to the provisions in Section 86-1.02F(1)(c)(ii) "Bonding Jumpers and Equipment Grounding Conductors," 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.

Caltrans Std. Spec's. §86-1.02P(2)
Service Equipment Enclosures:

The contractor shall protect in place and reuse existing electrical service.

Caltrans Std. Spec's. §6-2.03B
Job Site Inspection and Testing:

It shall be the Contractor's responsibility to arrange the furnishing, testing, pick-up, and delivery of all items to the project site. Any costs involved to test, deliver and install equipment shall be borne by the Contractor and be considered as included in the lump sum price and no additional compensation shall be allowed.

Following notification, the Contractor must complete a satisfactory "turn-on" within a reasonable time of the day and hour specified in the notification. When a turn-on is not completed, as specified above, it shall be canceled and rescheduled with the Engineer. The turn-on shall not be made on Friday or the day preceding a legal holiday. The

Engineer shall be notified at least 48 hours prior to the intended turn-on and shall authorize the “turn-on” day and hour.

The installation resistance shall not be less than 100 Meg ohms on all circuits when the megger tests are performed. Testing shall not be conducted until all control and/or sensor units and probes have been disconnected from the circuit.

The signal monitoring unit shall be tested in the field before “turn-on”. Five days of continuous satisfactory operation as called for in Section 87-1.01D, “Quality Assurance,” of the Standard Specifications shall be provided.

Caltrans Std. Spec’s. §86-1.02Q(3)
Controller Cabinets:

Existing Type P-44 cabinet assembly shall be protected in place and reused. All necessary equipment required for modification of the traffic signal phasing such as load switches, and vehicle detector units shall be furnished and installed by the Contractor as shown on the plans. Contractor shall terminate new conductors in existing cabinet for intended operation.

Caltrans Std. Spec’s. §86-1.02R and §87-1.02R
Signal Heads:

All new circular & arrow indications shall conform to the ITE specification adopted 6/27/05 and 7/1/07, including Intertek LED Certification with ETL Verified Label & Warranty. The contractor shall provide proof of compliance with the ITE standard. A five-year warrantee shall be provided on all LED lenses furnished by the manufacturer. A Certificate of Compliance from the manufacturer shall be submitted to the Engineer, and a copy of the LED purchase order, product specification, certificate of compliance and warrantee. All incandescent traffic signal lamps in existing and relocated heads shall be removed and replaced with new LED lenses.

Mounting hardware configurations shall be approved by the Engineer prior to installation. Vehicle head mounting assemblies shall be configured and adjusted by the Contractor as directed by the Engineer at no additional contract cost.

The top opening of signal heads shall be sealed with a neoprene gasket. LED’s shall be products pre-qualified by the Caltrans’ Testing Laboratory. 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 slip-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 brush 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.
Existing heads shall be cleaned, poorly bonded paint removed w/ wire brush and painted black.

Caltrans Std. Spec's. §86-1.02S and §87-1.03S
Pedestrian Signal Heads:

Pedestrian signal heads shall be furnished and installed by the Contractor and shall be the ITE "Uniform Display" type "Countdown" Hand/Man pedestrian head or Engineer approved equal. The LED pedestrian heads 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.

Caltrans Std. Spec's. §86-1.02U and §87-1.03U
Push Button Assemblies:

Pedestrian and bike push button assemblies shall be the Polara Bulldog Round 3" stainless steel fully sealed assembly with LED and audible momentary beeper and hard enamel powder coat 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, mounted 40" high from the pedestrian landing surface. Face-plate screws shall be stainless steel tamper resistant. The contractor shall submit the PPB/BPB manufacture's specifications and warranty to the Engineer.

Caltrans Std. Spec's. §86-5
Detectors:

In addition to 86-5.01A(5) Installation Details, the following shall be added:

With reference to Curb Termination Detail Type A, ES-5E California Standard Plan, page 255, 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, 95 percent compacted sand tack coated on all contact surfaces. Entering saw-slot shall be deepened to allow both conduit and slack loop leads to be entire within the compacted sand. Neither asphalt nor epoxy is to be allowed to encase the loop leads. Provide and install new conduit for detector loop lead-ins as required.

If required, the Contractor shall test the detectors with a motor-driven cycle, as defined in the California Vehicle Code, that is licensed for street use by the Department of Motor Vehicles of the State of California. 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 their response or detection area of the detector at not less than three (3) miles per hour nor more than seven (7) miles per hour. The detector shall provide an indication in response to this test.

The contractor shall install Type D loops as required and Type E loops for the rest including Advanced Detection. For presence detection contractor shall install following number of Type D loops per lane:

- Left-turn lane – 4 loops at 10 O.C.
- Thru lane – 2 Loops at 10 O.C.
- Right turn lane (if applicable) – 1 Delay Loop

All Front Row Presence loops shall be installed starting at 1 foot behind the limit line.

For Advanced detection, the contractor shall install 1 Type E loop per thru lane.

The Contractor shall test loops, associated wiring and splicing from the controller cabinet to assure continuity and shall establish that the signal and loops are fully actuated and operating as designed. The Contractor shall completely assess existing conditions and shall immediately notify the Engineer of any existing deviation from normal actuated signal operation in writing prior to start of work.

Loop wire shall be Type 1. Loop detector lead-in cable shall be Type B

All traffic loop detector installations shall be Type E and have a minimum one (1) inch cover conforming to Caltrans Standard Plan ES-5A and ES-5B.

Loops shall be installed 2 days following final A.C. work at intersections.

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 70º F. Air temperature during installation shall be above 50º 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 not be reused. On completion of rolling, traffic will be permitted to travel over the sealant.

The Contractor shall determine if the existing loop lead-in conduit is adequate to accommodate the proposed loop wiring. Any increases in conduit size required to complete the work shall be included in the bid, and no additional compensation shall be allowed.

The Contractor shall contact the Engineer two (2) working days in advance for marking the locations of all existing loop detectors and adjusting signal timing prior to damaging or covering existing loops. The Engineer shall approve loop locations prior to installation; 6' Type E (circular) loops shall consist of 4 wraps.

Loop detectors shall be disconnected in adjacent pullbox prior to pavement removal or pavement milling operations.

PROJECT A: NEW TRAFFIC SIGNAL AT W. 19TH STREET AT WALLACE AVENUE

PROJECT DESCRIPTION

The Project consists of furnishing and installing a new traffic signal at the intersection of 19th Street at Wallace Avenue including tying in to the existing fiber optic trunk line on 19th Street for communications between the new traffic signal and the City of Costa Mesa Traffic Management Center. Improvements also include required signing and striping changes, Video/Radar Detection, and GPS Emergency Vehicle Preemption System.

BID ITEM NO. 3A: ***FURNISH AND INSTALL NEW TRAFFIC SIGNAL, INCLUDING ALL APPURTENANT MATERIAL, EQUIPMENT, LABOR, AND CONSTRUICTION TO PRODUCE A FULL FUNCTIONING TRAFFIC SIGNAL THAT IS CONNECTED AND FULLY COMMUNICATES WITH THE CITY'S TRAFFIC MANAGEMENT CENTER (TMC)***

The following additions are made to the "Standard Specifications." If there is a conflict between the "Standard Specifications" and these additions, these additions shall have precedence. Provisions of Sections 12, 56, 84, 86 and 87 of the Standard Specifications and Standard Plans (2018), and any applicable errata (or Revised Standard Plans) of the State of California, Department of Transportation shall apply to all construction materials, methods, and payment for traffic signal and lighting work, except as stated herein.

4 SCOPE OF WORK

4-1.03 Work Description

[Add the following:].

The scope of work in general consists of furnishing and installing a new traffic signal at W. 19th Street at Wallace Avenue including the furnishing and installing of new signal poles and foundations, signal and luminaire mast arm, controller, cabinet, vehicle and pedestrian signal heads, signs, safety lighting, APS push button, conduit, conductors and cable, service, video/radar hybrid detection system, emergency vehicle preemption system, pull box, fiber optics communication, and all work, materials and equipment required to provide operation as shown on the Plan and these Specifications. Work, materials and equipment shall conform to the provisions in Division X, "Electrical Work", of the Caltrans Standard Specifications dated 2018, and these Special Provisions.

6 CONTROL OF MATERIALS

6-2 Quality Assurance

6-2.03 Department Acceptance

6-2.03B Job Site Inspection and Testing

[Add the following:].

It shall be the Contractor's responsibility to arrange the furnishing, testing, pick-up, and delivery of all items to the project site. Any costs involved to test, deliver and install equipment shall be borne by the Contractor and be considered as included in the lump sum price and no additional compensation shall be allowed.

Following notification, the Contractor must complete a satisfactory "turn-on" within a reasonable time of the day and hour specified in the notification. When a turn-on is not completed, as specified above, it shall be canceled and rescheduled with the Engineer. The turn-on shall not be made on Friday or the day preceding a legal holiday. The Engineer shall be notified at least 48 hours prior to the intended turn-on and shall authorize the "turn-on" day and hour.

The installation resistance shall not be less than 100 megohms on all circuits when the megger tests are performed. Testing shall not be conducted until all control and/or sensor units and probes have been disconnected from the circuit.

The signal monitoring unit shall be tested in the field before "turn-on". Five days of continuous satisfactory operation as called for in Section 87-1.01D, "Quality Assurance," of the Standard Specifications shall be provided.

8 PROSECUTION AND PROGRESS

8-1.02 Schedule

8-1.02A General

[Add the following:].

The Contractor shall initiate procurement of traffic signal equipment immediately upon contract authorization and begin assessment of utility locations. The Engineer shall approve the scheduling and sequence of all construction work prior to performing the construction activity. The Contract shall contact each utility company to coordinate and schedule work and provide written correspondence to the Engineer.

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. During the course of construction, no additional compensation will be provided for the correction of the differences between the plans and in the field.

The Contractor shall attend a pre-construction meeting within one (1) week following contract award. No actual project working days shall be charged for these activities. The Contractor shall notify the City in writing of the start date of actual field construction.

Excavation, conduit installation, pull boxes and foundations should be coordinated in a most expedient manner to minimize the disruption and inconvenience of an extended

construction schedule. Construction once started shall be pursued daily through project completion.

The Contractor is responsible for securing an adequate storage site for equipment and materials. The Contractor shall provide supervisory personnel to keep the construction site in a safe, neat and orderly condition at all times. No Materials or equipment shall be stored at the job sites unless approval is issued by the Engineer.

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 drawings, specifications, and other related documents.

56 OVERHEAD SIGN STRUCTURES, STANDARDS, AND POLES

56-3 Standards, Poles, Pedestals, And Posts

56-3.01C(2) Foundations

56-3.01C(2)(a) General

[Add the following:].

Portland Cement Concrete (PCC) shall conform to Section 90-2, “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. Anchor bolts and cages shall be furnished and installed by the Contractor conforming to Caltrans standards. The contractor shall verify the bolt pattern of each pole prior to foundation installation.

After all utility locations are exactly established, the Contractor shall contact Engineer for authorization of specific pole foundation location.

56-3.02 Steel Standards, Poles, Pedestals, and Posts

56-3.02A General

[Add the following:].

Contractor shall furnish and install poles, nuts, bolts, washers, cages, and other hardware as required conforming to 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.

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 be maintained in a neat and orderly condition and safe pedestrian pathways provided at all times 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.

DIVISION X ELECTRICAL WORK

86 GENERAL (DIVISION X ELECTRICAL WORK)

All electrical equipment, materials, and work shall be in accordance with Section 86 "Electrical Work" and Section 87 "Electrical Systems" of the latest edition of the Caltrans Standard Specifications (including the Revised Standard Specifications) as modified within these Special Provisions.

The Contractor shall furnish all material, services, labor and equipment necessary for the required work.

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.

86-1.02 Materials

86-1.02B Conduit and Accessories

86-1.02B(1) General

[Add the following:].

Conduit shall be High Density Polyethylene (grey color) – HDPE, IPS SDR11 GPE, or Schedule 80 PVC, unless otherwise approved by the Engineer. HDPE shall be used for underground boring of conduit or for underground fiber optic cables. 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.

Pull tape shall be furnished and installed in each new conduit run. Pull tape must be a flat, woven, lubricated, soft-fiber, polyester tape with a minimum tensile strength of 1,800 lb. The tape must have sequential measurement markings every 3 feet.

Tracer wire shall be furnished and installed in each conduit run and shall be a minimum No. 12 solid copper conductor with orange insulation Type TW, THW, RHW, or USE.

86-1.02C Pull Boxes

86-1.02C(1) General

[Remove section from lines 6 to 23].

[Add the following:].

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 shall be**

Christy N-series composite and lids shall be lightweight fiber material, "Fiberlyte". Pull box lids for fiber optic pull boxes shall be bolt-down anti-vandal type. Contractor to furnish tool for unlocking and removing pull box covers.

All pull boxes shall be factory-made standard size No.6 pull boxes unless otherwise noted on the plans or directed by the Engineer. Home run pull boxes or pull boxes containing fiber splice enclosures shall be size No. 6 with extension (#6E) unless otherwise noted on the plans or directed by the Engineer. The cover marking for each pull box shall read "TRAFFIC SIGNAL" for traffic signal pull boxes and interconnect/communications pull boxes, and "LIGHTING" for lighting pull boxes, **Pull boxes containing fiber optic cables shall be provided with locking mechanisms as specified in the State Standard Plans and shall be gray in color.**

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

Pull boxes adjacent to Traffic Signal poles shall have 10 foot ground rod with ground clamp and shall be fastened to bare grounding conductor from Traffic Signal pole. No new pull box shall be located within five feet of a water meter or fire hydrant. Replace sidewalk in-kind to match existing material, color, and pattern, from score mark to score mark after pull boxes have been installed.

86-1.02C(2) Nontraffic Pull Boxes

[Add the following:].

The nontraffic pull box shall be a type N series pull box and the pull box lid shall be fiberlyte material. Pull boxes and covers shall be gray.

86-1.02F Conductors and Cables

86-1.02F(1) General

[Add the following:].

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.".

Individual conductors shall not be used for new traffic signal installations or modifications of existing traffic signals unless specifically directed by the ENGINEER and shown on the plans.
Each traffic signal pole shall be served by a single 12 CSC cable per each two vehicle phases. Each pedestrian push button or bicycle push button assembly shall be served by a single 3 CSC.

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.

86-1.02F(1)(c)(ii) Bonding Jumpers and Equipment Grounding Conductors

[Add the following:].

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.

86-1.02K Luminaires

86-1.02K(1) General

[Add the following:].

Luminaire heads shall be LED-type. All luminaire heads shall be equipped with utility wattage labels. LED Luminaires shall be Leotek GCL G-series “legacy” or GCM J-Series luminaire heads, model number GCL1-80G-MV-NW-3R-GY-700-WL-PCR7-LLPC-SC or City approved equal The luminaire heads shall be 250W HPS equivalent or greater.

86-1.02M Photoelectric Controls

[Add the following:].

Contractor to furnish and install Type V photoelectric control on the side of all new service equipment enclosures.

86-1.02P Enclosures

86-1.02P(2) Service Equipment Enclosures

[Add the following:].

The contractor shall be responsible for carrying out the work in any Edison prepared design drawings to establish service connection to the intersection.

The contractor shall furnish and install a Type II-B service cabinet on the new traffic signal cabinet with a Type V photoelectric control on the side of the service equipment enclosure. The Contractor shall furnish all work and materials required to provide the

intended service and coordinate work with the Edison Company well in advance of this work. The Contractor shall pay all electrical service connection and design fees.

A new 3” schedule 80 PVC conduit shall be furnished and installed from the existing SCE pull box to the base of signal cabinet foundation. At the base of the signal cabinet foundation a 3” to 2.5” schedule 80 reducer fitting shall be installed and 2.5” schedule 80 conduit installed into the service cabinet. The new service cabinet shall provide a 100 amp main breaker, 50 amp signal breaker, 30 amp safety lighting breaker, 15 amp IISNS breaker, and spare 15 amp breaker. It shall be the Contractor’s responsibility to establish all electrical service connections for the traffic signal and lighting system and for any work seen or unforeseen during this process.

Service cabinets shall be aluminum (0.125-inch minimum thickness) with seams continuously welded meeting Caltrans Standards, unpainted aluminum, and anti-graffiti coated per the Engineer’s direction.

All work and materials required to provide the intended service shall be furnished and performed,
including coordinating with 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.

86-1.02Q Cabinets

86-1.02Q(3) Controller Cabinets

[Replace the entire section with the following:].

1. Controller/Cabinet Assembly

Contractor shall furnish and install Econolite (or Approved Equal) new TS2 Type 2 P-44 full Cabinet Assembly on new foundation.

Solid-state traffic actuated controller unit, cabinet and auxiliary equipment shall conform to the provisions in Section 86-1.02Q(3), "Controller Cabinets", these Special Provisions, and NEMA TS-2 standards.

Contractor shall furnish and install Econolite Cobalt ATC Controller unit and appurtenances in new signal cabinet as indicated on the plans.

Contractor shall furnish and install all miscellaneous items as necessary to produce a fully- operational system in accordance with the plans, these technical provisions, Caltrans Standard Plans and Standard Specifications. Power distribution panel, inside auxiliary control panel, and police panel shall be hard wired. Plug-N-Go shall not be used.

2. Cabinet Assembly

The Contractor shall furnish and install Type "P-44" aluminum cabinet assembly as indicated that including but not limited to the following items:

i. One (1) - Fully wired eight (8) phase NEMA TS2 Type 2 "P-44" unpainted aluminum cabinet.
ii. One (1) - Econolite Cobalt ATC Controller unit with data key, Ethernet port, and FSK Telemetry, with 32 channels of detection. **Controller shall be equipped with Econolite EOS software.**
iii. One (1) - Malfunction Management Unit with LCD display (programmed for the intersection).
iv. One (8) position TS2 detector rack with (8) two-channel detection as indicated on plan and one (1) Bus Interface Unit, per rack.
v. Sixteen (16) position vertical load bay.
vi. Twelve (12) load switches.
vii. One (1) - Controller cabinet power supply.
viii. One (1) – Slide Drawer Shelf

Work shall be performed by a qualified traffic signal technician, certified to perform the cabinet hardware installations as required. The contractor shall furnish and install all necessary material, equipment and appurtenances required for intended operation as shown in the plans and as outlined in these specifications.

3. Cabinet Construction

Cabinet shall meet, as a minimum, all applicable sections of the NEMA Standard Publication. Where differences occur, this specification shall govern. The cabinet shall meet the following criteria:

i. Material shall be aluminum sheet, 5052-H32, with a minimum thickness of 0.125- inch.
ii. The cabinet exterior shall be unpainted aluminum finish as indicated and with a white interior.
iii. The door hinge shall be of the continuous type with a stainless-steel hinge pin.
iv. The door handle shall be cast aluminum.
v. All seams shall be sealed with RTV sealant or equivalent material on the interior of the cabinet.
vi. Cabinet lock shall be of the Corbin No. 2 type.
vii. The cabinet shall have four (4) sets of cabinet wiring diagrams.
viii. The cabinet shall have one (1) set of equipment manuals (Controller, MMU, etc.).

Shelves

Two (2) aluminum shelves extending completely across the back of the cabinet in the top cabinet area.

1. The first aluminum shelf extending completely across the back of the cabinet shall be provided to support the detector rack(s) and power supply.

2. The second aluminum shelf extending completely across the back of the cabinet shall be provided to support the controller and master (for future requirement provision) and the MMU.

Equipment Accessibility

All mounted panels and equipment shall have a minimum tool access clearance of 6".
Ventilating Fan SP14 The cabinet shall be provided with one (1) thermostatically-controlled ventilation fan, adjustable between 80o to 150o F and shall be installed in the top of the cabinet plenum.

Air Filter Assembly

The cabinet Air Filter shall be a one-piece removable, medium efficiency, synthetic, pleated (Econolite Part No. 57389P11) air filter and shall be firmly secured to the air entrance of the cabinet.

Cabinet Light Assembly

The cabinet shall be equipped with an LED lighting fixture mounted on the inside of the cabinet near the front edge. The LED light shall be activated by an On/Off switch that is turned on when the cabinet door is opened and turned off when the door is closed.

The cabinet shall have a gooseneck type lighting fixture that shall be mounted on the inside of the door near the hinge. The gooseneck light shall be activated by an On/Off switch that is turned on when the cabinet door is opened and turned off when the door is closed.

Lightning Suppression

The cabinet shall be equipped with an EDCO Model SHP-300-10 surge arrester, or City approved equivalent.

Power Panel

The Power Panel shall house the following equipment:

1. One (1) 40 Amp main breaker to supply power to the main panel, controller, MMU, and cabinet power supply.
2. One (1) 15 Amp auxiliary breaker to supply power to the fan, light, and GFCI outlet.
3. One (1) 50 Amp, 125 VAC radio interference line filter.
4. One (1) normally-open, 60 Amp, Crydom Model #HA8475 solid state relay, or City approved equivalent.

Convenience Outlet

Three (3) duplex outlets shall be supplied, as per the following:

1. The first is for short-term equipment use, 120-volt AC, 15 Amp NEMA 5-15 GFCI duplex outlet, and shall be mounted in the lower right corner of the cabinet facing the inside of the cabinet door and within 6" of the front edge of the opening of the door.

2. The second and third are for long-term equipment use, 120-volt AC, 15 Amp NEMA duplex outlet, and shall be mounted in the upper right corner of the cabinet facing the inside of the cabinet. Power shall be supplied from un-switched filtered power.

Inside Auxiliary Control Panel Switches

The inside door panel shall contain three (3) switches: Auto/Flash, Auto/Off/On Stop-Time, and Power On/Off. Auxiliary door panel switches shall be hard wired; printed circuit boards shall not be used.
1. Auto/Flash Switch (2-Position): In the Auto position, the intersection shall operate normally. In the Flash position, power shall be maintained to the controller and the intersection shall be placed in flash. The controller shall not be stop timed when in flash. A guard shall be installed to prevent the switch from being shut off accidentally.

2. Auto/Off/On Stop-Time Switch (3-Position): In the Auto position, the controller shall be stop timed when the police door Auto/Flash Switch is in the Flash position or MMU flash. In the Off position, the switch shall release all stop time from controller. In the On position, the switch shall maintain a continuous stop time to the controller.

3. Controller Power On/Off Switch (2-Position): This switch shall control the controllers AC power. A guard shall be installed to prevent the switch from being shut off accidentally.

Police Panel

The Police Panel shall contain two (2) switches: Signals On/Off and Auto/Flash. All police panel switches shall be hard wired; printed circuit boards shall not be used. The Police Panel shall have 2 conductor plugs for a mono plug (2 contacts, #59098P1 black handle) traffic light control cord “pickle switch”.

1. Signals On/Off Switch (2-Position) In the On position, the field displays shall show either normal operation or flash. In the Off position, power shall be removed from signal heads in the intersection. The controller shall continue to operate. In the Off position, the MMU shall not conflict or require reset.

2. Auto/Flash Switch (2-Position) In the Auto position, the intersection shall operate normally based on all other switches. In the Flash position, power shall not be removed from the controller and stop time shall be applied based on the Stop- Time switch.

4. Cabinet Wiring

Cables

All Controller and MMU cables shall have sufficient length to access any shelf position. All cables shall be encased in a protective sleeve along their entire free length.

All cabinet wiring shall be color coded as follows:

Purple = Flash Color programming
Brown = Green Signal wiring
Yellow = Yellow Signal wiring
Red = Red Signal wiring
Blue = Controller wiring
Gray = DC ground return, logic ground
Black = AC positive
White = AC negative
Green = Chassis
Main-Panel and Wire Terminations

All wires terminated behind the main-panel and other panels shall be soldered. No pressure or solder-less connectors shall be used. Printed circuit boards shall not be used on main panels.

Flashing Operation

Cabinet shall be wired for NEMA flash. All cabinets shall be wired to flash Red for all phases. Flashing display shall alternate between phases 1, 4, 5 and 8, and phases 2, 3, 6 and 7.

Detector Rack and Interface

A minimum of one (1) TS-2 Vehicle Loop detector rack with field termination panel, TS-2 power supply, and SDLC cable shall be provided for each new signal cabinet. Each individual rack shall support up to sixteen (16) channels of loop/video detection and one (1) BIU.

Main Panel Configuration

The main panel shall be fully wired in the following configuration:

1. Sixteen (16) vertical load sockets.
2. Six (6) flash transfer relay sockets.
3. One (1) flasher socket.
4. Wiring for both Type 1 and Type 2 Controllers.
5. Wiring for one Type 16 MMU.

Field Terminal Locations

Field terminals shall be located at the bottom of the main panel and angled forward for easy viewing and wiring. The order shall be from left to right beginning with phase one and following the order of the load switches. Field terminals shall be of the barrier type.

5. Cabinet Equipment

Detectors
New cabinets shall be equipped with the proper number of detector slots and cards, as required for intended operation.

Controller Unit

New cabinets shall be equipped with one (1) Econolite Cobalt ATC controller. Controller shall be system ready for communication on the Centracs Traffic Signal Management/Monitoring software. Controller shall allow logging of Alarm inputs. Controller software shall be the new Econolite EOS software.

Malfunction Management Unit (MMU)

New cabinets shall be equipped with a NEMA TS2 Type 16 MMU with the latest current released software. MMU jumper cards shall be programmed to specific intersection's requirements.

Bus Interface Unit (BIU)

BIU's shall meet all TS2-1992, Section 8 requirements. In addition, all BIU's shall provide three (3) separate front panel indicators: Power, Valid Data, and Transmit.

Cabinet Power Supply
The cabinet power supply shall meet the NEMA TS2 specification. All power supplies shall also provide a separate front panel indicator LED for each of the four (4) power outputs. Front panel banana jack test points for 24 VDC and logic ground shall also be provided.

Telemetry Interface Panel

Cabinet shall be wired with a telemetry interface panel and telemetry connecting cable that can communicate with the Centracs Traffic Signal Management/Monitoring master software. The cabinet shall be wired for telemetry transient suppression, EDCO Model No. PC642C-00-AD, or City approved equivalent.

Flasher Unit

All flasher units shall meet NEMA TS-2, Section 6 requirements and shall be EDI Model 810, or City approved equivalent.

Intersection Diagram

For the new cabinets, an intersection diagram prepared in AutoCAD shall be provided on an 8.5" x 11" sheet of paper and enclosed in a protective plastic cover. The diagram and protective cover shall be located on the inside of the cabinet door above the Auxiliary Panel. The diagram shall depict the general intersection layout, phases, overlaps,

detector assignments, and north arrow. The top of the diagram will be north and the diagram shall be pre-approved by the City Engineer.

Cabinet Wiring Diagram

New cabinet wiring diagrams shall be arranged on three (3) separate sheets in a simplistic way to facilitate the reading of it. The first sheet shall represent everything on the left side of the cabinet, the second sheet everything in the middle of the cabinet including the main panel, and the third sheet everything on the right side of the cabinet. The final cabinet wiring diagram layout shall be approved by the City Engineer.

86-1.02R Signal Heads

[Add the following:]

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, if used, shall be programmed at the direction of the Engineer. The color of all signal heads, backplates, and mountings shall be black.

86-1.02R(4) Signal Faces

[Add the following:].

All new circular signal indications shall be 12” GE VLA Model LED Signal Modules with an incandescent look & arrow indications shall be 12” GE GTX City VLA Model with an incandescent look. The red and green indications shall be clear and the yellow indication shall be tinted. A five-year warrantee shall be provided on all LED lenses furnished by the manufacturer. A Certificate of Compliance from the manufacturer shall be submitted to the Engineer, and a copy of the LED purchase order, product specification, certificate of compliance and warrantee. If programmed visibility (PV) signal heads are used, they shall be LED.

86-1.02T Accessible Pedestrian Signals

[Add the following:].

When an Accessible Pedestrian Signal (APS) system is required, the Contractor shall furnish and install a Polara APS system. The APS system shall include Polara Push Button Station, Central Control Unit (CCU2EN) and E-Configurator and all necessary equipment, mounts, cabling, connectors, and any other items necessary to provide the intended operation as shown on the plans. All Accessible Pedestrian Signals shall have a 10’ minimum physical separation between them per California MUTCD requirements.

The contractor shall coordinate with the manufacturer and submit to the City specification sheets for the programming of the audible feedback messaging for each pedestrian crossing for City approval.

For APS push buttons, the push button sign shall be an R10-3e (9”x15”) sign with back plate attachment.

86-1.02U Push Button Assemblies

[Add the following:].

Pedestrian push button assemblies shall be the Polara iNS Navigator 2-wire push button station with PEU and anti-vandal.

The push button shall be 40” high from the finished 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.

Push button housing shall be the yellow or black (per Engineer approval) and consist of the ADA push button and an attached R10-3e (9”x15”) sign with back plate attachment. The sign shall be attached and securely supported by the framework, and not extend beyond the framework.

87 ELECTRICAL SYSTEMS

87-1 General

87-1.03 Construction

87-1.03B Conduit Installation

87-1.03B(1) General

[Add the following:].

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.

Rock wheeling shall be allowed only if authorized in writing by the Engineer. The Engineer prior to work shall approve the method of rock wheeling. Conduit installation under pavement, curb/gutter areas shall be by boring method approved by the Engineer.

No open cutting shall be permitted for streets in City moratorium areas, unless City Standard roadway repair moratorium compliance measures are implemented. Any work in designated moratorium areas will include AC pavement mill and overlay work extending 50’ beyond the damaged area, within each affected travel lane.

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, 411, 413 and 414 for sidewalk replacement. All existing plant and irrigation materials including but not limited to sod, trees and bushes damaged by trenching or boring work shall be replaced in kind, at no additional compensation.

Within pull boxes, conduit shall be placed to meet minimum clearances between the pull box 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 existing and proposed cable and/or conductors. Work shall conform to Caltrans Standard Specifications 86-1.02B and 87-1.03B. The ends of conduit termination in pull boxes and controller cabinets shall be sealed with an approved type of sealing compound.

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 inches. Use minimum bending radius as permitted by Appendix H of ICEA S-19/NEMA WC 3 and SMFO cable manufacturer's recommendations.

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 immediately after installation of conductors. 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 each day; final resurfacing shall be completed within five (5) working days on all streets and all trenches maintained in a safe condition.

Work shall include furnishing and installing 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, modification of conduit entrances, 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 shall be lowered, modified and/or adjusted as required to accommodate the intended improvements at no additional compensation. 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.

87-1.03B(3) Conduit Installation Underground

87-1.03B(3)(a) General

[Remove the section from lines 1 to 5].

[Add the following:].

Conduit depth shall be per the latest approved City of Costa Mesa standard plans and drawings and latest Caltrans standard specifications, including revision.

87-1.03C Installation of Pull Boxes

87-1.03C(1) General

[Add the following:].

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 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 inches.

Pullbox Installation Details - 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 1and 2 inches in depth and shall be sloped towards the drain hole. A layer of roofing paper 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 87-1.03E, “Excavating and Backfilling for Electrical Systems” 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 damaged 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 in accordance with the State Standard Specifications at the cost of the Contractor and not the City.

Pull box Adjustments - 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 pull box grade is lower than that of the adjacent surface area grade at no additional cost to the City. Work shall conform to Caltrans Standard Specifications 87-1.03C. 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.

87-1.03F Conductors and Cables Installations

87-1.03F(2) Cables

87-1.03F(2)(a) General

[Add the following:].

The 12 CSC and 3 CSC cables shall be run continuous between terminal block terminals and traffic signal controller cabinet load switch bay terminals. Splices will not be allowed and no daisy-chaining of traffic signal cables shall be permitted.

Mast-arm mounted traffic signal indications shall be connected to the side mount vehicle indication terminal box using a 5 CSC. Three section and four section vehicle indications shall use a single 5 CSC. Five section vehicle indications shall use 2-5 CSC. 5 CSC shall be run continuous between the signal indication and the side mount vehicle indication terminal box and no splicing will be allowed. Multiple indications for the same vehicle phase shall not use the same 5 CSC. Each CSC shall be labeled in a permanent, color-coded manner at the side mount vehicle indication terminal box, such that the vehicle phase and placement are noted on the cable. For example, Ø2 Inboard would indicate the cable serving the indication closest to the traffic signal mast arm pole.

The contractor shall provide cable slack to comply with the requirements shown in Caltrans RSP Section 87-1.03F(1). Contractor shall install a tracer wire in all electrical conduits.

87-1.03R Signal Heads

87-1.03R(1) General

[Add the following:].

Mounting hardware configurations shall be approved by the Engineer prior to installation. Vehicle head mounting assemblies shall be configured and adjusted by the Contractor as directed by the Engineer at no additional contract cost.

The top opening of signal heads shall be sealed with a neoprene gasket. LED's shall be products pre-qualified by the Caltrans' Testing Laboratory. 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 slip-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 brush 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.

87-1.03V Detectors

[Replace with the following:].

87-1.03V(4) Video Detection

Video detection system shall be Iteris Vantage Vector Hybrid Video/Radar Detection System with all required appurtenances and monitor and mouse set-up in the traffic signal cabinet.

87-4 Signal and Lighting Systems

87-4.02 Materials

[Add the following section:].

87-4.02C Internally Illuminated Street Name Signs

[Add the following].

The IISNS shall be a Type A sign with internal LED light panel. If new IISNS signs are used, the contractor shall submit proposed IISNS sign panel overlay for City approval prior to ordering.

The housing must be constructed to resist torsional twist and warp. The housing must be designed such that opening or removing the panels provides access to the interior of the sign for lamp, ballast, and fuse replacement.

The top and bottom of the sign must be manufactured from formed or extruded aluminum and attached to formed or cast aluminum end fittings. The top, bottom, and end fittings must form a sealed housing.

The top of the housing must have 2 free-swinging mounting brackets. Each bracket must be vertically adjustable for leveling the sign to either a straight or curved mast arm. The bracket assembly must allow the lighting fixture to swing perpendicular to the sign panel.

The sign panel's surface must be evenly illuminated. The brightness measurements for the letters must be a minimum of 150 foot-lamberts, average. The letter-to-background brightness ratio must be from 10:1 to 20:1. The background luminance must not vary by more than 40 percent from the average background brightness measurement. The luminance of letters, symbols, and arrows must not vary by more than 20 percent from their average brightness measurement.

The message must appear on both sides of the sign and be protected from UV radiation.

No splicing is allowed within the fixture.

[Add the following section 88:].

88 MISCELLANEOUS TRAFFIC SIGNAL SYSTEMS

88-1 Emergency Vehicle Preemption

88-1.01 General

If used, Emergency vehicle Multimode Preemption system shall be the Global Traffic Technologies (GTT) Opticom Preemption System. All GTT Opticom equipment shall be new and obtained from the local authorized GTT Opticom dealer to secure the 5/ 10 year warranty.

A multimode priority control system shall operate in a manner that allows Infrared, and GPS/Radio priority control technologies to interoperate and activate one another in a consistent manner. The priority control system shall consist of a matched system of vehicle equipment and intersection equipment capable of employing both data-encoded radio communications to identify the presence of designated priority vehicles, as well as data-encoded infrared signaling communications. In priority vehicle mode, the data-encoded communication shall request the traffic signal controller to advance to and/or hold a desired traffic signal display selected from phases normally available. A record of system usage by agency identification number, vehicle classification and vehicle identification number shall be created. The system software shall support call history analysis and reporting across any subset of intersections and/or vehicles independent of activation method. System software shall also support both onsite and remote programming and monitoring of the priority control system.

Contractor to Provide and install the following as shown on plans:

GTT M-764 (MMPS) Multi Mode Phase Selector
GTT M-768 (MMPS) Green Sense Panel and Harness
GTT M-760 Card Rack
GTT 3100 GPS Radio Unit
GTT 1070 GPS Installation Cable

Intersection detection equipment will consist of a GPS receiver and radio transceiver connected to a multimode phase selector located in the intersection controller cabinet. The GPS radio unit receives the data-encoded radio signal from the GPS radio equipped vehicle and transfers the decoded information through detector cable to the multimode phase selector for processing. The intersection radios also communicates to vehicles and other intersection radios at distances of up to at least 2,500 feet (762m) with no obstructions.

The multimode phase selector shall be capable of receiving data encoded signals from either or both infrared and GPS radio detection equipment and combine the detection signals into a single set of tracked vehicles requesting priority activation. The multimode phase selector will process the vehicle information to ensure that the vehicle is (1) in a predefined approach corridor, (2) heading toward the intersection, (3) requesting priority, and (4) within user-settable range. The multimode phase selector shall treat the combined, single set of tracked calls with first come first served priority methodology within a given priority level. GPS radio distance/ETA shall be first come first served methodology based on time of detection as each equipped vehicle reaches its programmed threshold.

When these conditions are met, the phase selector shall generate a priority control request to the traffic controller for the approaching priority vehicle. If the approaching vehicle has an active turn signal, the approach intersection shall relay the priority request to the next nearest in-range intersection in the direction of the approaching vehicle's turn signal. The output of the phase selector may also be varied depending on the state of the approaching vehicle's turn signal.
To ensure priority control system integrity, operation and compatibility, all components shall be from the same manufacturer. The system shall offer compatibility with most signal controllers, e.g. NEMA (National Electrical Manufacturers Association), 170. The system can be interfaced with most globally available controllers using the controller's preemption inputs. RS-232, USB and Ethernet interfaces shall be provided to allow management by on-site interface software and central software.

<u>Matched Components</u>
As stated above, the Opticom system is comprised of matched system components. These components are further described as follows:

1. Opticom GPS Components
    a. *Vehicle/Intersection radio/GPS module, Radio/GPS Antenna with factory terminated SMA connectors, and vehicle control unit.* The radio/GPS module shall obtain the vehicle position, speed and heading information and transmit this information only when within range of a GPS intersection. The

vehicle control unit shall communicate with the radio/GPS module and provide the interface to the vehicle in order to monitor the vehicle's turn signal status, provide activation and disable inputs as well as regulate the vehicle power provided to the radio/GPS module.

b. *Intersection Radio/GPS Module.* The intersection radio/GPS module shall transmit a beacon every second and receive the data transmitted by the vehicle equipment and relay this information to the phase selector as well as other system-equipped intersections. It shall also obtain position information from the GPS satellites.

c. *Radio/GPS Cable*. The radio/GPS cable shall carry the data received from the intersection radio/GPS unit to the phase selector. It shall also carry the power for the radio and GPS components provided by the phase selector. The same cable shall be used to carry the data between the vehicle radio/GPS unit and the vehicle control unit. The cable used to connect the radio/GPS unit to the phase selector shall be a shielded 10 conductor data cable; the use of coax cable is not permitted.

2. Opticom System Multimode Components

a. *Multimode Phase Selector*. The multimode phase selector shall recognize inputs from both infrared and GPS/radio activation methods at the intersection and supplies coordinated inputs to the controller. The multimode phase selector shall process the data in order to validate that all parameters required for granting a priority request are met. It shall be located within the controller cabinet at the intersection. It shall request the controller to provide priority to a valid priority vehicle by connecting its outputs to the traffic controller's preemption inputs.

b. *Card Rack*. The card rack shall provide simplified installation of a phase selector into controller cabinets that do not already have a suitable card rack.

<u>Multimode Phase Selector</u>

1. The multimode phase selector recognizes inputs from both infrared and GPS/radio activation methods at the intersection and supplies coordinated inputs to the controller.
2. The multimode phase selector is designed to be installed in the traffic controller cabinet and is intended for use directly with numerous controllers. These include Type 170/2070 controllers with compatible software, NEMA controllers, or other controllers along with the system card rack and suitable interface equipment and controller software.
3. The multimode phase selector will be a plug-in, four channel, multiple-priority, multi-modal device intended to be installed directly into a card rack located within the controller cabinet. The multi-mode phase selector shall be capable of using existing Opticom IR or Opticom GPS card racks,
4. The multimode phase selector may be powered from either +24 VDC or 120VAC.
5. The multimode phase selector shall support front-panel RS-232, USB and Ethernet interfaces to allow management by on-site interface software and central software. An RS-232 port shall be provided on the rear card edge of the unit. Additional RS-232 communication ports shall be available using the Auxiliary Interface Panel.

6. The multimode phase selector shall include the ability to directly sense the green traffic controller signal indications through the use of dedicated sensing circuits and wires connected directly to field wire termination points in the traffic controller cabinet. This connection shall be made using the auxiliary interface panel.
7. The multimode phase selector shall have the capability of storing a minimum of 10,000 priority control calls. When the log is full, the phase selector shall drop the oldest entry to accommodate the new entry. The phase selector shall store each call record in non-volatile memory and shall retain the record if power terminates. Each preemption record entry shall include the following points of information about the priority call:

It shall be the responsibility of the contractor that the authorized dealer of the emergency vehicle preemption equipment be present for the traffic signal function test. To insure installation and functioning of the GTT Opticom equipment, the representative from the dealer shall be certified and factory trained on the latest edition of GTT Opticom equipment and software. The dealer's representative shall provide a test vehicle with the latest Opticom GPS emitter as required for the testing. Please contact DDL Traffic Inc., the Sole Authorized Dealer for Southern California at (714) 321-7513.

Payment

Payment for Compensation for "Furnish and Install New Traffic Signal (Project A)" (Bid Item No. 3A) shall be per the Lump Sum bid fee and additional compensation shall not be allowed. The Lump Sum price shall include full compensation for furnishing all labor, material, appurtenances, tools, equipment and incidentals, potholing of all new traffic signal pole foundations, and for doing all work involved as specified on the Plans and these Specifications.

BID ITEM NO. 5A: ***IMPLEMENT TRAFFIC SIGNAL INTERCONNECT AND FULL FUNCTIONALITY WITH THE CITY'S TRAFFIC MANAGEMENT CENTER (TMC)***

All Traffic Signal Interconnect work and materials shall comply with Section 87 "Electrical Systems" of the 2018 CSP and RSP, notably Section 87-18 "Interconnection Conduit and Cable" and Section 87-19 "Fiber Optic Cable Systems". The Contractor shall furnish all material, services, labor and equipment necessary to provide signal interconnection between new and existing signals and establish communication between the new traffic signal and the City of Costa Mesa Traffic Management Center (TMC).

Description

The scope of work in general consists of completing all necessary traffic signal interconnect work at the intersection of 19th Street at Wallace Avenue to establish communications between the new traffic signal and the City of Costa Mesa Traffic Management Center (TMC). Work includes, but is not limited to, replacing existing traffic signal interconnect pullbox with new #6E pull box complete with new fiber optic splice closure. Contractor shall pull all necessary slack from adjacent traffic signal interconnect pull boxes and splice new fiber optic drop cable to connect to new traffic signal cabinet. Contractor shall furnish and install new fiber optic Ethernet switch and all other necessary fiber optic communication equipment to integrate new traffic signal to the existing Centracs Traffic Signal Central System at the TMC.

Payment

Payment for Compensation for "Traffic Signal Interconnect (Project A)" (Bid Item No. 5A) shall be per the Lump Sum bid fee for Traffic Signal Interconnect and additional compensation shall not be allowed. The Lump Sum price shall include full compensation for furnishing all labor, material, tools, equipment and incidentals, and for doing all work involved as specified on the Plans and these Specifications.

PROJECT B: NEW HAWK SIGNAL AT W. 18TH STREET ACROSS FROM LIONS PARK

PROJECT DESCRIPTION

The Project consists of furnishing and installing a new traffic signal (HAWK) at the existing midblock crosswalk at W. 18th Street across from Lions Park. Improvements also include required signing and striping changes.

BID ITEM NO. 3B: ***FURNISH AND INSTALL NEW HAWK SIGNAL, INCLUDING ALL APPURTENANT MATERIAL, EQUIPMENT, LABOR, AND CONSTRUCTION TO PRODUCE A FULL FUNCTIONING HAWK SIGNAL***

The following additions are made to the "Standard Specifications." If there is a conflict between the "Standard Specifications" and these additions, these additions shall have precedence. Provisions of Sections 12, 56, 84, 86 and 87 of the Standard Specifications and Standard Plans (2018), and any applicable errata (or Revised Standard Plans) of the State of California, Department of Transportation shall apply to all construction materials, methods, and payment for traffic signal and lighting work, except as stated herein.

Any curb ramp modification and minor concrete work and materials shall comply with Section 73 "Concrete Curbs and Sidewalk" and of the 2018 CSP and RSP. The Contractor shall furnish all material, services, labor and equipment necessary to provide the improvements shown on the plans and as detailed in these special provisions.

4 SCOPE OF WORK

4-1.03 Work Description

[Add the following:].

The scope of work in general consists of furnishing and installing a new traffic signal (HAWK) at W. 18th Street across from Lions Park including the furnishing and installing of new signal poles and foundations, signal and luminaire mast arm, controller, cabinet, vehicle and pedestrian signal heads, signs, safety lighting, APS push button system, conduit, conductors and cable, service, and all work, materials and equipment required to provide operation as shown on the Plan and these Specifications. Work, materials and equipment shall conform to the provisions in Division X, "Electrical Work", of the Caltrans Standard Specifications dated 2018, and these Special Provisions.

6 CONTROL OF MATERIALS

6-2 Quality Assurance

6-2.03 Department Acceptance

6-2.03B Job Site Inspection and Testing

[Add the following:].
It shall be the Contractor's responsibility to arrange the furnishing, testing, pick-up, and delivery of all items to the project site. Any costs involved to test, deliver and install equipment shall be borne by the Contractor and be considered as included in the lump sum price and no additional compensation shall be allowed.

Following notification, the Contractor must complete a satisfactory "turn-on" within a reasonable time of the day and hour specified in the notification. When a turn-on is not completed, as specified above, it shall be canceled and rescheduled with the Engineer. The turn-on shall not be made on Friday or the day preceding a legal holiday. The Engineer shall be notified at least 48 hours prior to the intended turn-on and shall authorize the "turn-on" day and hour.

The installation resistance shall not be less than 100 megohms on all circuits when the megger tests are performed. Testing shall not be conducted until all control and/or sensor units and probes have been disconnected from the circuit.

The signal monitoring unit shall be tested in the field before "turn-on". Five days of continuous satisfactory operation as called for in Section 87-1.01D, "Quality Assurance," of the Standard Specifications shall be provided.

8 PROSECUTION AND PROGRESS

8-1.02 Schedule

8-1.02A General

[Add the following:].

The Contractor shall initiate procurement of traffic signal equipment immediately upon contract authorization and begin assessment of utility locations. The Engineer shall approve the scheduling and sequence of all construction work prior to performing the construction activity. The Contract shall contact each utility company to coordinate and schedule work and provide written correspondence to the Engineer.

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. During the course of construction, no additional compensation will be provided for the correction of the differences between the plans and in the field.

The Contractor shall attend a pre-construction meeting within one (1) week following contract award. No actual project working days shall be charged for these activities. The Contractor shall notify the City in writing of the start date of actual field construction.

Excavation, conduit installation, pull boxes and foundations should be coordinated in a most expedient manner to minimize the disruption and inconvenience of an extended construction schedule. Construction once started shall be pursued daily through project completion.

The Contractor is responsible for securing an adequate storage site for equipment and materials. The Contractor shall provide supervisory personnel to keep the construction site in a safe, neat and orderly condition at all times. No Materials or equipment shall be stored at the job sites unless approval is issued by the Engineer.

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 drawings, specifications, and other related documents.

56 OVERHEAD SIGN STRUCTURES, STANDARDS, AND POLES

56-3 Standards, Poles, Pedestals, And Posts

56-3.01C(2) Foundations

56-3.01C(2)(a) General

[Add the following:].

Portland Cement Concrete (PCC) shall conform to Section 90-2, “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. Anchor bolts and cages shall be furnished and installed by the Contractor conforming to Caltrans standards. The contractor shall verify the bolt pattern of each pole prior to foundation installation.

After all utility locations are exactly established, the Contractor shall contact Engineer for authorization of specific pole foundation location.

56-3.02 Steel Standards, Poles, Pedestals, and Posts

56-3.02A General

[Add the following:].

Contractor shall furnish and install poles, nuts, bolts, washers, cages, and other hardware as required conforming to 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.

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 be maintained in a neat and orderly condition and safe pedestrian pathways provided at all times 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.

86 GENERAL (DIVISION X ELECTRICAL WORK)

86-1.02 Materials

86-1.02B Conduit and Accessories

86-1.02B(1) General

[Add the following:].

Conduit shall be High Density Polyethylene (grey color) – HDPE, IPS SDR11 GPE, or Schedule 80 PVC, unless otherwise approved 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.

Pull tape shall be furnished and installed in each new conduit run. Pull tape must be a flat, woven, lubricated, soft-fiber, polyester tape with a minimum tensile strength of 1,800 lb. The tape must have sequential measurement markings every 3 feet.

Tracer wire shall be furnished and installed in each conduit run and shall be a minimum No. 12 solid copper conductor with orange insulation Type TW, THW, RHW, or USE.

86-1.02C Pull Boxes

86-1.02C(1) General

[Remove section from lines 6 to 23].

[Add the following:].

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 shall be Christy N-series composite and lids shall be lightweight fiber material, “Fiberlyte”.

All pull boxes shall be factory-made standard size No.6 pull boxes unless otherwise noted on the plans or directed by the Engineer. Home run pull boxes or pull boxes containing fiber splice enclosures shall be size No. 6 with extension (#6E) unless otherwise noted on the plans or directed by the Engineer. The cover marking for each pull box shall read

"TRAFFIC SIGNAL" for traffic signal pull boxes or for interconnect/communications pull boxes, or "LIGHTING" for lighting pull boxes,. If a mix of one system is used in a pull box such as traffic signal and interconnect, then "TRAFFIC SIGNAL" shall be the label of the cover. Pull boxes shall be provided with locking mechanisms as specified in the State Standard Plans and shall be gray in color.

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

Pull boxes adjacent to Traffic Signal poles shall have 10 foot ground rod with ground clamp and shall be fastened to bare grounding conductor from Traffic Signal pole. No new pull box shall be located within five feet of a water meter or fire hydrant. Replace sidewalk in-kind to match existing material, color, and pattern, from score mark to score mark after pull boxes have been installed.

86-1.02F Conductors and Cables

86-1.02F(1) General

[Add the following:].

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.".

Individual conductors shall not be used for new traffic signal installations or modifications of existing traffic signals unless specifically directed by the ENGINEER and shown on the plans.

Each traffic signal pole shall be served by a single 12 CSC cable per each two vehicle phases. Each pedestrian push button or bicycle push button assembly shall be served by a single 3 CSC.

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.

86-1.02F(1)I(ii) Bonding Jumpers and Equipment Grounding Conductors

[Add the following:].

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.

86-1.02K Luminaires

86-1.02K(1) General

[Add the following:].

Luminaire heads shall be LED-type. All luminaire heads shall be equipped with utility wattage labels. LED Luminaires shall be Leotek GCL G-series “legacy” or GCM J-Series luminaire heads, model number GCL1-60G-MV-NW-3R-GY-530-WL-PCR7-LLPC-SC or City approved equal.The luminaire heads shall be 250W HPS equivalent or greater.

86-1.02M Photoelectric Controls

[Add the following:].

Contractor to furnish and install Type V photoelectric control on the side of all new service equipment enclosures.

86-1.02P Enclosures

86-1.02P(2) Service Equipment Enclosures

[Add the following:].

The contractor shall be responsible for carrying out the work in any Edison prepared design drawings to establish service connection to the intersection.

The contractor shall furnish and install a Type II-B service cabinet on the new traffic signal cabinet with a Type V photoelectric control on the side of the service equipment enclosure. The Contractor shall furnish all work and materials required to provide the intended service and coordinate work with the Edison Company well in advance of this work. The Contractor shall pay all electrical service connection and design fees.

A new 3” schedule 80 PVC conduit shall be furnished and installed from the existing SCE pull box to the base of signal cabinet foundation. At the base of the signal cabinet foundation a 3” to 2.5” schedule 80 reducer fitting shall be installed and 2.5” schedule 80 conduit installed into the service cabinet. The new service cabinet shall provide a 100 amp main breaker, 50 amp signal breaker, 30 amp safety lighting breaker, 15 amp IISNS breaker, and spare 15 amp breaker. It shall be the Contractor’s responsibility to establish all electrical service connections for the traffic signal and lighting system and for any work seen or unforeseen during this process.

Service cabinets shall be aluminum (0.125-inch minimum thickness) with seams continuously welded meeting Caltrans Standards, unpainted aluminum, and anti-graffiti coated per the Engineer’s direction.

All work and materials required to provide the intended service shall be furnished and performed, including coordinating with 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.

86-1.02Q Cabinets

86-1.02Q(3) Controller Cabinets

[Replace the entire section with the following:].

1. Controller/Cabinet Assembly

Contractor shall furnish and install Econolite (or Approved Equal) new TS2 Type 2 P-44 full Cabinet Assembly on new foundation.

Solid-state traffic actuated controller unit, cabinet and auxiliary equipment shall conform to the provisions in Section 86-1.02Q(3), "Controller Cabinets", these Special Provisions, and NEMA TS-2 standards.

Contractor shall furnish and install Econolite Cobalt ATC Controller unit and appurtenances in new signal cabinet as indicated on the plans.

Contractor shall furnish and install all miscellaneous items as necessary to produce a fully- operational system in accordance with the plans, these technical provisions, Caltrans Standard Plans and Standard Specifications. Power distribution panel, inside auxiliary control panel, and police panel shall be hard wired. Plug-N-Go shall not be used.

2. Cabinet Assembly

The Contractor shall furnish and install Type "P-44" aluminum cabinet assembly as indicated that including but not limited to the following items:

i. One (1) - Fully wired eight (8) phase NEMA TS2 Type 2 "P-44" unpainted aluminum cabinet.
ii. One (1) - Econolite Cobalt ATC Controller unit with data key, Ethernet port, and FSK Telemetry, with 32 channels of detection. **Controller shall be equipped with Econolite EOS software.**
iii. One (1) - Malfunction Management Unit with LCD display (programmed for the intersection).
iv. One (8) position TS2 detector rack with (8) two-channel detection as indicated on plan and one (1) Bus Interface Unit, per rack.
v. Sixteen (16) position vertical load bay.
vi. Twelve (12) load switches.
vii. One (1) - Controller cabinet power supply.
viii. One (1) – Slide Drawer Shelf

Work shall be performed by a qualified traffic signal technician, certified to perform the cabinet hardware installations as required. The contractor shall furnish and install all necessary material, equipment and appurtenances required for intended operation as shown in the plans and as outlined in these specifications.

3. Cabinet Construction

Cabinet shall meet, as a minimum, all applicable sections of the NEMA Standard Publication. Where differences occur, this specification shall govern. The cabinet shall meet the following criteria:

i. Material shall be aluminum sheet, 5052-H32, with a minimum thickness of 0.125- inch.
ii. The cabinet exterior shall be unpainted aluminum finish as indicated and with a white interior.
iii. The door hinge shall be of the continuous type with a stainless-steel hinge pin.
iv. The door handle shall be cast aluminum.
v. All seams shall be sealed with RTV sealant or equivalent material on the interior of the cabinet.
vi. Cabinet lock shall be of the Corbin No. 2 type.
vii. The cabinet shall have four (4) sets of cabinet wiring diagrams.
viii. The cabinet shall have one (1) set of equipment manuals (Controller, MMU, etc.).

Shelves

Two (2) aluminum shelves extending completely across the back of the cabinet in the top cabinet area.

1. The first aluminum shelf extending completely across the back of the cabinet shall be provided to support the detector rack(s) and power supply.

2. The second aluminum shelf extending completely across the back of the cabinet shall be provided to support the controller and master (for future requirement provision) and the MMU.

Equipment Accessibility

All mounted panels and equipment shall have a minimum tool access clearance of 6".
Ventilating Fan SP14 The cabinet shall be provided with one (1) thermostatically-controlled ventilation fan, adjustable between 80o to 150o F and shall be installed in the top of the cabinet plenum.

Air Filter Assembly

The cabinet Air Filter shall be a one-piece removable, medium efficiency, synthetic, pleated (Econolite Part No. 57389P11) air filter and shall be firmly secured to the air entrance of the cabinet.

Cabinet Light Assembly

The cabinet shall be equipped with an LED lighting fixture mounted on the inside of the cabinet near the front edge. The LED light shall be activated by an On/Off switch that is turned on when the cabinet door is opened and turned off when the door is closed.

The cabinet shall have a gooseneck type lighting fixture that shall be mounted on the inside of the door near the hinge. The gooseneck light shall be activated by an On/Off switch that is turned on when the cabinet door is opened and turned off when the door is closed.

Lightning Suppression

The cabinet shall be equipped with an EDCO Model SHP-300-10 surge arrester, or City approved equivalent.

Power Panel

The Power Panel shall house the following equipment:

1. One (1) 40 Amp main breaker to supply power to the main panel, controller, MMU, and cabinet power supply.
2. One (1) 15 Amp auxiliary breaker to supply power to the fan, light, and GFCI outlet.
3. One (1) 50 Amp, 125 VAC radio interference line filter.
4. One (1) normally-open, 60 Amp, Crydom Model #HA8475 solid state relay, or City approved equivalent.

Convenience Outlet

Two (2) duplex outlets shall be supplied, as per the following:

1. The first is for short-term equipment use, 120-volt AC, 15 Amp NEMA 5-15 GFCI duplex outlet, and shall be mounted in the lower right corner of the cabinet facing the inside of the cabinet door and within 6" of the front edge of the opening of the door.

2. The second is for long-term equipment use, 120-volt AC, 15 Amp NEMA duplex outlet, and shall be mounted in the upper right corner of the cabinet facing the inside of the cabinet. Power shall be supplied from un-switched filtered power.

Inside Auxiliary Control Panel Switches

The inside door panel shall contain three (3) switches: Auto/Flash, Auto/Off/On Stop-Time, and Power On/Off. Auxiliary door panel switches shall be hard wired; printed circuit boards shall not be used.

1. Auto/Flash Switch (2-Position): In the Auto position, the intersection shall operate normally. In the Flash position, power shall be maintained to the controller and the intersection shall be placed in flash. The controller shall not be stop timed when in flash. A guard shall be installed to prevent the switch from being shut off accidentally.

2. Auto/Off/On Stop-Time Switch (3-Position): In the Auto position, the controller shall be stop timed when the police door Auto/Flash Switch is in the Flash position or MMU flash. In the Off position, the switch shall release all stop time from controller. In the On position, the switch shall maintain a continuous stop time to the controller.

3. Controller Power On/Off Switch (2-Position): This switch shall control the controllers AC power. A guard shall be installed to prevent the switch from being shut off accidentally.

Police Panel

The Police Panel shall contain two (2) switches: Signals On/Off and Auto/Flash. All police panel switches shall be hard wired; printed circuit boards shall not be used.

1. Signals On/Off Switch (2-Position) In the On position, the field displays shall show either normal operation or flash. In the Off position, power shall be removed from signal heads in the intersection. The controller shall continue to operate. In the Off position, the MMU shall not conflict or require reset.

2. Auto/Flash Switch (2-Position) In the Auto position, the intersection shall operate normally based on all other switches. In the Flash position, power shall not be removed from the controller and stop time shall be applied based on the Stop- Time switch.

4. Cabinet Wiring

Cables

All Controller and MMU cables shall have sufficient length to access any shelf position. All cables shall be encased in a protective sleeve along their entire free length.

All cabinet wiring shall be color coded as follows:

Purple = Flash Color programming
Brown = Green Signal wiring
Yellow = Yellow Signal wiring
Red = Red Signal wiring
Blue = Controller wiring
Gray = DC ground return, logic ground
Black = AC positive
White = AC negative
Green = Chassis
Main-Panel and Wire Terminations

All wires terminated behind the main-panel and other panels shall be soldered. No pressure or solder-less connectors shall be used. Printed circuit boards shall not be used on main panels.

Flashing Operation

Cabinet shall be wired for NEMA flash. All cabinets shall be wired to flash Red for all phases. Flashing display shall alternate between phases 1, 4, 5 and 8, and phases 2, 3, 6 and 7.

Detector Rack and Interface

A minimum of one (1) TS-2 Vehicle Loop detector rack with field termination panel, TS-2 power supply, and SDLC cable shall be provided for each new signal cabinet. Each individual rack shall support up to sixteen (16) channels of loop/video detection and one (1) BIU.

Main Panel Configuration

The main panel shall be fully wired in the following configuration:

1. Sixteen (16) vertical load sockets.
2. Six (6) flash transfer relay sockets.
3. One (1) flasher socket.
4. Wiring for both Type 1 and Type 2 Controllers.
5. Wiring for one Type 16 MMU.

Field Terminal Locations

Field terminals shall be located at the bottom of the main panel and angled forward for easy viewing and wiring. The order shall be from left to right beginning with phase one and following the order of the load switches. Field terminals shall be of the barrier type.

5. Cabinet Equipment

Detectors

New cabinets shall be equipped with the proper number of detector slots and cards, as required for intended operation.

Controller Unit

New cabinets shall be equipped with one (1) Econolite Cobalt ATC controller. Controller shall be system ready for communication on the Centracs Traffic Signal Management/Monitoring software. Controller shall allow logging of Alarm inputs. Controller software shall be the new Econolite EOS software.

Malfunction Management Unit (MMU)

New cabinets shall be equipped with a NEMA TS2 Type 16 MMU with the latest current released software. MMU jumper cards shall be programmed to specific intersection's requirements.

Bus Interface Unit (BIU)

BIU's shall meet all TS2-1992, Section 8 requirements. In addition, all BIU's shall provide three (3) separate front panel indicators: Power, Valid Data, and Transmit.

Cabinet Power Supply

The cabinet power supply shall meet the NEMA TS2 specification. All power supplies shall also provide a separate front panel indicator LED for each of the four (4) power outputs. Front panel banana jack test points for 24 VDC and logic ground shall also be provided.

Telemetry Interface Panel

Cabinet shall be wired with a telemetry interface panel and telemetry connecting cable that can communicate with the Centracs Traffic Signal Management/Monitoring master software. The cabinet shall be wired for telemetry transient suppression, EDCO Model No. PC642C-00-AD, or City approved equivalent.

Flasher Unit

All flasher units shall meet NEMA TS-2, Section 6 requirements and shall be EDI Model 810, or City approved equivalent.

Intersection Diagram

For the new cabinets, an intersection diagram prepared in AutoCAD shall be provided on an 8.5" x 11" sheet of paper and enclosed in a protective plastic cover. The diagram and protective cover shall be located on the inside of the cabinet door above the Auxiliary Panel. The diagram shall depict the general intersection layout, phases, overlaps, detector assignments, and north arrow. The top of the diagram will be north and the diagram shall be pre-approved by the City Engineer.

Cabinet Wiring Diagram

New cabinet wiring diagrams shall be arranged on three (3) separate sheets in a simplistic way to facilitate the reading of it. The first sheet shall represent everything on the left side of the cabinet, the second sheet everything in the middle of the cabinet including the main panel, and the third sheet everything on the right side of the cabinet. The final cabinet wiring diagram layout shall be approved by the City Engineer.

86-1.02R Signal Heads

[Add the following:]

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, if used, shall be programmed at the direction of the Engineer. The color of all signal heads shall be black.

86-1.02R(4) Signal Faces

[Add the following:].

All new circular signal indications shall be 12” GE VLA Model LED Signal Modules with an incandescent look & arrow indications shall be 12” GE GTX City VLA Model with an incandescent look. The red and green indications shall be clear and the yellow indication shall be tinted. A five-year warrantee shall be provided on all LED lenses furnished by the manufacturer. A Certificate of Compliance from the manufacturer shall be submitted to the Engineer, and a copy of the LED purchase order, product specification, certificate of compliance and warrantee. If programmed visibility (PV) signal heads are used, they shall be LED.

86-1.02T Accessible Pedestrian Signals

[Add the following:].

When an Accessible Pedestrian Signal (APS) system is required, the Contractor shall furnish and install a Polara APS system. The APS system shall include Polara Push Button Station, Central Control Unit (CCU2EN) and E-Configurator and all necessary equipment, mounts, cabling, connectors, and any other items necessary to provide the intended operation as shown on the plans. All Accessible Pedestrian Signals shall have a 10’ minimum physical separation between them per California MUTCD requirements.

The contractor shall coordinate with the manufacturer and submit to the City specification sheets for the programming of the audible feedback messaging for each pedestrian crossing for City approval.

For APS push buttons, the push button sign shall be an R10-3e (9”x15”) sign with back plate attachment.

86-1.02U Push Button Assemblies

[Add the following:].

Pedestrian push button assemblies shall be the Polara iNS Navigator 2-wire push button station with PEU and anti-vandal.

The push button shall be 40” high from the finished 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.

Push button housing shall be the color black or yellow (per Engineer approval) and consist of the ADA push button and an attached R10-3e (9”x15”) sign with back plate attachment. The sign shall be attached and securely supported by the framework, and not extend beyond the framework.

87 ELECTRICAL SYSTEMS

87-1 General

87-1.03 Construction

87-1.03B Conduit Installation

87-1.03B(1) General

[Add the following:].

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.

Rock wheeling shall be allowed only if authorized in writing by the Engineer. The Engineer prior to work shall approve the method of rock wheeling. Conduit installation under pavement, curb/gutter areas shall be by boring method approved by the Engineer.

No open cutting shall be permitted for streets in City moratorium areas, unless City Standard roadway repair moratorium compliance measures are implemented. Any work in designated moratorium areas will include AC pavement mill and overlay work extending 50’ beyond the damaged area, within each affected travel lane.

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, 411, 413 and 414 for sidewalk replacement. All existing plant and irrigation materials including but not limited to sod, trees and bushes damaged by trenching or boring work shall be replaced in kind, at no additional compensation.

Within pull boxes, conduit shall be placed to meet minimum clearances between the pull box 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 existing and proposed cable and/or conductors. Work shall conform to Caltrans Standard Specifications 86-1.02B and 87-1.03B. The ends of conduit termination in pull boxes and controller cabinets shall be sealed with an approved type of sealing compound.

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 inches. Use minimum bending radius as permitted by Appendix H of ICEA S-19/NEMA WC 3 and SMFO cable manufacturer's recommendations.

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 immediately after installation of conductors. 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 each day; final resurfacing shall be completed within five (5) working days on all streets and all trenches maintained in a safe condition.

Work shall include furnishing and installing 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, modification of conduit entrances, 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 shall be lowered, modified and/or adjusted as required to accommodate the intended improvements at no additional compensation. 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.

87-1.03B(3) Conduit Installation Underground

87-1.03B(3)(a) General

[Remove the section from lines 1 to 5].

[Add the following:].

Conduit depth shall be per the latest approved City of Costa Mesa standard plans and drawings.

87-1.03C Installation of Pull Boxes

87-1.03C(1) General

[Add the following:].

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 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 inches.

Pull box Installation Details – 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 1and 2 inches in depth and shall be sloped towards the drain hole. A layer of roofing paper 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 87-1.03E, “Excavating and Backfilling for Electrical Systems” 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 damaged 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 in accordance with the State Standard Specifications at the cost of the Contractor and not the City.

Pull box Adjustments – 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 pull box grade is lower than that of the adjacent surface area grade at no additional cost to the City. Work shall conform to Caltrans Standard Specifications 87-1.03C. 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.

87-1.03F Conductors and Cables Installations

87-1.03F(2) Cables

87-1.03F(2)(a) General

[Add the following:].

The 12 CSC and 3 CSC cables shall be run continuous between terminal block terminals and traffic signal controller cabinet load switch bay terminals. Splices will not be allowed and no daisy-chaining of traffic signal cables shall be permitted.

Mast-arm mounted traffic signal indications shall be connected to the side mount vehicle indication terminal box using a 5 CSC. Three section and four section vehicle indications shall use a single 5 CSC. Five section vehicle indications shall use 2-5 CSC. 5 CSC shall be run continuous between the signal indication and the side mount vehicle indication terminal box and no splicing will be allowed. Multiple indications for the same vehicle phase shall not use the same 5 CSC. Each CSC shall be labeled in a permanent, color-coded manner at the side mount vehicle indication terminal box, such that the vehicle phase and placement are noted on the cable. For example, Ø2 Inboard would indicate the cable serving the indication closest to the traffic signal mast arm pole.

The contractor shall provide cable slack to comply with the requirements shown in Caltrans RSP Section 87-1.03F(1). Contractor shall install a tracer wire in all electrical conduits.

87-1.03R Signal Heads

87-1.03R(1) General

[Add the following:].

Mounting hardware configurations shall be approved by the Engineer prior to installation. Vehicle head mounting assemblies shall be configured and adjusted by the Contractor as directed by the Engineer at no additional contract cost.

The top opening of signal heads shall be sealed with a neoprene gasket. LED’s shall be products pre-qualified by the Caltrans’ Testing Laboratory. 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 slip-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 brush 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.

Payment

Payment for Compensation for "Furnish and Install New Traffic Signal (HAWK) (Project B)" (Bid Item No. 3B) shall be per the Lump Sum bid fee and additional compensation shall not be allowed. The Lump Sum price shall include full compensation for furnishing all labor, material, appurtenances, tools, equipment and incidentals, potholing of all new traffic signal pole foundations, and for doing all work involved as specified on the Plans and these Specifications.

PROJECT C: NEW HAWK SIGNAL AT WILSON STREET ACROSS FROM WILSON PARK

PROJECT DESCRIPTION

The Project consists of furnishing and installing a new traffic signal (HAWK) at the intersection of Wilson Street at Fordham Drive across from Wilson Park. Improvements also include required signing and striping changes.

BID ITEM NO. 3C: ***FURNISH AND INSTALL NEW HAWK SIGNAL, INCLUDING ALL APPURTENANT MATERIAL, EQUIPMENT, LABOR, AND CONSTRUCTION TO PRODUCE A FULL FUNCTIONING HAWK SIGNAL***

The following additions are made to the "Standard Specifications." If there is a conflict between the "Standard Specifications" and these additions, these additions shall have precedence. Provisions of Sections 12, 56, 84, 86 and 87 of the Standard Specifications and Standard Plans (2018), and any applicable errata (or Revised Standard Plans) of the State of California, Department of Transportation shall apply to all construction materials, methods, and payment for traffic signal and lighting work, except as stated herein.

Any curb ramp modification and minor concrete work and materials shall comply with Section 73 "Concrete Curbs and Sidewalk" and of the 2018 CSP and RSP. The Contractor shall furnish all material, services, labor and equipment necessary to provide the improvements shown on the plans and as detailed in these special provisions.

4 SCOPE OF WORK

4-1.03 Work Description

[Add the following:].

The scope of work in general consists of furnishing and installing a new traffic signal (HAWK) at Wilson Street at Fordham Drive, across from Wilson Park, including the furnishing and installing of new signal poles and foundations, signal and luminaire mast arm, controller, cabinet, vehicle and pedestrian signal heads, signs, safety lighting, push button, conduit, conductors and cable, service, and all work, materials and equipment required to provide operation as shown on the Plan and these Specifications. Work,

materials and equipment shall conform to the provisions in Division X, “Electrical Work”, of the Caltrans Standard Specifications dated 2018, and these Special Provisions.

6 CONTROL OF MATERIALS

6-2 Quality Assurance

6-2.03 Department Acceptance

6-2.03B Job Site Inspection and Testing

[Add the following:].
It shall be the Contractor’s responsibility to arrange the furnishing, testing, pick-up, and delivery of all items to the project site. Any costs involved to test, deliver and install equipment shall be borne by the Contractor and be considered as included in the lump sum price and no additional compensation shall be allowed.

Following notification, the Contractor must complete a satisfactory “turn-on” within a reasonable time of the day and hour specified in the notification. When a turn-on is not completed, as specified above, it shall be canceled and rescheduled with the Engineer. The turn-on shall not be made on Friday or the day preceding a legal holiday. The Engineer shall be notified at least 48 hours prior to the intended turn-on and shall authorize the “turn-on” day and hour.

The installation resistance shall not be less than 100 megohms on all circuits when the megger tests are performed. Testing shall not be conducted until all control and/or sensor units and probes have been disconnected from the circuit.

The signal monitoring unit shall be tested in the field before “turn-on”. Five days of continuous satisfactory operation as called for in Section 87-1.01D, “Quality Assurance,” of the Standard Specifications shall be provided.

8 PROSECUTION AND PROGRESS

8-1.02 Schedule

8-1.02A General

[Add the following:].

The Contractor shall initiate procurement of traffic signal equipment immediately upon contract authorization and begin assessment of utility locations. The Engineer shall approve the scheduling and sequence of all construction work prior to performing the construction activity. The Contract shall contact each utility company to coordinate and schedule work and provide written correspondence to the Engineer.

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. During the

course of construction, no additional compensation will be provided for the correction of the differences between the plans and in the field.

The Contractor shall attend a pre-construction meeting within one (1) week following contract award. No actual project working days shall be charged for these activities. The Contractor shall notify the City in writing of the start date of actual field construction.

Excavation, conduit installation, pull boxes and foundations should be coordinated in a most expedient manner to minimize the disruption and inconvenience of an extended construction schedule. Construction once started shall be pursued daily through project completion.

The Contractor is responsible for securing an adequate storage site for equipment and materials. The Contractor shall provide supervisory personnel to keep the construction site in a safe, neat and orderly condition at all times. No Materials or equipment shall be stored at the job sites unless approval is issued by the Engineer.

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 drawings, specifications, and other related documents.

56 OVERHEAD SIGN STRUCTURES, STANDARDS, AND POLES

56-3 Standards, Poles, Pedestals, And Posts

56-3.01C(2) Foundations

56-3.01C(2)(a) General

[Add the following:].

Portland Cement Concrete (PCC) shall conform to Section 90-2, “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. Anchor bolts and cages shall be furnished and installed by the Contractor conforming to Caltrans standards. The contractor shall verify the bolt pattern of each pole prior to foundation installation.

After all utility locations are exactly established, the Contractor shall contact Engineer for authorization of specific pole foundation location.

56-3.02 Steel Standards, Poles, Pedestals, and Posts

56-3.02A General

[Add the following:].

Contractor shall furnish and install poles, nuts, bolts, washers, cages, and other hardware as required conforming to 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.

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 be maintained in a neat and orderly condition and safe pedestrian pathways provided at all times 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.

86 GENERAL (DIVISION X ELECTRICAL WORK)

86-1.02 Materials

86-1.02B Conduit and Accessories

86-1.02B(1) General

[Add the following:].

Conduit shall be High Density Polyethylene (grey color) – HDPE, IPS SDR11 GPE, or Schedule 80 PVC, unless otherwise approved 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.

Pull tape shall be furnished and installed in each new conduit run. Pull tape must be a flat, woven, lubricated, soft-fiber, polyester tape with a minimum tensile strength of 1,800 lb. The tape must have sequential measurement markings every 3 feet.

Tracer wire shall be furnished and installed in each conduit run and shall be a minimum No. 12 solid copper conductor with orange insulation Type TW, THW, RHW, or USE.

86-1.02C Pull Boxes

86-1.02C(1) General

[Remove section from lines 6 to 23].

[Add the following:].

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 shall be Christy N-series composite and lids shall be lightweight fiber material, “Fiberlyte”.

All pull boxes shall be factory-made standard size No.6 pull boxes unless otherwise noted on the plans or directed by the Engineer. Home run pull boxes or pull boxes containing fiber splice enclosures shall be size No. 6 with extension (#6E) unless otherwise noted on the plans or directed by the Engineer. The cover marking for each pull box shall read "TRAFFIC SIGNAL" for traffic signal pull boxes, “LIGHTING” for lighting pull boxes, or “INTERCONNECT” for pull boxes for interconnect/communications. If a mix of one system is used in a pull box such as traffic signal and interconnect, then “TRAFFIC SIGNAL” shall be the label of the cover. Pull boxes shall be provided with locking mechanisms as specified in the State Standard Plans and shall be gray in color.

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

Pull boxes adjacent to Traffic Signal poles shall have 10 foot ground rod with ground clamp and shall be fastened to bare grounding conductor from Traffic Signal pole. No new pull box shall be located within five feet of a water meter or fire hydrant. Replace sidewalk in-kind to match existing material, color, and pattern, from score mark to score mark after pull boxes have been installed.

86-1.02F Conductors and Cables

86-1.02F(1) General

[Add the following:].

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.”.

Individual conductors shall not be used for new traffic signal installations or modifications of existing traffic signals unless specifically directed by the ENGINEER and shown on the plans.
Each traffic signal pole shall be served by a single 12 CSC cable per each two vehicle phases. Each pedestrian push button or bicycle push button assembly shall be served by a single 3 CSC.

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.

86-1.02F(1)(c)(ii) Bonding Jumpers and Equipment Grounding Conductors

[Add the following:].

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.

86-1.02K Luminaires

86-1.02K(1) General

[Add the following:].

Luminaire heads shall be LED-type. All luminaire heads shall be equipped with utility wattage labels. LED Luminaires shall be Leotek GCL G-series “legacy” or GCM J-Series luminaire heads, model number GCL1-60G-MV-NW-3R-GY-530-WL-PCR7-LLPC-SC or City approved equal The luminaire heads shall be 250W HPS equivalent or greater.

86-1.02M Photoelectric Controls

[Add the following:].

Contractor to furnish and install Type V photoelectric control on the side of all new service equipment enclosures.

86-1.02P Enclosures

86-1.02P(2) Service Equipment Enclosures

[Add the following:].

The contractor shall be responsible for carrying out the work in any Edison prepared design drawings to establish service connection to the intersection.

The contractor shall furnish and install a Type II-B service cabinet on the new traffic signal cabinet with a Type V photoelectric control on the side of the service equipment enclosure. The Contractor shall furnish all work and materials required to provide the intended service and coordinate work with the Edison Company well in advance of this work. The Contractor shall pay all electrical service connection and design fees.

A new 3” schedule 80 PVC conduit shall be furnished and installed from the existing SCE pull box to the base of signal cabinet foundation. At the base of the signal cabinet foundation a 3” to 2.5” schedule 80 reducer fitting shall be installed and 2.5” schedule 80 conduit installed into the service cabinet. The new service cabinet shall provide a 100 amp main breaker, 50 amp signal breaker, 30 amp safety lighting breaker, 15 amp IISNS breaker, and spare 15 amp breaker. It shall be the Contractor’s responsibility to establish

all electrical service connections for the traffic signal and lighting system and for any work seen or unforeseen during this process.

Service cabinets shall be aluminum (0.125-inch minimum thickness) with seams continuously welded meeting Caltrans Standards, unpainted aluminum, and anti-graffiti coated per the Engineer's direction.

All work and materials required to provide the intended service shall be furnished and performed, including coordinating with 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.

86-1.02Q Cabinets

86-1.02Q(3) Controller Cabinets

[Replace the entire section with the following:].

1. Controller/Cabinet Assembly

Contractor shall furnish and install Econolite (or Approved Equal) new TS2 Type 2 P-44 full Cabinet Assembly on new foundation.

Solid-state traffic actuated controller unit, cabinet and auxiliary equipment shall conform to the provisions in Section 86-1.02Q(3), "Controller Cabinets", these Special Provisions, and NEMA TS-2 standards.

Contractor shall furnish and install Econolite Cobalt ATC Controller unit and appurtenances in new signal cabinet as indicated on the plans.

Contractor shall furnish and install all miscellaneous items as necessary to produce a fully- operational system in accordance with the plans, these technical provisions, Caltrans Standard Plans and Standard Specifications. Power distribution panel, inside auxiliary control panel, and police panel shall be hard wired. Plug-N-Go shall not be used.

2. Cabinet Assembly

The Contractor shall furnish and install Type "P-44" aluminum cabinet assembly as indicated that including but not limited to the following items:

i. One (1) - Fully wired eight (8) phase NEMA TS2 Type 2 "P-44" unpainted aluminum cabinet.
ii. One (1) - Econolite Cobalt ATC Controller unit with data key, Ethernet port, and FSK Telemetry, with 32 channels of detection.
iii. One (1) - Malfunction Management Unit with LCD display (programmed for the intersection).

iv. One (8) position TS2 detector rack with (8) two-channel detection as indicated on plan and one (1) Bus Interface Unit, per rack.
v. Sixteen (16) position vertical load bay.
vi. Twelve (12) load switches.
vii. One (1) - Controller cabinet power supply.
viii. One (1) – Slide Drawer Shelf

Work shall be performed by a qualified traffic signal technician, certified to perform the cabinet hardware installations as required. The contractor shall furnish and install all necessary material, equipment and appurtenances required for intended operation as shown in the plans and as outlined in these specifications.

3. Cabinet Construction

Cabinet shall meet, as a minimum, all applicable sections of the NEMA Standard Publication. Where differences occur, this specification shall govern. The cabinet shall meet the following criteria:
i. Material shall be aluminum sheet, 5052-H32, with a minimum thickness of 0.125- inch.
ii. The cabinet exterior shall be unpainted aluminum finish as indicated and with a white interior.
iii. The door hinge shall be of the continuous type with a stainless-steel hinge pin.
iv. The door handle shall be cast aluminum.
v. All seams shall be sealed with RTV sealant or equivalent material on the interior of the cabinet.
vi. Cabinet lock shall be of the Corbin No. 2 type.
vii. The cabinet shall have four (4) sets of cabinet wiring diagrams.
viii. The cabinet shall have one (1) set of equipment manuals (Controller, MMU, etc.).

Shelves

Two (2) aluminum shelves extending completely across the back of the cabinet in the top cabinet area.

1. The first aluminum shelf extending completely across the back of the cabinet shall be provided to support the detector rack(s) and power supply.

2. The second aluminum shelf extending completely across the back of the cabinet shall be provided to support the controller and master (for future requirement provision) and the MMU.

Equipment Accessibility

All mounted panels and equipment shall have a minimum tool access clearance of 6".
Ventilating Fan SP14 The cabinet shall be provided with one (1) thermostatically-controlled ventilation fan, adjustable between 80o to 150o F and shall be installed in the top of the cabinet plenum.

Air Filter Assembly

The cabinet Air Filter shall be a one-piece removable, medium efficiency, synthetic, pleated (Econolite Part No. 57389P11) air filter and shall be firmly secured to the air entrance of the cabinet.

Cabinet Light Assembly

The cabinet shall be equipped with an LED lighting fixture mounted on the inside of the cabinet near the front edge. The LED light shall be activated by an On/Off switch that is turned on when the cabinet door is opened and turned off when the door is closed.

The cabinet shall have a gooseneck type lighting fixture that shall be mounted on the inside of the door near the hinge. The gooseneck light shall be activated by an On/Off switch that is turned on when the cabinet door is opened and turned off when the door is closed.

Lightning Suppression

The cabinet shall be equipped with an EDCO Model SHP-300-10 surge arrester, or City approved equivalent.

Power Panel

The Power Panel shall house the following equipment:

1. One (1) 40 Amp main breaker to supply power to the main panel, controller, MMU, and cabinet power supply.
2. One (1) 15 Amp auxiliary breaker to supply power to the fan, light, and GFCI outlet.
3. One (1) 50 Amp, 125 VAC radio interference line filter.
4. One (1) normally-open, 60 Amp, Crydom Model #HA8475 solid state relay, or City approved equivalent.

Convenience Outlet

Two (2) duplex outlets shall be supplied, as per the following:

1. The first is for short-term equipment use, 120-volt AC, 15 Amp NEMA 5-15 GFCI duplex outlet, and shall be mounted in the lower right corner of the cabinet facing the inside of the cabinet door and within 6" of the front edge of the opening of the door.

2. The second is for long-term equipment use, 120-volt AC, 15 Amp NEMA duplex outlet, and shall be mounted in the upper right corner of the cabinet facing the inside of the cabinet. Power shall be supplied from un-switched filtered power.

Inside Auxiliary Control Panel Switches

The inside door panel shall contain three (3) switches: Auto/Flash, Auto/Off/On Stop-Time, and Power On/Off. Auxiliary door panel switches shall be hard wired; printed circuit boards shall not be used.

1. Auto/Flash Switch (2-Position): In the Auto position, the intersection shall operate normally. In the Flash position, power shall be maintained to the controller and the intersection shall be placed in flash. The controller shall not be stop timed when in flash. A guard shall be installed to prevent the switch from being shut off accidentally.

2. Auto/Off/On Stop-Time Switch (3-Position): In the Auto position, the controller shall be stop timed when the police door Auto/Flash Switch is in the Flash position or MMU flash. In the Off position, the switch shall release all stop time from controller. In the On position, the switch shall maintain a continuous stop time to the controller.

3. Controller Power On/Off Switch (2-Position): This switch shall control the controllers AC power. A guard shall be installed to prevent the switch from being shut off accidentally.

Police Panel

The Police Panel shall contain two (2) switches: Signals On/Off and Auto/Flash. All police panel switches shall be hard wired; printed circuit boards shall not be used.

1. Signals On/Off Switch (2-Position) In the On position, the field displays shall show either normal operation or flash. In the Off position, power shall be removed from signal heads in the intersection. The controller shall continue to operate. In the Off position, the MMU shall not conflict or require reset.

2. Auto/Flash Switch (2-Position) In the Auto position, the intersection shall operate normally based on all other switches. In the Flash position, power shall not be removed from the controller and stop time shall be applied based on the Stop- Time switch.

4. Cabinet Wiring

Cables

All Controller and MMU cables shall have sufficient length to access any shelf position. All cables shall be encased in a protective sleeve along their entire free length.

All cabinet wiring shall be color coded as follows:

Purple = Flash Color programming
Brown = Green Signal wiring
Yellow = Yellow Signal wiring
Red = Red Signal wiring
Blue = Controller wiring
Gray = DC ground return, logic ground
Black = AC positive

White = AC negative
Green = Chassis
Main-Panel and Wire Terminations

All wires terminated behind the main-panel and other panels shall be soldered. No pressure or solder-less connectors shall be used. Printed circuit boards shall not be used on main panels.

Flashing Operation

Cabinet shall be wired for NEMA flash. All cabinets shall be wired to flash Red for all phases. Flashing display shall alternate between phases 1, 4, 5 and 8, and phases 2, 3, 6 and 7.

Detector Rack and Interface

A minimum of one (1) TS-2 Vehicle Loop detector rack with field termination panel, TS-2 power supply, and SDLC cable shall be provided for each new signal cabinet. Each individual rack shall support up to sixteen (16) channels of loop/video detection and one (1) BIU.

Main Panel Configuration

The main panel shall be fully wired in the following configuration:

1. Sixteen (16) vertical load sockets.
2. Six (6) flash transfer relay sockets.
3. One (1) flasher socket.
4. Wiring for both Type 1 and Type 2 Controllers.
5. Wiring for one Type 16 MMU.

Field Terminal Locations

Field terminals shall be located at the bottom of the main panel and angled forward for easy viewing and wiring. The order shall be from left to right beginning with phase one and following the order of the load switches. Field terminals shall be of the barrier type.

5. Cabinet Equipment

Detectors
New cabinets shall be equipped with the proper number of detector slots and cards, as required for intended operation.

Controller Unit

New cabinets shall be equipped with one (1) Econolite Cobalt ATC controller. Controller shall be system ready for communication on the Centracs Traffic Signal Management/Monitoring software. Controller shall allow logging of Alarm inputs. Controller software shall be the new Econolite EOS software.

Malfunction Management Unit (MMU)

New cabinets shall be equipped with a NEMA TS2 Type 16 MMU with the latest current released software. MMU jumper cards shall be programmed to specific intersection's requirements.

Bus Interface Unit (BIU)

BIU's shall meet all TS2-1992, Section 8 requirements. In addition, all BIU's shall provide three (3) separate front panel indicators: Power, Valid Data, and Transmit.

Cabinet Power Supply

The cabinet power supply shall meet the NEMA TS2 specification. All power supplies shall also provide a separate front panel indicator LED for each of the four (4) power outputs. Front panel banana jack test points for 24 VDC and logic ground shall also be provided.

Telemetry Interface Panel

Cabinet shall be wired with a telemetry interface panel and telemetry connecting cable that can communicate with the Centracs Traffic Signal Management/Monitoring master software. The cabinet shall be wired for telemetry transient suppression, EDCO Model No. PC642C-00-AD, or City approved equivalent.

Flasher Unit

All flasher units shall meet NEMA TS-2, Section 6 requirements and shall be EDI Model 810, or City approved equivalent.

Intersection Diagram

For the new cabinets, an intersection diagram prepared in AutoCAD shall be provided on an 8.5" x 11" sheet of paper and enclosed in a protective plastic cover. The diagram and protective cover shall be located on the inside of the cabinet door above the Auxiliary Panel. The diagram shall depict the general intersection layout, phases, overlaps, detector assignments, and north arrow. The top of the diagram will be north and the diagram shall be pre-approved by the City Engineer.

Cabinet Wiring Diagram

New cabinet wiring diagrams shall be arranged on three (3) separate sheets in a simplistic way to facilitate the reading of it. The first sheet shall represent everything on the left side of the cabinet, the second sheet everything in the middle of the cabinet including the main panel, and the third sheet everything on the right side of the cabinet. The final cabinet wiring diagram layout shall be approved by the City Engineer.

86-1.02R Signal Heads

[Add the following:]

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, if used, shall be programmed at the direction of the Engineer. The color of all signal heads shall be black.

86-1.02R(4) Signal Faces

[Add the following:].

All new circular signal indications shall be 12” GE VLA Model LED Signal Modules with an incandescent look & arrow indications shall be 12” GE GTX City VLA Model with an incandescent look. The red and green indications shall be clear and the yellow indication shall be tinted. A five-year warrantee shall be provided on all LED lenses furnished by the manufacturer. A Certificate of Compliance from the manufacturer shall be submitted to the Engineer, and a copy of the LED purchase order, product specification, certificate of compliance and warrantee. If programmed visibility (PV) signal heads are used, they shall be LED.

86-1.02U Push Button Assemblies

[Add the following:].

Pedestrian push button assemblies shall be the Polara BDL3 Bulldog III Series 3.5” stainless steel fully sealed assembly with latching Led and audible momentary buzzer and black powder coat manufactured by Polara Engineering Inc. The push button shall be 40” high from the finished 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.

Push button housing shall be the color black and consist of the ADA push button and an attached R10-3e (9”x15”) sign with back plate attachment. The sign shall be attached and securely supported by the framework, and not extend beyond the framework.

87 ELECTRICAL SYSTEMS

87-1 General

87-1.03 Construction

87-1.03B Conduit Installation

87-1.03B(1) General

[Add the following:].

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.

Rock wheeling shall be allowed only if authorized in writing by the Engineer. The Engineer prior to work shall approve the method of rock wheeling. Conduit installation under pavement, curb/gutter areas shall be by boring method approved by the Engineer.

No open cutting shall be permitted for streets in City moratorium areas, unless City Standard roadway repair moratorium compliance measures are implemented. Any work in designated moratorium areas will include AC pavement mill and overlay work extending 50’ beyond the damaged area, within each affected travel lane.

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, 411, 413 and 414 for sidewalk replacement. All existing plant and irrigation materials including but not limited to sod, trees and bushes damaged by trenching or boring work shall be replaced in kind, at no additional compensation.

Within pull boxes, conduit shall be placed to meet minimum clearances between the pull box 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 existing and proposed cable and/or conductors. Work shall conform to Caltrans Standard Specifications 86-1.02B and 87-1.03B. The ends of conduit termination in pull boxes and controller cabinets shall be sealed with an approved type of sealing compound.

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 inches. Use minimum bending radius as permitted by Appendix H of ICEA S-19/NEMA WC 3 and SMFO cable manufacturer's recommendations.

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 immediately after installation of conductors. 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 each day; final resurfacing shall be completed within five (5) working days on all streets and all trenches maintained in a safe condition.

Work shall include furnishing and installing 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, modification of conduit entrances, 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 shall be lowered, modified and/or adjusted as required to accommodate the intended improvements at no additional compensation. 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.

87-1.03B(3) Conduit Installation Underground

87-1.03B(3)(a) General

[Remove the section from lines 1 to 5].

[Add the following:].

Conduit depth shall be per the latest approved City of Costa Mesa standard plans and drawings.

87-1.03C Installation of Pull Boxes

87-1.03C(1) General

[Add the following:].

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 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 inches.

Pull box Installation Details - 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 1and 2 inches in depth and shall be sloped towards the drain hole. A layer of roofing paper 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 87-1.03E, “Excavating and Backfilling for Electrical Systems” 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 damaged 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 in accordance with the State Standard Specifications at the cost of the Contractor and not the City.

Pull box Adjustments - 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 pull box grade is lower than that of the adjacent surface area grade at no additional cost to the City. Work shall conform to Caltrans Standard Specifications 87-1.03C. 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.

87-1.03F Conductors and Cables Installations

87-1.03F(2) Cables

87-1.03F(2)(a) General

[Add the following:].

The 12 CSC and 3 CSC cables shall be run continuous between terminal block terminals and traffic signal controller cabinet load switch bay terminals. Splices will not be allowed and no daisy-chaining of traffic signal cables shall be permitted.

Mast-arm mounted traffic signal indications shall be connected to the side mount vehicle indication terminal box using a 5 CSC. Three section and four section vehicle indications shall use a single 5 CSC. Five section vehicle indications shall use 2-5 CSC. 5 CSC shall be run continuous between the signal indication and the side mount vehicle indication

terminal box and no splicing will be allowed. Multiple indications for the same vehicle phase shall not use the same 5 CSC. Each CSC shall be labeled in a permanent, color-coded manner at the side mount vehicle indication terminal box, such that the vehicle phase and placement are noted on the cable. For example, Ø2 Inboard would indicate the cable serving the indication closest to the traffic signal mast arm pole.

The contractor shall provide cable slack to comply with the requirements shown in Caltrans RSP Section 87-1.03F(1). Contractor shall install a tracer wire in all electrical conduits.

87-1.03R Signal Heads

87-1.03R(1) General

[Add the following:].

Mounting hardware configurations shall be approved by the Engineer prior to installation. Vehicle head mounting assemblies shall be configured and adjusted by the Contractor as directed by the Engineer at no additional contract cost.

The top opening of signal heads shall be sealed with a neoprene gasket. LED's shall be products pre-qualified by the Caltrans' Testing Laboratory. 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 slip-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 brush 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.

Payment

Payment for Compensation for "Furnish and Install New Traffic Signal (HAWK) (Project C)" (Bid Item No. 3C) shall be per the Lump Sum bid fee and additional compensation shall not be allowed. The Lump Sum price shall include full compensation for furnishing all labor, material, appurtenances, tools, equipment and incidentals, potholing of all new traffic signal pole foundations, and for doing all work involved as specified on the Plans and these Specifications.

SECTION "G"

APPENDIX "A"

PROJECT LOCATIONS AND MAP

CITYWIDE NEW TRAFFIC SIGNAL AND HAWK SIGNAL INSTALLATION PROJECT, CITY PROJECT NO. 22-07
PROJECT LOCATION MAPS

NEW TRAFFIC SIGNAL AT W. 19TH STREET & WALLACE AVENUE

NEW HAWK SIGNAL AT W. 18TH STREET ACROSS FROM LIONS PARK

CITYWIDE NEW TRAFFIC SIGNAL AND HAWK SIGNAL INSTALLATION PROJECT, CITY PROJECT NO. 22-07
PROJECT LOCATION MAPS

NEW HAWK SIGNAL AT WILSON STREET ACROSS FROM WILSON PARK

SECTION "G"

APPENDIX "B"

ENGINEERING DESIGN PLANS

CONSTRUCTION NOTES

1. FURNISH AND INSTALL ECONOLITE COBALT CONTROLLER ASSEMBLY IN NEW TS-2 TYPE-2 "P-44" CABINET ON RAISED 18" FOUNDATION EQUIPPED WITH 32 CHANNELS OF DETECTION. FURNISH AND INSTALL SENSORS, MMU, HARNESSES AND ALL REQUIRED APPURTENANCES INSIDE CONTROLLER CABINET AS NEEDED TO PROVIDE INTENDED OPERATION ON THESE PLANS. INSTALL 6 PORT FIBER PATCH PANEL. FURNISH AND INSTALL POLARA iNS NAVIGATOR APS SYSTEM. FURNISH AND INSTALL GLOBAL TRAFFIC TECHNOLOGIES (GTT) OPTICOM PHASE SELECTOR MODEL 764 IN NEW 760 CARD RACK COMPLETELY WITH 768 AUXILIARY INTERFACE PANEL AND ALL NECESSARY APPURTENANCES FOR INTENDED OPERATIONS. FURNISH AND INSTALL NEW ETHERWAN EX78802-0VBT WITH 2 FIBER SFP 100MB MODULE ETHERNET SWITCH. CONTRACTOR TO ASSIGN CITY-FURNISHED IP ADDRESS TO CONTROLLER AND ETHERNET SWITCH. FURNISH AND INSTALL NEW ITERIS VANTAGE VECTOR VIDEO/RADAR HYBRID DETECTION SYSTEM AND ALL NECESSARY APPURTENANCES INCLUDING MOUSE AND MONITOR SET-UP IN THE CONTROLLER CABINET. CONTRACTOR TO ASSIGN CITY-FURNISHED IP ADDRESS AND ESTABLISH LIVE VIDEO FEED WITH THE TRAFFIC MANAGEMENT CENTER (TMC). CONTRACTOR SHALL SCHEDULE TURN-ON SUPPORT WITH MANUFACTURER'S REPRESENTATIVES.
2. FURNISH AND INSTALL NEW 120/240 V TYPE II-B SIGNAL AND LIGHTING SERVICE ENCLOSURE WITH TYPE V PEC ON LEFT SIDE OF CONTROLLER ASSEMBLY COMPLETE. SERVICE SHALL INCLUDE A 100 AMP MAIN BREAKER, 50 AMP SIGNAL BREAKER, 30 AMP LIGHTING BREAKER, 15 AMP LIGHTED STREET NAME SIGN BREAKER AND 15 AMP SPARE. SIGNAL CIRCUIT IS 120V METERED AND LIGHTING IS 120V UNMETERED.
3. INSTALL NEW 3" CONDUIT UP TO 3' OF SCE PULLBOX TO ALLOW FOR SWEEP. SEE SCE DESIGN PLAN NO. XXXXXXX AND CONTACT SCE, 714-895-0221 TO COORDINATE FOR SERVICE TIE-IN.
4. FURNISH AND INSTALL ITERIS VANTAGE VECTOR HYBRID VIDEO/RADAR CAMERA ON SIGNAL MAST ARM POLE. FURNISH AND INSTALL VIDEO DETECTOR CABLES PER MANUFACTURER RECOMMENDATION. INSIDE NEW CONDUIT FROM NEW VIDEO CAMERA TO CONTROLLER CABINET AND ALL NECESSARY APPURTENANCES. NO SPLICING IS ALLOWED. PROGRAM VIDEO DETECTION ZONES AS SHOWN FOR VEHICULAR/BICYCLE LANES AND RADAR DETECTION ZONES FOR ADVANCE DETECTION THROUGH COORDINATION WITH THE CITY ENGINEER OR HIS DESIGNEE, AND THE MANUFACTURER'S REPRESENTATIVE.
5. FURNISH AND INSTALL GTT OPTICOM MODEL 3100 GPS RADIO UNIT ON TRAFFIC SIGNAL POLE SHAFT AS INDICATED IN THE FIELD BY THE MANUFACTURER'S REPRESENTATIVE. FURNISH AND INSTALL OPTICOM MODEL 1070 GPS CABLE THROUGH CONDUIT TO CONTROLLER ASSEMBLY FOR INTENDED OPERATIONS.
6. INTERCEPT EXISTING FIBER CONDUIT AND INSTALL NEW 6E PULLBOX WITH SPLICE ENCLOSURE. FURNISH AND INSTALL 2" CONDUIT WITH 12 STRAND SMFO CABLE TO NEW SIGNAL CABINET. SPLICE DESIGNATED FIBERS FROM 72 STRAND SMFO CABLE TO 12 STRAND SMFO CABLE WITH AVAILABLE UNUSED FIBER PAIRS PER DIRECTION OF CITY STAFF. COIL AN ADDITIONAL 25' OF 12 STRAND SMFO CABLE IN 6E PULLBOX.
7. INSTALL THERMOPLASTIC 12 FOOT WIDE WHITE LADDER CROSSWALK 2' WIDE BARS @ 4' O.C. WITH 1' WIDE TRANSVERSE CROSSWALK MARKINGS ON BOTH SIDES.
8. INSTALL THERMOPLASTIC 1' WIDE LIMIT LINE.
9. INSTALL SIGN ON SIGNAL MAST ARM.

NEW SIGNS ON THIS SHEET

R10-12 (LEFT TURN YIELD ON GREEN) 24"x30"

R3-4 24"x24"

LEGEND

- HYBRID VIDEO/RADAR DETECTION CAMERA
- EMERGENCY VEHICLE PREEMPTION (EVP)

SIGNAL PHASE DIAGRAM

■ PROTECTIVE/PERMISSIVE

VIDEO/RADAR DETECTION ZONE DETAIL
NOT TO SCALE

TRAFFIC SIGNAL GENERAL NOTES

1. ALL METHODS, MATERIALS, AND EQUIPMENT SHALL CONFORM TO THE LATEST EDITIONS OF THE CALTRANS STANDARD PLANS AND SPECIFICATIONS, CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD), AND THE SPECIAL PROVISIONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL EXISTING UNDERGROUND UTILITIES, WHETHER OR NOT THEY ARE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL CONTACT USA (800-277-2600) AT LEAST 48 HOURS BEFORE BEGINNING WORK. THE CONTRACTOR SHALL POTHOLE ALL PROPOSED TRAFFIC SIGNAL LOCATIONS TO VERIFY/CONFIRM EXISTING UNDERGROUND UTILITIES, PRIOR TO ORDERING TRAFFIC SIGNAL EQUIPMENT.
3. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND NOTIFY ALL AFFECTED AGENCIES AND UTILITY COMPANIES A MINIMUM OF 48 HOURS PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY AND IRRIGATION COMPANIES PRIOR TO WORK ON EXCAVATION TO DETERMINE EXACT LOCATION OF ALL LINES AFFECTING THIS WORK, WHETHER OR NOT SHOWN HEREON, AND FOR ANY DAMAGE OR PROTECTION OF THESE LINES.
4. EXISTING IMPROVEMENTS, INCLUDING SUBSTRUCTURES THAT ARE DAMAGED BY THE CONTRACTOR, WHICH ARE NOT DESIGNATED BY THE PLANS OR SPECIFICATIONS TO BE DISTURBED, SHALL BE RESTORED OR REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
5. ALL ELECTRICAL EQUIPMENT, INCLUDING SIGNAL POLES, PULL BOXES, DETECTORS, AND SERVICE/CONTROLLER CABINETS, ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. PROPOSED FINAL LOCATIONS ARE TO BE APPROVED IN THE FIELD BY THE ENGINEER PRIOR TO EXCAVATION FOR FOUNDATIONS. THE CONTRACTOR SHALL GIVE 48 HOURS NOTICE FOR APPROVAL OF PROPOSED EQUIPMENT LOCATIONS.
6. CONDUCTOR SCHEDULE IS FURNISHED AS AN INSTALLATION GUIDELINE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CORRECT CONDUCTORS REQUIRED FOR THE INTENDED OPERATION.
7. ALL PULL BOXES SHALL BE NO. 6, UNLESS OTHERWISE NOTED ON THE PLANS. NEW PULL BOXES SHALL BE TYPE N SERIES WITH FIBERLYTE LID. PULL BOXES SHALL NOT BE LOCATED IN CURB RAMPS. ALL NEW PULL BOX COVERS SHALL BE LABELED WITH APPROPRIATE LABELS "TRAFFIC SIGNAL", "LIGHTING", "SERVICE", "SIGNAL INTERCONNECT", ETC.
8. THE CONTRACTOR SHALL VERIFY WITH THE ENGINEER THE PRECISE FIELD LOCATIONS OF ALL TRAFFIC SIGNAL EQUIPMENT PRIOR TO THE INSTALLATION.
9. PEDESTRIAN PUSH BUTTON ASSEMBLIES SHALL BE ADA COMPLIANT, APS TYPE.
10. TRAFFIC SIGNAL PRODUCTS SHALL CONFORM TO THE SPECIAL PROVISIONS AND CALTRANS TEES, LATEST EDITION, AND SHALL BE LISTED ON THE QUALIFIED PRODUCTS LIST.
11. THE CONTRACTOR IS RESPONSIBLE FOR HAVING A COMPLETE AND CURRENT COPY OF APPROVED PLAN ON THE JOB SITE AT ALL TIMES.
12. WHERE SIDEWALK, DRIVEWAYS, CURBS OR GUTTERS ARE CUT FOR INSTALLATION OF TRAFFIC SIGNAL EQUIPMENT OR SIGN POSTS, CUTS SHALL BE MADE AT THE NEAREST SCORE MARK. CONTRACTOR SHALL REPLACE THE ENTIRE SECTION AND MATCH EXISTING SCORE PATTERNS, SURFACE COLOR, AND TEXTURE. UNMARKED OR EXCAVATED LANDSCAPED AREAS SHALL BE RESTORED TO MATCH EXISTING.
13. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN EGRESS AND INGRESS OF ABUTTING DRIVEWAYS AND MINOR STREET INTERSECTIONS AND ACCESS TO ALL PUBLIC AND PRIVATE DRIVEWAYS IN THE CONSTRUCTION AREA NOT RELATED TO THE SPECIFIC PROJECT. CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO NEIGHBORING RESIDENTS, BUSINESSES, PROPERTY OWNERS, AND OCCUPANTS WITHIN 1000' OF THE WORK ZONE 72-HOURS IN ADVANCE REGARDING PLANNED LANE AND ROAD CLOSURES OR CONSTRUCTION WORK THAT WILL DIRECTLY AFFECT AND BLOCK DRIVEWAY ACCESS.
14. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER.
15. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT AND APPURTENANCES NECESSARY FOR THE SIGNAL TO OPERATE AS INTENDED IN THESE PLANS.
16. ALL NEW CONDUCTORS AND THEIR TERMINATORS SHALL BE CLEARLY MARKED.
17. ALL PEDESTRIAN SIGNALS SHALL BE COUNTDOWN LED TYPE. VEHICULAR SIGNAL HEADS SHALL HAVE 12" LED INDICATIONS WITH BACKPLATES. ALL NEW PEDESTRIAN PUSH BUTTONS SHALL BE APS TYPE.
18. EXISTING CITY AND/OR SERVICE LIGHTING CONDUCTORS WHICH ARE NOT IDENTIFIED FOR REMOVAL SHALL BE PROTECTED IN PLACE DURING CONSTRUCTION.
19. HARD HATS AND HIGH VISIBILITY REFLECTIVE VESTS SHALL BE WORN AT ALL TIMES WHEN WORKING ON THE PROJECT
20. IN THE COURSE OF RUNOFF WATER CONTROL, THE CONTRACTOR SHALL PROTECT ALL WATER COURSES, THE GROUND WATER AND BODIES OF WATER FROM POLLUTION BY FUEL, OILS, BITUMENS OR OTHER HARMFUL MATERIALS.
21. ALL SPARES SHALL TERMINATE AT THE SIGNAL TERMINAL COMPARTMENTS AND IN THE CONTROLLER CABINET. SPARES SHALL BE TAPED ON THE END AND SHALL BE CONTINUOUS.
22. NO SPLICING OF CABLES SHALL BE PERMITTED, WITH EXCEPTION OF DLC.
23. HOLES REMAINING IN POLES SHALL BE WELDED CLOSED, FINISHED SMOOTH AND GALVANIZED

Underground Service Alert
Call: TOLL FREE
1-800
422-4133
TWO WORKING DAYS BEFORE YOU DIG

N

20 10 0 20 40
SCALE IN FEET
1 inch = 20 ft.

REVISIONS			
NO.	DATE	DESCRIPTION	APP.

PREPARED BY:
LINSCOTT, LAW & GREENSPAN, ENGINEERS
TRANSPORTATION PLANNING · TRAFFIC ENGINEERING · PARKING
600 S. Lake Avenue, Suite 130, Pasadena, CA 91106 (626) 796-2322
2 Executive Circle, Suite 200, Irvine, CA 92614 (949) 825-8175
4542 Ruffner Street, Suite 110, San Diego, CA 92111 (858) 300-8800

KALYAN C. YELLAPU RCE# 75023 — 8/29/22 DATE

KALYAN C. YELLAPU No. 75023 Exp. Dec. 31, 2023 CIVIL STATE OF CALIFORNIA PROFESSIONAL ENGINEER
P.E. SEAL

BENCH MARK NO.:
ELEVATION: DATUM:
DESCRIPTION:
BASIS OF BEARING:

BENCHMARK

		DATE
DESIGNED BY:	KHP	8/29/22
DRAWN BY:	HA	8/29/22
RECOMMENDED BY:	JENNIFER ROSALES, TRANSPORTATION SERVICE MANAGER, T.E. 2781	
APPROVED BY:	SEUNG YANG, CITY ENGINEER, R.C.E. #66758	

CITY OF COSTA MESA
DEPARTMENT OF PUBLIC SERVICES / ENGINEERING DIVISION
TRAFFIC SIGNAL PLAN
W. 19TH STREET
AT
WALLACE AVENUE

SHEET NO. 1 OF 2
PLAN NUMBER TS-1

I:\2021\025 - brink and 19th signal poles, cable mast\dwg\19th signal design\traffic signal plan\025 ts-01 19th at wallace ave updated.dwg LSP 13:00:56 08-30-2022 jmap

CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE	POLE	PHASE	CONDUIT SIZE AND RUN							
			1	2	3	4	5	6	7	8
NO.14 CABLES	(A)	#1,#6,#6P /#4PPB	1	1	1	1	1	1	–	–	1	1
CONDUCTOR 12 / CONDUCTOR 3	(B)	#8,#4P /#6PPB	–	–	1	1	1	1	1	–	–	1	1
	(C)	#8,#8P /#6PPB	–	–	1	1	1	1	1	–	–	1	1
	(D)	#2,#5,#6P /#8PPB	–	–	–	1	1	1	1	–	–	1	1
	(E)	– /#8PPB	–	–	–	–	0	1	–	–	0	1
	(F)	#2,#5,#2P /–	–	–	–	–	1	0	–	–	1	0
	(G)	#4,#8P /#2PPB	–	–	–	–	–	–	1	1	1	1
	(H)	#4,#4P /#2PPB	–	–	–	–	–	–	1	1	1	1
	(I)	#1,#6,#2P /#4PPB	–	–	–	–	–	–	1	1	1	1
TOTAL CABLES – 12 CON / 3 CON			1 / 1	1 / 2	3 / 3	3 / 4	4 / 5	5 / 6	1 / 1	1 / 2	8 / 8	10 / 10
#6		SIGNAL SERVICE	–	–	–	–	–	–	–	–	–	–
#10		LUMINAIRES	2	2	2	2	2	–	2	2	–	–
#12		IISNS	2	2	2	2	2	–	2	2	–	–
#8		GROUND	1	1	1	1	1	1	1	1	–	–
VIDEO DETECTION CABLE AND POWER			1	1	2	2	3	–	1	4	–	–
GTT CABLE			–	–	–	–	1	–	–	1	–	–
APS 3#14 CABLE			2	–	2	–	2	2	–	–	–	–
PERCENT FILL (%)			16%	14%	21%	25%	16%	9%	14%	24%	–	–
CONDUIT SIZES (INCHES)			3"	4"	4"	4"	2-4"	3"	4"	2-4"	–	–

PPB = PED PUSH BUTTON
ALL CONDUITS AND CONDUCTORS ARE NEW.

EQUIPMENT SCHEDULE

POLE DATA			SIGNAL M.A.	L.E.D. ■		SIGNAL HEADS AND MOUNTINGS			PED PUSH BUTTON ●		▲POLE LOC.		INTERNALLY ILLUMINATED STREET NAME SIGN (LED dbl. face)
NO.	TYPE	HEIGHT		M.A.	WATTS	VEHICULAR	M.A.	PEDESTRIAN	PHASE	QUAD.	"A"	"B"	
(A)	24–4–100	30'	35'	15'	185W	SV–1–T	MAS–5A,MAS F=14'	SP–1–T	ø4	E	–1.5'	3'	Wallace Ave
(B)	1–A	10'	–	–	–	TV–1–T	–	SP–1–T	ø6	S	0'	8'	–
(C)	17–3–100	30'	15'	12'	185W	SV–1–T	MAS	SP–1–T	ø6	S	–5'	3'	W 19th St
(D)	1–A	10'	–	–	–	TV–1–T	–	SP–1–T	ø8	W	1'	6.5'	–
(E)	PPB POST	4'–7"	–	–	–	–	–	–	ø8	W	3'	4'	–
(F)	26–4–100	30'	45'	15'	185W	SV–1–T	MAS–5A,MAS F=14'	SP–1–T	–	–	1'	12'	Wallace Ave
(G)	1–A	10'	–	–	–	TV–1–T	–	SP–1–T	ø2	N	2.5'	3'	–
(H)	17–3–100	30'	20'	12'	185W	SV–1–T	MAS	SP–1–T	ø2	N	3.5'	3'	W 19th St
(I)	1–A	10'	–	–	–	TV–1–T	–	SP–1–T	ø4	E	4.5'	3'	–

ALL EQUIPMENT IS NEW.
■ LEOTEK GCL1–80G–MV–NW–3R–GY–700–WL–PCR7–LLPC–SC (CITY FURNISHED)
● POLARA INS NAVIGATOR 2–WIRE PUSH BUTTON STATION (IN2 PBS) MODEL IN2 S BB1–B–BD–ES WITH PEU.

▲ POLE LOCATION TO BE DETERMINED BY ENGINEER IN THE FIELD. PROPOSED FINAL LOCATIONS ARE TO BE APPROVED IN THE FIELD BY THE ENGINEER PRIOR TO EXCAVATION FOR FOUNDATIONS.

▲ POLE LOCATION DETAIL
NO SCALE

Underground Service Alert
Call: TOLL FREE
1–800
422–4133
TWO WORKING DAYS BEFORE YOU DIG

REVISIONS

NO.	DATE	DESCRIPTION	APP.

PREPARED BY:
LINSCOTT, LAW & GREENSPAN, ENGINEERS
TRANSPORTATION PLANNING – TRAFFIC ENGINEERING – PARKING
400 S. Lake Avenue, Suite 505, Pasadena, CA 91106 (626) 796–2322
3 Executive Circle, Suite 250, Irvine, CA 92614 (949) 825–6175
4040 Ruffner Street, Suite 100, San Diego, CA 92111 (858) 300–8800
KALYAN C. YELLAPU RCE# 75023 8/29/22 DATE

REGISTERED PROFESSIONAL ENGINEER – KALYAN C. YELLAPU – 75023 – Exp. Dec. 31, 2023 – CIVIL – STATE OF CALIFORNIA
P.E. SEAL

BENCHMARK
BENCH MARK NO.:
ELEVATION: DATUM:
DESCRIPTION:
BASIS OF BEARING:

		DATE
DESIGNED BY:	KHP	8/29/22
DRAWN BY:	HA	8/29/22
RECOMMENDED BY:		
JENNIFER ROSALES, TRANSPORTATION SERVICE MANAGER, T.E. 2761		
APPROVED BY:		
SEUNG YANG, CITY ENGINEER, R.C.E. 69880		

CITY OF COSTA MESA
DEPARTMENT OF PUBLIC SERVICES / ENGINEERING DIVISION
TRAFFIC SIGNAL PLAN
W. 19TH STREET
AT
WALLACE AVENUE

SHEET NO. 2 OF 2
PLAN NUMBER TS-2

I:\2216520 – Rowe and 19th signal plans\costa mesa\dwg\19th signal design\traffic signal plan\8523 ts-01 19th st at wallace ave equipment sheet.dwg LDP: 13:24:08 08-29-2022 pmeb

BULB OUT CONSTRUCTION DETAILS

~~W. 19TH STREET & PLACENTIA AVENUE~~

W. 19TH STREET & WALLACE AVENUE

GENERAL SITE NOTES:

1. CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING ON THIS WORK AND CONSIDER THE EXISTING CONDITIONS AND SITE CONSTRAINTS IN THE BID. CONTRACTOR SHALL BE IN THE POSSESSION OF AND FAMILIAR WITH ALL APPLICABLE GOVERNING AGENCIES STANDARD DETAILS AND SPECIFICATIONS PRIOR TO SUBMITTING A BID.
2. THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREENBOOK)", LATEST EDITION INCLUDING SUPPLEMENTS THERETO, IS HEREBY MADE A PART OF THIS PLAN.
3. ALL WORK ON-SITE AND IN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO ALL APPLICABLE GOVERNING AGENCIES STANDARD DETAILS & SPECIFICATIONS.
4. PRIOR TO BEGINNING WORK, AND AFTER INITIAL HORIZONTAL CONTROL STAKING, CONTRACTOR SHALL FIELD CHECK ALL ELEVATIONS MARKED WITH (E) AND REPORT ANY DISCREPANCIES GREATER THAN 0.05' TO PROJECT MANAGER.
5. DAMAGE TO ANY EXISTING SITE IMPROVEMENTS, UTILITIES AND/OR SERVICES TO REMAIN SHALL BE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL REPAIR AND/OR REPLACE IN KIND.
6. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND THAT THE CONTRACTOR SHALL DEFEND INDEMNIFY AND HOLD THE CLIENT, THE CONSULTING ENGINEER AND THE CITY HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE CLIENT OR THE CONSULTING ENGINEER.

SITE MAINTENANCE:

1. REMOVE ALL DIRT, GRAVEL, RUBBISH, REFUSE, AND GREEN WASTE FROM STREET PAVEMENT AND STORM DRAINS ADJOINING THE SITE. LIMIT CONSTRUCTION ACCESS ROUTES ONTO THE SITE AND PLACE GRAVEL PADS AT THESE LOCATIONS. DO NOT DRIVE VEHICLES AND EQUIPMENT OFF THE PAVED OR GRAVELED AREAS DURING WET WEATHER.
2. SWEEP AND CLEAN THE STREET PAVEMENT AND SIDEWALKS ADJOINING THE PROJECT SITE AND THE ON-SITE PAVED AREAS ON A DAILY BASIS. SCRAPE CAKED-ON MUD AND DIRT FROM THESE AREAS BEFORE SWEEPING. CORNERS AND HARD TO REACH AREAS SHALL BE SWEPT MANUALLY.
3. CREATE A CONTAINED AND COVERED AREA ON THE SITE FOR THE STORAGE OF BAGS, CEMENT, PAINTS, OILS, FERTILIZERS, PESTICIDES, OR OTHER MATERIALS USED ON THE SITE THAT HAVE THE POTENTIAL OF BEING DISCHARGED INTO THE STORM DRAIN SYSTEM THROUGH EITHER BEING WIND-BLOWN OR IN THE EVENT OF A MATERIAL SPILL.
4. NEVER CLEAN MACHINERY, EQUIPMENT OR TOOLS INTO A STREET, GUTTER OR STORM DRAIN.
5. ENSURE THAT CEMENT TRUCKS, PAINTERS, OR STUCCO/PLASTER FINISHING CONTRACTORS DO NOT DISCHARGE WASH WATER FROM EQUIPMENT, TOOLS OR RINSE CONTAINERS INTO GUTTERS OR DRAINS.

DEMOLITION NOTES :

1. CONTRACTOR IS TO COMPLY WITH ALL GENERAL AND STATE REQUIREMENTS INVOLVING THE REMOVAL AND DISPOSAL OF HAZARDOUS MATERIAL(S).
2. CONTRACTOR'S BID IS TO INCLUDE ALL VISIBLE SURFACE AND ALL SUBSURFACE FEATURES IDENTIFIED TO BE REMOVED OR ABANDONED IN THESE DOCUMENTS.
3. REMOVAL OF LANDSCAPING SHALL INCLUDE ROOTS AND ORGANIC MATERIALS TO THE SATISFACTION OF THE CITY.
4. PRIOR TO BEGINNING DEMOLITION WORK ACTIVITIES, CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES OUTLINED IN THE EROSION CONTROL PLAN & DETAILS.
5. THE CONTRACTOR SHALL MAINTAIN ALL SAFETY DEVICES, AND SHALL BE RESPONSIBLE FOR CONFORMANCE TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS LAWS AND REGULATIONS.
6. THE CONTRACTOR SHALL PROTECT FROM DAMAGE ALL EXISTING IMPROVEMENTS FACILITIES AND STRUCTURES WHICH ARE TO REMAIN. ANY ITEMS DAMAGED BY THE CONTRACTOR OR HIS AGENTS OR ANY ITEMS REMOVED FOR HIS USE SHALL BE REPLACED IN EQUAL OR BETTER CONDITION AS APPROVED BY OWNER'S REPRESENTATIVE.
7. CONTRACTOR IS TO SHUT OFF ALL UTILITIES AS NECESSARY PRIOR TO DEMOLITION. CONTRACTOR IS TO COORDINATE SERVICE INTERRUPTIONS WITH THE CLIENT. DO NOT INTERRUPT SERVICES TO ADJACENT OFF-SITE OWNERS.
8. THIS PLAN IS NOT INTENDED TO BE A COMPLETE CATALOGUE OF ALL EXISTING STRUCTURES AND UTILITIES. THIS PLAN INTENDS TO DISCLOSE GENERAL INFORMATION KNOWN BY THE ENGINEER AND TO SHOW THE LIMITS OF THE AREA WHERE WORK WILL BE PERFORMED. THIS PLAN SHOWS THE EXISTING FEATURES TAKEN FROM A FIELD SURVEY, FIELD INVESTIGATIONS AND AVAILABLE INFORMATION. THIS PLAN MAY OR MAY NOT ACCURATELY REFLECT THE TYPE OR EXTENT OF THE ITEMS TO BE ENCOUNTERED AS THEY ACTUALLY EXIST. WHERE EXISTING FEATURES ARE NOT SHOWN, IT IS NOT IMPLIED THAT THEY ARE NOT TO BE DEMOLISHED OR REMOVED. THE CONTRACTOR SHALL PERFORM A THOROUGH FIELD INVESTIGATION AND REVIEW OF THE SITE WITHIN THE LIMIT OF WORK SHOWN IN THIS PLAN SET TO DETERMINE THE TYPE, QUANTITY AND EXTENT OF ANY AND ALL ITEMS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING THE EXTENT OF EXISTING STRUCTURES AND UTILITIES AND QUANTITY OF WORK INVOLVED IN REMOVING THESE ITEMS FROM THE SITE.

SITE PLAN NOTES:

1. ALL DIMENSIONS ON THE PLANS ARE IN FEET OR DECIMALS THEREOF UNLESS SPECIFICALLY CALLED OUT AS FEET AND INCHES.
2. THIS IS NOT A STAKING PLAN BUT A CHECK AND VERIFICATION OF THE MAJOR DIMENSIONS AS SHOWN ON THE SITE PLAN.
3. ALL DIMENSIONS SHOWN ARE TO FACE OF CURB, PROPERTY OR RIGHT-OF-WAY LINE, OR CENTER OF DRIVEWAYS.
4. EXISTING STRIPING CONFLICTING WITH PROPOSED STRIPING LAYOUT TO BE COMPLETELY REMOVED VIA SANDBLASTING.
5. THE CONSTRUCTION SURVEYOR IS RESPONSIBLE TO REPORT ANY AND ALL DISCREPANCIES TO ENGINEER PRIOR TO CONSTRUCTION.

RECORD DRAWINGS:

1. THE CONTRACTOR SHALL KEEP UP-TO-DATE AND ACCURATE A COMPLETE RECORD SET OF PRINTS OF THE CONTRACT DRAWINGS SHOWING EVERY CHANGE FROM THE ORIGINAL DRAWINGS MADE DURING THE COURSE OF CONSTRUCTION INCLUDING EXACT FINAL LOCATION, ELEVATION, SIZES, MATERIALS, AND DESCRIPTION OF ALL WORK. RECORDS SHALL BE "REDLINED" ON A SET OF CONSTRUCTION PLAN DRAWINGS. A COMPLETE SET OF CORRECTED AND COMPLETED RECORD DRAWING PRINTS (AS-BUILT PLANS) SHALL BE SUBMITTED TO THE CITY PRIOR TO FINAL ACCEPTANCE FOR REVIEW AND APPROVAL.

ABBREVIATIONS:

SYMBOL	DESCRIPTION
AC	ASPHALT CONCRETE
BW	BACK OF WALK
C&G	CURB & GUTTER
CONC	CONCRETE
DW	DOMESTIC WATER LINE
DWY	DRIVEWAY
EB	ELECTRICAL BOX
EP	EDGE OF PAVEMENT
EW	EDGE OF WALK
FH	FIRE HYDRANT
FL	FLOW LINE
FS	FINISHED SURFACE
GB	GRADE BREAK
LF	LINEAR FEET
LG	LIP OF GUTTER
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
NTS	NOT TO SCALE
PR	PROPOSED
R	RADIUS
RIM	RIM
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SL	STREET LIGHT
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
SW	SIDEWALK, SOUTHWEST
TC	TOP OF CURB
TS	TRAFFIC SIGNAL
TYP	TYPICAL
WM	WATER METER
WV	WATER VALVE

LEGEND:

- SAWCUT LINE
- VEHICULAR ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- PAVERS
- CONCRETE GUTTER
- LANDSCAPED AREA
- XX.X — EXISTING CONTOUR LINE
- XXX — PROPOSED CONTOUR LINE
- XXX.XX TC / XXX.XX FS — PROPOSED GRADE ELEVATION
- X.X% — PROPOSED GRADE SLOPE
- PROPOSED GRADE BREAK

BASIS OF BEARINGS:

THE BASIS OF HORIZONTAL CONTROL FOR THIS PROJECT IS THE CALIFORNIA COORDINATE SYSTEM NAD83 ZONE 6 (2017.50 EPOCH) DETERMINED LOCALLY BY THE FOLLOWING O.C.S. POINTS: 6196 AND 6257, ORANGE COUNTY PUBLIC WORKS, OC SURVEY.

BENCHMARK:

DESIGNATION: CM-38-81
YEAR: 2005
ELEV: 98.319' (NAVD88)

DESCRIPTION: DESCRIBED BY OCS 2001 – FOUND 3-3\4" OCS ALUMINUM BENCHMARK DISK STAMPED "CM-38-81", SET IN THE NORTHEAST CORNER OF A 3.5 FT. BY 15 FT. CONCRETE CATCH BASIN. MONUMENT IS LOCATED ALONG THE WESTERLY SIDE OF PLACENTIA AVENUE, 26 FT. NORTHERLY OF THE CENTERLINE PROLONGATION OF 20TH STREET. MONUMENT IS SET LEVEL WITH SIDEWALK.

811 Know what's below. Call before you dig.

BKF ENGINEERS
4675 MACARTHUR CT.
SUITE 550
NEWPORT BEACH, CA 92660
(949) 526-8460
www.bkf.com

REGISTERED PROFESSIONAL ENGINEER No. C-65388 — CIVIL — STATE OF CALIFORNIA

ROGER CHUNG C 65388 07/05/2022

BULB OUT CONSTRUCTION DETAILS
WEST 19TH STREET AND PLACENTIA AVENUE
WEST 19TH STREET AND WALLACE AVENUE

CITY OF COSTA MESA

No.	Revisions

Date: 09/22/2022
Scale: AS SHOWN
Design: VL
Drawn: LV
Approved: RC
Job No: 20220832

Drawing Number:
C1.0
1 OF 3

COPYRIGHT © 2021 BKF ENGINEERS

C1.0 Notes.dwg
Plot Jul 05, 2022 at 4:09pm

LINE TABLE		
LINE #	LENGTH	BEARING
L1	11.29'	S89° 42' 30.15"E
L2	25.26'	S00° 29' 16.25"W
L3	10.00'	N89° 30' 43.75"W
L4	2.64'	N29° 30' 43.75"W
L5	12.47'	N00° 29' 16.25"E
L6	2.64'	S59° 42' 30.15"E
L7	4.00'	N00° 17' 29.85"E
L8	7.54'	N89° 42' 30.15"W
L9	6.73'	N00° 17' 29.85"E
L10	9.50'	N89° 25' 26.98"W
L11	22.76'	S00° 34' 33.02"W
L12	8.78'	N89° 44' 19.89"W
L13	4.00'	N00° 15' 40.11"E
L14	8.00'	S89° 44' 19.89"E
L15	6.48'	N00° 15' 40.11"E
L16	2.64'	S60° 15' 40.11"W
L17	12.49'	N00° 34' 33.02"E
L18	2.64'	N30° 34' 33.02"E

CURVE TABLE				
CURVE #	LENGTH	RADIUS	TANGENT	DELTA
C1	18.81'	12.00'	11.96'	089.80
C2	5.24'	10.00'	2.68'	030.00
C3	5.24'	10.00'	2.68'	030.00
C4	39.18'	25.00'	24.91'	089.80
C5	5.24'	10.00'	2.68'	030.00
C6	5.24'	10.00'	2.68'	030.00
C7	23.64'	15.00'	15.08'	090.31
C8	5.24'	10.00'	2.68'	030.00
C9	5.24'	10.00'	2.68'	030.00
C10	39.41'	25.00'	25.14'	090.31
C11	5.24'	10.00'	2.68'	030.00
C12	5.24'	10.00'	2.68'	030.00

RESIDENT ENGINEER
PROFESSIONAL ENGINEER
No. C-65388
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA
07/05/2022
C 65388
ROGER CHUNG

BKF ENGINEERS
4675 MACARTHUR CT.
SUITE 550
NEWPORT BEACH, CA 92660
(949) 526-8460
www.bkf.com

BULB OUT CONSTRUCTION DETAILS
WEST 19TH STREET AND PLACENTIA AVENUE
WEST 19TH STREET AND WALLACE AVENUE

CITY OF COSTA MESA

No.	Revisions

Date: 09/22/2022
Scale: AS SHOWN
Design: V.K.
Drawn: L.V.
Approved: RC
Job No: 20220832

Drawing Number:
C3.0
3 OF 3

COPYRIGHT © 2021 BKF ENGINEERS

CONSTRUCTION NOTES

1. FURNISH AND INSTALL ECONOLITE COBALT CONTROLLER ASSEMBLY IN NEW TS-2 TYPE-2 "P-44" CABINET ON RAISED 18" FOUNDATION. FURNISH AND INSTALL SENSORS, MMU, HARNESSES AND ALL REQUIRED APPURTENANCES INSIDE CONTROLLER CABINET AS NEEDED TO PROVIDE INTENDED OPERATION ON THESE PLANS. CONSTRUCT 4" THICK PCC PAD TO ACCOMMODATE CONTROLLER FOUNDATION. FURNISH AND INSTALL POLARA INS NAVIGATOR APS SYSTEM. CONFIGURE ALL PBS FOR INTENDED OPERATIONS. CONTRACTOR TO SCHEDULE TURN ON SUPPORT FOR SIGNAL CONTROLLER AND CABINET.
2. FURNISH AND INSTALL NEW 120/240 V TYPE II-B SIGNAL AND LIGHTING SERVICE ENCLOSURE WITH TYPE V PSC ON LEFT SIDE OF CONTROLLER ASSEMBLY COMPLETE. SERVICE SHALL INCLUDE A 100 AMP MAIN BREAKER, 50 AMP SIGNAL BREAKER, 30 AMP LIGHTING BREAKER, 15 AMP LIGHTED STREET NAME SIGN BREAKER AND 15 AMP SPARE. SIGNAL CIRCUIT IS 120V METERED AND LIGHTING IS 120V UNMETERED.
3. INSTALL NEW 3" CONDUIT UP TO 3' OF SCE PULLBOX TO ALLOW FOR SWEEP. SEE SCE DESIGN PLAN NO. XXXXXX AND CONTACT SCE, 714-895-0221 TO COORDINATE FOR SERVICE TIE-IN.
4. CONSTRUCT 4" THICK PCC PAD TO ACCOMMODATE SIGNAL POLE FOOTING.
5. FURNISH AND INSTALL TRAFFIC SIGNAL STANDARD MOUNTED SIGN AS NOTED PER CALTRANS STANDARD PLAN ES-7N (DETAIL "U").
6. REMOVE EXISTING SIGN AND/OR POST, AS SHOWN.
7. INSTALL NEW SIGN ONTO POST OR SIGNAL POLE AS SHOWN.
8. INSTALL PPB SIGN PLAQUE AS NOTED ON PLAN.
9. INSTALL 12" SOLID WHITE THERMOPLASTIC LIMIT LINE PER CALTRANS STD PLAN A24E.
- IS INSTALL SIGN ON SIGNAL MAST.
- E EXISTING TO REMAIN UNLESS NOTED OTHERWISE.

SIGNAL PHASE DIAGRAM

MAST ARM MOUNTED SIGN IS

R10-23

POLE MOUNTED SIGNS 6

W11-2 W16-7p(LT) W16-7p(RT) R10-3e(RT) R10-3e(LT) R10-3e(DBL)

SIGNAL HEADS DETAILS

3 SECTION VEHICULAR SIGNAL HEAD — POLES B & F

COUNTDOWN TYPE PEDESTRIAN HEAD — POLES B & D

EQUIPMENT SCHEDULE

NO.	POLE DATA TYPE	HEIGHT	SIGNAL M.A.	L.E.D. ■ M.A.	L.E.D. ■ WATTS	SIGNAL HEADS AND MOUNTINGS VEHICULAR	M.A.	PEDESTRIAN	PED PUSH BUTTON ● PHASE	QUAD.	*POLE LOC. "A"	"B"
A	PPB POST	5'-7"	–	–	–	–	–	–	#4	W ♦	AS SHOWN	8.5'
B	29-5-100*	30'	50'	15'	105	SV-1-T**	MAS MAS*	SP-1-T	–	–	AS SHOWN	3'
C	PPB POST	5'-7"	–	–	–	–	–	–	#4	W ♦	AS SHOWN	1'
D	1-A	7'	–	–	–	–	–	TP-1-T	–	–	AS SHOWN	2.5'
E	PPB POST	5'-7"	–	–	–	–	–	–	#4	E	AS SHOWN	10'
F	1-A	10'	–	–	–	TV-1-T	–	–	–	–	AS SHOWN	4.5'

ALL EQUIPMENT IS NEW.
*INSTALL END OF ARM MAS TENON ON OPPOSITE SIDE OF POLE FOR INTENDED OPERATION AS SHOWN.
**INSTALL @ 17' HEIGHT.
***POLE TO ADHERE TO 2010 CALTRANS STANDARD PLAN ES-7A.
■ LEOTEK GCL1-60G-MV-NW-3R-GY-530-WL-PCR7-LLPC-SC (CITY FURNISHED)
● POLARA INS NAVIGATOR 3-WIRE PUSH BUTTON STATION (IN3 PBS) MODEL IN3 S BB1-B-BD-ES WITH PEU.
▲ POLE LOCATIONS SHOWN ARE APPROXIMATE. POLE LOCATION SHALL BE APPROVED IN THE FIELD BY THE ENGINEER AND POLES SHALL BE POTHOLED TO FULL WIDTH AND DEPTH PRIOR TO ORDERING OF POLES.
♦ INSTALL EXTENSION BRACKET FOR PUSH BUTTON.

CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE	POLE	PHASE	CONDUIT SIZE AND RUN 1	2	3	4
NO.14 CABLES	A	– /#4PPB	0	0	–	0
12 CONDUCTOR 3	B	#2,#6 /#4P	1	1	–	1
	C	– /#4PPB	–	0	–	0
	D	#4P /–	–	–	–	1
	E	– /#4PPB	–	–	–	0
	F	#2 /–	–	–	1	0
	G	– /–	–	–	–	–
	H	– /–	–	–	–	–
TOTAL CABLES – 12 CON / 3 CON			1	2	3	4
#6	SIGNAL SERVICE		–	–	–	–
#10	LUMINAIRES		2	2	–	2
#8	GROUND		1	1	1	1
PERCENT FILL (%)			10%	12%	15%	15%
CONDUIT SIZES (INCHES)			3"(E)	3"(E)	3"	4"

PPB = PED PUSH BUTTON

*POLE LOCATION DETAIL
NO SCALE

SIGNAL SEQUENCE

TRAFFIC SIGNAL GENERAL NOTES

1. ALL METHODS, MATERIALS, AND EQUIPMENT SHALL CONFORM TO THE 2018 CALTRANS STANDARD PLANS AND SPECIFICATIONS, CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD), AND THE SPECIAL PROVISIONS UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL EXISTING UNDERGROUND UTILITIES, WHETHER OR NOT THEY ARE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL CONTACT USA (800-277-2600) AT LEAST 48 HOURS BEFORE BEGINNING WORK. THE CONTRACTOR SHALL POTHOLE ALL PROPOSED TRAFFIC SIGNAL LOCATIONS TO VERIFY/CONFIRM EXISTING UNDERGROUND UTILITIES, PRIOR TO ORDERING TRAFFIC SIGNAL EQUIPMENT.
3. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND NOTIFY ALL AFFECTED AGENCIES AND UTILITY COMPANIES A MINIMUM OF 48 HOURS PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY AND IRRIGATION COMPANIES PRIOR TO WORK ON EXCAVATION TO DETERMINE EXACT LOCATION OF ALL LINES AFFECTING THIS WORK, WHETHER OR NOT SHOWN HEREON, AND FOR ANY DAMAGE OR PROTECTION OF THESE LINES.
4. EXISTING IMPROVEMENTS, INCLUDING SUBSTRUCTURES THAT ARE DAMAGED BY THE CONTRACTOR, WHICH ARE NOT DESIGNATED BY THE PLANS OR SPECIFICATIONS TO BE DISTURBED, SHALL BE RESTORED OR REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
5. ALL ELECTRICAL EQUIPMENT, INCLUDING SIGNAL POLES, PULL BOXES, DETECTORS, AND SERVICE/CONTROLLER CABINETS, ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. PROPOSED FINAL LOCATIONS ARE TO BE APPROVED IN THE FIELD BY THE ENGINEER PRIOR TO EXCAVATION FOR FOUNDATIONS. THE CONTRACTOR SHALL GIVE 48 HOURS NOTICE FOR APPROVAL OF PROPOSED EQUIPMENT LOCATIONS.
6. CONDUCTOR SCHEDULE IS FURNISHED AS AN INSTALLATION GUIDELINE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CORRECT CONDUCTORS REQUIRED FOR THE INTENDED OPERATION.
7. ALL PULL BOXES SHALL BE NO. 6, UNLESS OTHERWISE NOTED ON THE PLANS. NEW PULL BOXES SHALL BE LIGHT WEIGHT FIBER MATERIAL. PULL BOXES SHALL NOT BE LOCATED IN CURB RAMPS. ALL NEW PULL BOX COVERS SHALL BE LABELED WITH APPROPRIATE LABELS "TRAFFIC SIGNAL", "LIGHTING", "SERVICE", "SIGNAL INTERCONNECT", ETC.
8. THE CONTRACTOR SHALL VERIFY WITH THE ENGINEER THE PRECISE FIELD LOCATIONS OF ALL TRAFFIC SIGNAL EQUIPMENT PRIOR TO THE INSTALLATION.
9. PEDESTRIAN PUSH BUTTON ASSEMBLIES SHALL BE ADA COMPLIANT, APS TYPE.
10. TRAFFIC SIGNAL PRODUCTS SHALL CONFORM TO THE SPECIAL PROVISIONS AND CALTRANS TEES, LATEST EDITION, AND SHALL BE LISTED ON THE QUALIFIED PRODUCTS LIST.
11. THE CONTRACTOR IS RESPONSIBLE FOR HAVING A COMPLETE AND CURRENT COPY OF APPROVED PLAN ON THE JOB SITE AT ALL TIMES.
12. WHERE SIDEWALK, DRIVEWAYS, CURBS OR GUTTERS ARE CUT FOR INSTALLATION OF TRAFFIC SIGNAL EQUIPMENT OR SIGN POSTS, CUTS SHALL BE MADE AT THE NEAREST SCORE MARK. CONTRACTOR SHALL REPLACE THE ENTIRE SECTION AND MATCH EXISTING SCORE PATTERNS, SURFACE COLOR, AND TEXTURE. DAMAGED OR EXCAVATED LANDSCAPED AREAS SHALL BE RESTORED TO MATCH EXISTING.
13. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN EGRESS AND INGRESS OF ABUTTING DRIVEWAYS AND MINOR STREET INTERSECTIONS AND ACCESS TO ALL PUBLIC AND PRIVATE DRIVEWAYS IN THE CONSTRUCTION AREA NOT RELATED TO THE SPECIFIC PROJECT. CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO NEIGHBORING RESIDENTS, BUSINESSES, PROPERTY OWNERS, AND OCCUPANTS WITHIN 1000' OF THE WORK ZONE 72-HOURS IN ADVANCE REGARDING PLANNED LANE AND ROAD CLOSURES OR CONSTRUCTION WORK THAT WILL DIRECTLY AFFECT AND BLOCK DRIVEWAY ACCESS.
14. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER.
15. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT AND APPURTENANCES NECESSARY FOR THE SIGNAL TO OPERATE AS INTENDED IN THESE PLANS.
16. ALL NEW CONDUCTORS AND THEIR TERMINATORS SHALL BE CLEARLY MARKED.
17. ALL PEDESTRIAN SIGNALS SHALL BE COUNTDOWN LED TYPE. VEHICULAR SIGNAL HEADS SHALL HAVE 12" LED INDICATIONS WITH BACKPLATES. ALL NEW PEDESTRIAN PUSH BUTTONS SHALL BE APS TYPE.
18. EXISTING CITY AND/OR SERVICE LIGHTING CONDUCTORS WHICH ARE NOT IDENTIFIED FOR REMOVAL SHALL BE PROTECTED IN PLACE DURING CONSTRUCTION.
19. HARD HATS AND HIGH VISIBILITY REFLECTIVE VESTS SHALL BE WORN AT ALL TIMES WHEN WORKING ON THE PROJECT
20. IN THE COURSE OF RUNOFF WATER CONTROL, THE CONTRACTOR SHALL PROTECT ALL WATER COURSES, THE GROUND WATER AND BODIES OF WATER FROM POLLUTION BY FUEL, OILS, BITUMENS OR OTHER HARMFUL MATERIALS.
21. ALL SPARES SHALL TERMINATE AT THE SIGNAL TERMINAL COMPARTMENTS AND IN THE CONTROLLER CABINET. SPARES SHALL BE TAPED ON THE END AND SHALL BE CONTINUOUS.
22. NO SPLICING OF CABLES SHALL BE PERMITTED, WITH EXCEPTION OF DLC.
23. LOOP DETECTORS SHALL BE TESTED AND APPROVED BEFORE PILLING SAWCUTS.
24. HOLES REMAINING IN POLES SHALL BE WELDED CLOSED, FINISHED SMOOTH AND GALVANIZED

Underground Service Alert
Call: TOLL FREE
1-800
422-4133
TWO WORKING DAYS BEFORE YOU DIG

REVISIONS

NO.	DATE	DESCRIPTION	APP.

PREPARED BY:
LINSCOTT, LAW & GREENSPAN, ENGINEERS
TRANSPORTATION PLANNING – TRAFFIC ENGINEERING – PARKING
808 S. Lake Avenue, Suite 1001, Pasadena, CA 91106 (626) 796-2322
3 Executive Circle, Suite 250, Irvine, CA 92614 (949) 833-9876
4542 Ruffner Street, Suite 100, San Diego, CA 92111 (858) 300-8800
KALYAN C. YELLAPU RCE# 75023 5/19/22
DATE

REGISTERED PROFESSIONAL ENGINEER KALYAN C. YELLAPU No. 75023 Exp. Dec. 31, 2023 Civil STATE OF CALIFORNIA
P.E. SEAL

BENCHMARK
BENCH MARK NO.:
ELEVATION: DATUM:
DESCRIPTION:
BASIS OF BEARING:

		DATE
DESIGNED BY:	KHP	3/29/22
DRAWN BY:	HA	3/29/22
RECOMMENDED BY:		
JENNIFER ROSALES, TRANSPORTATION SERVICE MANAGER, T.E. 2761		
APPROVED BY:		
SEUNG YANG, CITY ENGINEER, R.C.E. 47705		

CITY OF COSTA MESA
DEPARTMENT OF PUBLIC SERVICES / ENGINEERING DIVISION
HAWK TRAFFIC SIGNAL PLAN
W. 18TH STREET
AT
LIONS PARK

SHEET NO. 1 OF 1
PLAN NUMBER

U:\2122\25\25 - Hawk and 18th signal plans\costa mesa\Dwg\hawk signal plan\traffic signal plan\25X25 hawk.dwg LDF 15:11:51 05-19-2022 phillip

CONSTRUCTION NOTES

1. FURNISH AND INSTALL ECONOLITE COBALT CONTROLLER ASSEMBLY IN NEW TS-2 TYPE-2 "P-44" CABINET ON RAISED 18" FOUNDATION. FURNISH AND INSTALL SENSORS, MMU, HARNESSES AND ALL REQUIRED APPURTENANCES INSIDE CONTROLLER CABINET AS NEEDED TO PROVIDE INTENDED OPERATION ON THESE PLANS. CONSTRUCT 4" THICK PCC PAD TO ACCOMMODATE CONTROLLER FOUNDATION. CONTRACTOR TO SCHEDULE TURN ON SUPPORT FOR SIGNAL CONTROLLER AND CABINET.
2. FURNISH AND INSTALL NEW 120/240 V TYPE II-B SIGNAL AND LIGHTING SERVICE ENCLOSURE WITH TYPE V PEC ON LEFT SIDE OF CONTROLLER ASSEMBLY COMPLETE. SERVICE SHALL INCLUDE A 100 AMP MAIN BREAKER, 50 AMP SIGNAL BREAKER, 30 AMP LIGHTING BREAKER, 15 AMP LIGHTED STREET NAME SIGN BREAKER AND 15 AMP SPARE. SIGNAL CIRCUIT IS 120V METERED AND LIGHTING IS 120V UNMETERED.
3. INSTALL NEW 3" CONDUIT UP TO 3' OF SCE PULLBOX TO ALLOW FOR SWEEP. SEE SCE DESIGN PLAN NO. XXXXXX AND CONTACT SCE, 714-895-0221 TO COORDINATE FOR SERVICE TIE-IN.
4. CONSTRUCT 4" THICK PCC PAD TO ACCOMMODATE SIGNAL POLE FOOTING.
5. INSTALL NEW SIGN ONTO POST OR SIGNAL POLE AS SHOWN.
6. INSTALL PPB SIGN PLAQUE AS NOTED ON PLAN.
7. INSTALL 12" SOLID WHITE THERMOPLASTIC LIMIT LINE PER CALTRANS STD PLAN A24E.
8. INSTALL THERMOPLASTIC WHITE CONTINENTAL CROSSWALK WITH 2' WIDE BARS AT 4' SPACING O.C.

(S) INSTALL SIGN ON SIGNAL MAST.

(E) EXISTING TO REMAIN UNLESS NOTED OTHERWISE.

SIGNAL PHASE DIAGRAM

MAST ARM MOUNTED SIGN

R10-23

(24"X30")

POLE MOUNTED SIGNS

SIGNAL HEADS DETAILS

EQUIPMENT SCHEDULE

	POLE DATA			SIGNAL M.A.	L.E.D. **		SIGNAL HEADS AND MOUNTINGS			PED PUSH BUTTON ●		▲POLE LOC.	
NO.	TYPE	HEIGHT			M.A.	WATTS	VEHICULAR	M.A.	PEDESTRIAN	PHASE	QUAD.	"A"	"B"
Ⓐ	■19-6-100♦	■24'		30'	8'●	105	SV-1-T	MAS MAS♦	SP-1-T	#4	E	-6'	3.5'
Ⓑ	1-A	14'		–	–	–	TV-1-T	–	SP-1-T	#4	E	AS SHOWN	3.5'

ALL EQUIPMENT IS NEW.
*INSTALL END OF ARM MAS TENON ON OPPOSITE SIDE OF POLE FOR INTENDED OPERATION AS SHOWN.
**LEOTEK GCL1-60C-MV-NW-3R-GY-530-WL-PCR7-LLPC-SC (QTY FURNISHED)
● POLARA BOL3 BULL DOG VANDAL RESISTANT ADA PUSH BUTTON WITH 9"X15" SIGN BACK PLATE.
▲ POLE LOCATIONS SHOWN ARE APPROXIMATE. POLE LOCATION SHALL BE APPROVED IN THE FIELD BY THE ENGINEER AND POLES SHALL BE POTHOLED TO FULL WIDTH AND DEPTH PRIOR TO ORDERING OF POLES.
■ MODIFY POLE AS NEEDED FOR CUSTOM HEIGHT AS SHOWN.
♦ INSTALL STRAIGHT ARM LUMINAIRE ARM.

CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE	POLE	PHASE		CONDUIT SIZE AND RUN ⚠1	⚠2
NO.14 CABLES	Ⓐ	#2,#6,#4P	/#4PPB	–	1
CONDUCTOR SCHEDULE 12 3	Ⓑ	#2,#4P	/#4PPB	1	1
	Ⓒ	–	/–	–	–
	Ⓓ	–	/–	–	–
	Ⓔ	–	/–	–	–
	Ⓕ	–	/–	–	–
	Ⓖ	–	/–	–	–
	Ⓗ	–	/–	–	–
TOTAL CABLES – 12 CON / 3 CON				1 1	2 2
#6	SIGNAL SERVICE			–	–
#10	LUMINAIRES			–	2
#8	GROUND			1	1
PERCENT FILL (%)				9%	12%
CONDUIT SIZES (INCHES)				3"(C)	4"

PPB = PED PUSH BUTTON

▲POLE LOCATION DETAIL
NO SCALE

FORDHAM DR

SIGNAL SEQUENCE

TRAFFIC SIGNAL GENERAL NOTES

1. ALL METHODS, MATERIALS, AND EQUIPMENT SHALL CONFORM TO THE 2018 CALTRANS STANDARD PLANS AND SPECIFICATIONS, CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD), AND THE SPECIAL PROVISIONS UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL EXISTING UNDERGROUND UTILITIES, WHETHER OR NOT THEY ARE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL CONTACT USA (800-277-2600) AT LEAST 48 HOURS BEFORE BEGINNING WORK. THE CONTRACTOR SHALL POTHOLE ALL PROPOSED TRAFFIC SIGNAL LOCATIONS TO VERIFY/CONFIRM EXISTING UNDERGROUND UTILITIES, PRIOR TO ORDERING TRAFFIC SIGNAL EQUIPMENT.
3. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND NOTIFY ALL AFFECTED AGENCIES AND UTILITY COMPANIES A MINIMUM OF 48 HOURS PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY AND IRRIGATION COMPANIES PRIOR TO WORK ON EXCAVATION TO DETERMINE EXACT LOCATION OF ALL LINES AFFECTING THIS WORK, WHETHER OR NOT SHOWN HEREON, AND FOR ANY DAMAGE OR PROTECTION OF THESE LINES.
4. EXISTING IMPROVEMENTS, INCLUDING SUBSTRUCTURES THAT ARE DAMAGED BY THE CONTRACTOR, WHICH ARE NOT DESIGNATED BY THE PLANS OR SPECIFICATIONS TO BE DISTURBED, SHALL BE RESTORED OR REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
5. ALL ELECTRICAL EQUIPMENT, INCLUDING SIGNAL POLES, PULL BOXES, DETECTORS, AND SERVICE/CONTROLLER CABINETS, ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. PROPOSED FINAL LOCATIONS ARE TO BE APPROVED IN THE FIELD BY THE ENGINEER PRIOR TO EXCAVATION FOR FOUNDATIONS. THE CONTRACTOR SHALL GIVE 48 HOURS NOTICE FOR APPROVAL OF PROPOSED EQUIPMENT LOCATIONS.
6. CONDUCTOR SCHEDULE IS FURNISHED AS AN INSTALLATION GUIDELINE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CORRECT CONDUCTORS REQUIRED FOR THE INTENDED OPERATION.
7. ALL PULL BOXES SHALL BE NO. 6, UNLESS OTHERWISE NOTED ON THE PLANS. NEW PULL BOXES SHALL BE LIGHT WEIGHT FIBER MATERIAL. PULL BOXES SHALL NOT BE LOCATED IN CURB RAMPS. ALL NEW PULL BOX COVERS SHALL BE LABELED WITH APPROPRIATE LABELS "TRAFFIC SIGNAL", "LIGHTING", "SERVICE", "SIGNAL INTERCONNECT", ETC.
8. THE CONTRACTOR SHALL VERIFY WITH THE ENGINEER THE PRECISE FIELD LOCATIONS OF ALL TRAFFIC SIGNAL EQUIPMENT PRIOR TO THE INSTALLATION.
9. PEDESTRIAN PUSH BUTTON ASSEMBLIES SHALL BE ADA COMPLIANT, BULLDOG TYPE.
10. TRAFFIC SIGNAL PRODUCTS SHALL CONFORM TO THE SPECIAL PROVISIONS AND CALTRANS TEES, LATEST EDITION, AND SHALL BE LISTED ON THE QUALIFIED PRODUCTS LIST.
11. THE CONTRACTOR IS RESPONSIBLE FOR HAVING A COMPLETE AND CURRENT COPY OF APPROVED PLAN ON THE JOB SITE AT ALL TIMES.
12. WHERE SIDEWALK, DRIVEWAYS, CURBS OR GUTTERS ARE CUT FOR INSTALLATION OF TRAFFIC SIGNAL EQUIPMENT OR SIGN POSTS, CUTS SHALL BE MADE AT THE NEAREST SCORE MARK. CONTRACTOR SHALL REPLACE THE ENTIRE SECTION AND MATCH EXISTING SCORE PATTERNS, SURFACE COLOR, AND TEXTURE. DAMAGED OR EXCAVATED LANDSCAPED AREAS SHALL BE RESTORED TO MATCH EXISTING.
13. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN EGRESS AND INGRESS OF ABUTTING DRIVEWAYS AND MINOR STREET INTERSECTIONS AND ACCESS TO ALL PUBLIC AND PRIVATE DRIVEWAYS IN THE CONSTRUCTION AREA NOT RELATED TO THE SPECIFIC PROJECT. CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO NEIGHBORING RESIDENTS, BUSINESSES, PROPERTY OWNERS, AND OCCUPANTS WITHIN 1000' OF THE WORK ZONE 72-HOURS IN ADVANCE REGARDING PLANNED LANE AND ROAD CLOSURES OR CONSTRUCTION WORK THAT WILL DIRECTLY AFFECT AND BLOCK DRIVEWAY ACCESS.
14. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER.
15. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT AND APPURTENANCES NECESSARY FOR THE SIGNAL TO OPERATE AS INTENDED IN THESE PLANS.
16. ALL NEW CONDUCTORS AND THEIR TERMINATORS SHALL BE CLEARLY MARKED.
17. ALL PEDESTRIAN SIGNALS SHALL BE COUNTDOWN LED TYPE. VEHICULAR SIGNAL HEADS SHALL HAVE 12" LED INDICATIONS WITH BACKPLATES. ALL NEW PEDESTRIAN PUSH BUTTONS SHALL BE BULLDOG TYPE.
18. EXISTING CITY AND/OR SERVICE LIGHTING CONDUCTORS WHICH ARE NOT IDENTIFIED FOR REMOVAL SHALL BE PROTECTED IN PLACE DURING CONSTRUCTION.
19. HARD HATS AND HIGH VISIBILITY REFLECTIVE VESTS SHALL BE WORN AT ALL TIMES WHEN WORKING ON THE PROJECT
20. IN THE COURSE OF RUNOFF WATER CONTROL, THE CONTRACTOR SHALL PROTECT ALL WATER COURSES, THE GROUND WATER AND BODIES OF WATER FROM POLLUTION BY FUEL, OILS, BITUMENS OR OTHER HARMFUL MATERIALS.
21. ALL SPARES SHALL TERMINATE AT THE SIGNAL TERMINAL COMPARTMENTS AND IN THE CONTROLLER CABINET. SPARES SHALL BE TAPED ON THE END AND SHALL BE CONTINUOUS.
22. NO SPLICING OF CABLES SHALL BE PERMITTED, WITH EXCEPTION OF D.L.C.
23. LOOP DETECTORS SHALL BE TESTED AND APPROVED BEFORE FILLING SAWCUTS.
24. HOLES REMAINING IN POLES SHALL BE WELDED CLOSED, FINISHED SMOOTH AND GALVANIZED

Underground Service Alert
Call: TOLL FREE
1-800 422-4133
TWO WORKING DAYS BEFORE YOU DIG

N

20 10 0 20 40
SCALE IN FEET
1 inch = 20 ft.

REVISIONS			
NO.	DATE	DESCRIPTION	APP.

PREPARED BY:
LINSCOTT, LAW & GREENSPAN, ENGINEERS
TRANSPORTATION PLANNING · TRAFFIC ENGINEERING · PARKING
Clalyan C. Yellapu 7/27/22
KALYAN C. YELLAPU RCE# 75023 DATE

REGISTERED PROFESSIONAL ENGINEER KALYAN C. YELLAPU 75023 Exp. Dec. 31, 2023 CIVIL STATE OF CALIFORNIA
P.E. SEAL

BENCH MARK NO.:
ELEVATION: DATUM:
DESCRIPTION:
BASIS OF BEARING:

BENCHMARK

		DATE
DESIGNED BY:	KHP	3/29/22
DRAWN BY:	HA	3/29/22
RECOMMENDED BY:		
JENNIFER ROSALES, TRANSPORTATION SERVICE MANAGER, T.E. 2761		
APPROVED:		
SEUNG YANG, CITY ENGINEER RCE# 51786		

CITY OF COSTA MESA
DEPARTMENT OF PUBLIC SERVICES / ENGINEERING DIVISION

HAWK TRAFFIC SIGNAL PLAN
WILSON STREET
AT
FORDHAM DRIVE

SHEET NO. 1 OF 1
PLAN NUMBER TS-1

I:\2224565 - wilson street hawk poles, cones meters\dwg\traffic signal plan\24565 ts-01 wilson one.dwg LDP 11:11:39 07-14-2022 pmsp

SECTION "G"

APPENDIX "C"

CITY AND CALTRANS STANDARD DRAWINGS

A=25 ft²

TYPE I 18'-0" ARROW

A=31 ft²

TYPE I 24'-0" ARROW

A=14 ft²

TYPE I 10'-0" ARROW

A=15 ft²

TYPE IV (L) ARROW

(For Type IV (R) arrow, use mirror image)

NOTE:

Minor variations in dimensions may be accepted by the Engineer.

A=42 ft²

TYPE VI ARROW

Right lane drop arrow (For left lane, use mirror image)

A=3.5 ft²

BIKE LANE ARROW

A=36 ft²

TYPE VIII ARROW

A=27 ft²

TYPE VII (L) ARROW

(For Type VII (R) arrow, use mirror image)

A=33 ft²

TYPE V ARROW

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Atifa Ferouz
REGISTERED CIVIL ENGINEER

May 31, 2018
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Atifa Ferouz
No. C80402
Exp. 3-31-19
CIVIL
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS ARROWS

NO SCALE

A24A

2018 STANDARD PLAN A24A

1-26-18

Return to Table of Contents

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Atifa Ferouz
REGISTERED CIVIL ENGINEER

May 31, 2018
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Atifa Ferouz
No. C80402
Exp. 3-31-19
CIVIL
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

A=70 ft² *

RAILROAD CROSSING SYMBOL

* 70 ft² does not include the 2'-0" x variable width transverse lines.

A=42 ft²

TYPE III (L) ARROW

(For Type III (R) use mirror image)

A=73 ft²

TYPE III (B) ARROW

A=45 ft²

TYPE II (L) ARROW

(For Type II (R) use mirror image)

A=59 ft²

TYPE II (B) ARROW

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

1-26-18

Return to Table of Contents

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Atifa Ferouz
REGISTERED CIVIL ENGINEER

May 31, 2018
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Atifa Ferouz — No. C80402 — Exp. 3-31-19 — CIVIL — STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

BIKE LANE SYMBOL WITHOUT PERSON

BIKE LANE SYMBOL WITH PERSON

INTERNATIONAL SYMBOL OF ACCESSIBILITY (ISA) MARKING

DIAMOND SYMBOL

NOTE:

Minor variations in dimensions may be accepted by the Engineer.

SHARED ROADWAY BICYCLE MARKING

NUMERALS

BICYCLE LOOP DETECTOR SYMBOL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS SYMBOLS AND NUMERALS

NO SCALE

A24C

1-26-18

Return to Table of Contents

A=43 ft²

A=42 ft²

A=24 ft²

A=23 ft²

A=19 ft²

A=35 ft²

A=31 ft²

A=24 ft²

A=26 ft²

A=21 ft²

A=32 ft²

A=19 ft²

A=26 ft²

A=22 ft²

A=18 ft²

A=10 ft²

A=5 ft²

A=6 ft²

NOTES:

1. If a message consists of more than one word, it must read "UP", i.e., the first word must be nearest the driver.
2. The space between words must be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be reduced appropriately where there is limited space because of local conditions.
3. Minor variations in dimensions may be accepted by the Engineer.
4. Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.

WORD MARKINGS

ITEM	ft²	ITEM	ft²	ITEM	ft²	ITEM	ft²
XING	21	YIELD	24	BIKE	5	PED	18
AHEAD	31	SCHOOL	35	SLOW	23	COMPACT	10
WAIT	19	SIGNAL	32	STOP	22	RUNAWAY	43
LANE	6	TURN	24	LEFT	19	VEHICLES	42
RIGHT	26	HERE	26				

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Atifa Ferouz
REGISTERED CIVIL ENGINEER

May 31, 2018
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Atifa Ferouz
No. C80402
Exp. 3-31-19
CIVIL
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS WORDS

NO SCALE

A24D

2018 STANDARD PLAN A24D

1-26-18

Return to Table of Contents

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Atifa Ferouz
REGISTERED CIVIL ENGINEER

May 31, 2018
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Atifa Ferouz
No. C80402
Exp. 3-31-19
CIVIL
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

A=24 ft²

A=27 ft²

A=21 ft²

A=22 ft²

A=14 ft²

A=23 ft²

A=24 ft²

A=20 ft²

A=16 ft²

A=17 ft²

WORD MARKINGS			
ITEM	ft²	ITEM	ft²
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16

A=2 ft²
See Notes 6 and 7

LIMIT LINE (STOP LINE)

YIELD LINE

NOTES:

1. If a message consists of more than one word, it must read "UP", i.e., the first word must be nearest the driver.
2. The space between words must be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be reduced appropriately where there is limited space because of local conditions.
3. Minor variations in dimensions may be accepted by the Engineer.
4. Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.
5. The words "NO PARKING" pavement marking is to be used for parking facilities. For typical locations of markings, see Standard Plans A90A and A90B.
6. The words "NO PARKING", shall be painted in white letters no less than 1'-0" high on a contrasting background and located so that it is visible to traffic enforcement officials.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS
WORDS, LIMIT AND YIELD LINES

NO SCALE

A24E

1-26-18

Return to Table of Contents

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Atifa Ferouz
REGISTERED CIVIL ENGINEER

May 31, 2018
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Atifa Ferouz
No. C80402
Exp. 3-31-19
CIVIL
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

CONTINENTAL
See Note 1

TRIPLE FOUR
See Note 1

LADDER

DIAGONAL

HIGHER VISIBILITY CROSSWALKS

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.

BASIC

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS
CROSSWALKS

NO SCALE

A24F

1-26-18

2018 STANDARD PLAN A24F

Return to Table of Contents

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Atifa Ferouz
REGISTERED CIVIL ENGINEER

May 31, 2018
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Atifa Ferouz — No. C80402 — Exp. 3-31-19 — CIVIL — STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

CENTERLINES
(2 LANE HIGHWAYS)

DETAIL 1

DETAIL 2

~~DETAIL 3~~ DETAIL 3 DELETED

~~DETAIL 4~~ DETAIL 4 DELETED

DETAIL 5

DETAIL 6

~~DETAIL 7~~ DETAIL 7 DELETED

LANELINES
(MULTILANE HIGHWAYS)

DETAIL 8

DETAIL 9

DETAIL 9A
SEE NOTE

~~DETAIL 10~~ DETAIL 10 DELETED

DETAIL 11

LANELINES (Cont)
(MULTILANE HIGHWAYS)

DETAIL 12

DETAIL 12A
SEE NOTE

~~DETAIL 13~~ DETAIL 13 DELETED

~~DETAIL 14~~ DETAIL 14 DELETED

~~DETAIL 14A~~ DETAIL 14A DELETED

NO PASSING ZONES-ONE DIRECTION

DETAIL 15

DETAIL 16

~~DETAIL 17~~ DETAIL 17 DELETED

DETAIL 18

DETAIL 19

~~DETAIL 20~~ DETAIL 20 DELETED

NOTE:
FOR FREEWAY APPLICATION ONLY

NO PASSING ZONES-TWO DIRECTION

DETAIL 21

DETAIL 22

~~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

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

1-26-18

2018 STANDARD PLAN A20A

12

Return to Table of Contents

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Atifa Ferouz
REGISTERED CIVIL ENGINEER

May 31, 2018
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Atifa Ferouz — No. C80402 — Exp. 3-31-19 — CIVIL — STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LEFT EDGELINES
(DIVIDED HIGHWAYS)

DETAIL 24

DETAIL 25

DETAIL 25A

DETAIL 26

DETAIL 27

MEDIAN ISLANDS

DETAIL 28

DETAIL 29

~~DETAIL 30~~ DETAIL 30 DELETED

RIGHT EDGELINES

~~DETAIL 27A~~ DETAIL 27A DELETED

DETAIL 27B

RIGHT EDGELINE EXTENSION THROUGH INTERSECTIONS

DETAIL 27C

TWO-WAY LEFT TURN LANES

DETAIL 31

DETAIL 32

~~DETAIL 33~~ DETAIL 33 DELETED

LEGEND

MARKERS

- TYPE D — TWO-WAY YELLOW RETROREFLECTIVE
- TYPE H — ONE-WAY YELLOW RETROREFLECTIVE
- TYPE RY — RED-YELLOW RETROREFLECTIVE

LINES

- 6" WHITE
- 6" YELLOW

INTERSECTION TREATMENTS

DETAIL 34

DETAIL 34A

DETAIL 35

DETAIL 35A

CENTERLINE INTERSECTING STREET

MARKER DETAILS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKERS AND TRAFFIC LINES TYPICAL DETAILS

NO SCALE

A20B

1-26-18

2018 STANDARD PLAN A20B

Return to Table of Contents

EXIT RAMP NEUTRAL AREA (GORE) TREATMENT

DETAIL 36

ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT

DETAIL 36A

ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT

DETAIL 36B

LEGEND:

MARKERS

- TYPE C RED-CLEAR RETROREFLECTIVE
- TYPE G ONE-WAY CLEAR RETROREFLECTIVE
- TYPE RY RED-YELLOW RETROREFLECTIVE

MARKER DETAILS

TYPE C AND TYPE RY

TYPE G

RETROREFLECTIVE FACE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Atifa Ferouz
REGISTERED CIVIL ENGINEER

May 31, 2018
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Atifa Ferouz
No. C80402
Exp. 3-31-19
CIVIL
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LANE DROP AT EXIT RAMPS

DETAIL 37

* The solid channelizing line shown may be omitted on short auxiliary lanes where weaving length is critical.

~~DETAIL 37A~~ DETAIL 37A DELETED

LANE DROP AT INTERSECTIONS

DETAIL 37B

~~DETAIL 37C~~ DETAIL 37C DELETED

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKERS AND TRAFFIC LINES TYPICAL DETAILS

NO SCALE

A20C

1-26-18

2018 STANDARD PLAN A20C

Return to Table of Contents

CHANNELIZING LINE

DETAIL 38

DETAIL 38A

DETAIL 38B

~~DETAIL 38C~~ DETAIL 38C DELETED

BIKE LANE LINE

DETAIL 39

INTERSECTION LINE
BIKE LANE

DETAIL 39A

LANE LINE EXTENSIONS THROUGH INTERSECTIONS

DETAIL 40

~~DETAIL 40A~~ DETAIL 40A DELETED

CENTER LINE EXTENSIONS THROUGH INTERSECTIONS

DETAIL 41

~~DETAIL 41A~~ DETAIL 41A DELETED

LEGEND

MARKERS

TYPE C RED-CLEAR RETROREFLECTIVE

TYPE G ONE-WAY CLEAR RETROREFLECTIVE

6" YELLOW LINE

MARKER DETAILS

TYPE C TYPE G

RETROREFLECTIVE FACE

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 1/16" 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 marker 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 3/16" below the pavement surface.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Atifa Ferouz
REGISTERED CIVIL ENGINEER

May 31, 2018
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Atifa Ferouz
No. C80402
Exp. 3-31-19
CIVIL
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKERS AND TRAFFIC LINES TYPICAL DETAILS

NO SCALE

A20D

1-26-18

Return to Table of Contents

CASE A

CASE B

CASE C

CASE D

CASE E

CASE F

CASE G
See Note 4

DETAIL A
TYPICAL TWO-RAMP CORNER INSTALLATION
See Note 1

DETAIL B
TYPICAL ONE-RAMP CORNER INSTALLATION
See Notes 1 and 3

SECTION A-A

SECTION B-B
Depress entire sidewalk as required

SECTION C-C

RAISED TRUNCATED DOME PATTERN (IN-LINE)

DETECTABLE WARNING SURFACE

NOTES: See Note 10

1. As site conditions dictate, Case A through Case G curb ramps may be used for corner installations similar to those shown in Detail A and Detail B. The case of curb ramps used in Detail A do not have to be the same. Case A 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.
2. 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.
3. When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
4. As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
5. The ramp portion of the curb ramp is a typical rectangle, unless modified in the Project Plans.
6. Side slope of ramp flares vary uniformly from a maximum of 9.0% at curb to conform with longitudinal sidewalk slope adjacent to top of the ramp, except in Case C and Case F.
7. The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.
8. Counter slopes of adjoining gutters and road surfaces immediately adjacent to and within 24 inches of the curb ramp shall not be steeper than 1V:20H (5.0%). Gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.
9. Transition gutter pan slope from 1" of depth for each 2'-0" of width to match typical gutter pan slope per Standard Plan A87A.
10. 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 3'-0" depth of the ramp. Detectable warning surfaces shall extend the full width of the ramp except a maximum gap of 1 inch is allowed on each side of the ramp. Detectable warning surfaces shall conform to the requirements in the Standard Specifications.
11. Sidewalk and ramp thickness, "T", shall be 3½" minimum.
12. 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.
13. Detectable warning surface may have to be cut to allow removal of utility covers while maintaining detectable warning width and depth.

GUTTER PAN TRANSITION

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER
May 31, 2018
PLANS APPROVAL DATE
Rebecca Lynn Mowry No. C54415 Exp. 12-31-19 CIVIL
REGISTERED PROFESSIONAL ENGINEER STATE OF CALIFORNIA
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURB RAMP DETAILS

NO SCALE

A88A

1-29-18

Return to Table of Contents

Gutter not shown

CASE CM CURB RAMP

CASE CH CURB RAMP

NOTES:

1. Sidewalk, ramp and passageway thickness, "T", shall be 3½" 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 greater 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 at 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.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

May 31, 2018

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
Rebecca Lynn Mowry
No. C54415
Exp. 12-31-19
CIVIL
STATE OF CALIFORNIA

TYPE A PASSAGEWAY

TYPE B PASSAGEWAY

TYPE C PASSAGEWAY

SECTION A-A

SECTION B-B

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURB RAMP AND ISLAND PASSAGEWAY DETAILS

NO SCALE

A88B

2018 STANDARD PLAN A88B

1-29-18

Return to Table of Contents

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

H.R.J
REGISTERED ELECTRICAL ENGINEER
May 31, 2018
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Hamid Zolfaghari
No. E15636
Exp. 12-31-19
ELECTRICAL
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

WINDING DETAIL

SAW CUT DETAIL

TYPE A LOOP DETECTOR CONFIGURATION

WINDING DETAIL

SAW CUT DETAIL

TYPE B LOOP DETECTOR CONFIGURATION

WINDING DETAIL

SAW CUT DETAIL

TYPE C LOOP DETECTOR CONFIGURATION

WINDING DETAIL

SAW CUT DETAIL

TYPE D LOOP DETECTOR CONFIGURATION

WINDING DETAIL

SAW CUT DETAIL

TYPE E LOOP DETECTOR CONFIGURATION

WINDING DETAIL

SAW CUT DETAIL

TYPE Q LOOP DETECTOR CONFIGURATION

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.

PLAN VIEW OF DIAGONAL SLOT AT CORNERS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (DETECTORS)

NO SCALE

ES-5B

1-30-18

2018 STANDARD PLAN ES-5B

Return to Table of Contents

Figure 3B-102 (CA). Examples of Fire Hydrant Location Pavement Markers

W = Width of left turn pocket

L = Length of taper

$AB = BC = CD = \frac{L}{3}$

AB' and C'D' are parabolic curves except on curved alignments

X = Distance from point "A" along base line

$Y = \text{Offset from base line} = 2.25 W X^2/L^2$

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 C'D' 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: BD Mattern DATE: 12/13/85 BRUCE D. MATTERN R.C.E. 19388	DRAWN: C.P.R. SCALE: NONE STD. DWG NO. 116

REV.:

SECTION A-A

PLAN

CITY OF COSTA MESA CALIFORNIA PUBLIC SERVICES DEPARTMENT	SURVEY MONUMENT TYPE "A"	DRAWN C.P.R. SCALE NONE
	APPROVED B D Mattern DATE 12/13/85 BRUCE D. MATTERN R.C.E. 19388	STD. DWG. NO. 613

SECTION

SECTION

NOTES:

1. ALL TIE POINTS SHALL BE LEAD & TACK. LEAD SHALL BE A MIN. OF ¾" DEEP AND TACKS SHALL BE MADE OF BRASS.
2. ALL INTERSECTION & CENTER LINE CONTROL POINTS SHALL BE SPIKE & WASHER.
3. ALL CONTROL POINTS SHALL HAVE A MIN. OF 4 TIES, WITH TIES PLACED SUCH THAT A PROPER ANGLE IS OBTAINED FROM THE TIE TO THE CONTROL POINT AS DETERMINED BY THE CITY ENGINEER.
4. RECORD CENTER LINE TIE DATA ON TIE SHEET AVAILABLE AT THE CITY OF COSTA MESA, ENGINEERING DIVISION.

CITY OF COSTA MESA CALIFORNIA PUBLIC SERVICES DEPARTMENT	SURVEY CENTER LINE TIES	DRAWN W.A.B. SCALE NONE
	APPROVED BD Mattern DATE 12/13/85 BRUCE D. MATTERN R.C.E. 19388	STD. DWG. NO. 615

REV.

NOTE:

50' R/W TO BE USED WITH CITY COUNCIL APPROVAL ONLY.

NOTES:

1. ASPHALTIC CONCRETE PAVEMENT (4" THICKNESS). ACTUAL THICKNESS TO BE DETERMINED AFTER ROUGH GRADING.
2. CRUSHED AGGREGATE BASE (8" THICKNESS). ACTUAL THICKNESS TO BE DETERMINED AFTER ROUGH GRADING.
3. TYPE "C-8" OR "C-6" CURB AND GUTTER PER STD. DWG. NO. 312.
4. 4" P.C.C. SIDEWALK PER STD. DWG. NO. 411.

DRIVEWAY LOCATIONS AND SLOPES SHALL BE APPROVED BY THE CITY ENGINEER ON STREETS WITH 50' R/W.

CITY OF COSTA MESA CALIFORNIA PUBLIC SERVICES DEPARTMENT	TYPICAL SECTION 60' & 50' RESIDENTIAL STREETS APPROVED B D Mattern DATE 12/13/85 BRUCE D. MATTERN R.C.E. 19388	DRAWN J.C.B. SCALE NONE STD. DWG. NO. 114

DETAIL OF "V" GUTTER

NOTES:

1. CONCRETE SHALL BE 560-C-3250 PER CURRENT EDITION OF STANDARD SPECIFICATIONS SEC. 201-1.
2. ALLEYS SHALL NOT RECEIVE STREET DRAINAGE.
3. ALLEY APPROACH SEE CITY STD. DWG. 514.
4. 1/4 INCH TRANSVERSE EXPANSION JOINTS SHALL BE PLACED AT 40' INTERVALS AND 1/8"x 2" WEAKENED PLANE JOINTS SHALL BE PLACED AT 10' INTERVALS IN THE P.C.C. "V" GUTTER, FOR DETAILS SEE CITY STD. DWG. NO. 314.

CITY OF COSTA MESA CALIFORNIA ENGINEERING DEPARTMENT	TYPICAL SECTION ALLEY AND "V" GUTTER	DRAWN B.T.M. SCALE NONE
	APPROVED BRUCE D. MATTERN RCE 19388 DATE 1/21/88	STD. DWG. NO. 118

PLAN

PARKWAY WIDTHS:

5' FOR 50' R/W
10' FOR 60' R/W
7' FOR 84' R/W
7' FOR 106' R/W
8' FOR 120' R/W

NOTES:

1. THE PROPERTY LINE DIAGONAL CUT-OFF IS A STRAIGHT LINE DRAWN BETWEEN THE R/W LINES (OR PUE LINES, IF EXISTING) AT THE BCR AND ECR.
2. ALL CURB RETURN RADII SHALL BE 25' UNLESS BOTH STREETS ARE ON THE MASTER PLAN OF HIGHWAYS, AND THEN THE DIAGONAL CUT-OFF SHALL BE FOR A 35' CURB RETURN RADIUS.
3. ALL 50' STREETS REQUIRE A 3' PUBLIC UTILIZATION EASEMENT. SEE STD. DWG. NO. 114.

CITY OF COSTA MESA CALIFORNIA PUBLIC SERVICES DEPARTMENT	CURB RETURN RADII AND PROPERTY LINE DIAGONAL CUT-OFF	DRAWN F.S. SCALE NONE
	APPROVED BD Mattern DATE 12/13/85 BRUCE D. MATTERN R.C.E. 19388	STD. DWG. NO. 214

EM

TYPE "A" CURB

TYPE "B" CURB

NOTES

1. 1/4" EXPANSION JOINTS SHALL BE PLACED AT 40' INTERVALS AND AT ALL MEDIAN NOSES. 1/8" x 2" WEAKENED PLANE OR PLASTIC CONTROL JOINTS SHALL BE PLACED AT 10' INTERVALS. FOR DETAILS SEE STD. DWG. NO. 314.

2. DOWELS FOR TYPE "B" CURB MAY BE DELETED WHEN EXTRUDED CONCRETE IS BONDED TO THE PAVEMENT WITH APPROVED ADHESIVE, EXCEPT THE ISLAND NOSES WHICH SHALL BE DOWELED.

3. WHERE MEDIANS ARE LANDSCAPED, CURB SHALL EXTEND 6" BELOW SUB-GRADE AND BE BACKED WITH A 20 MIL PLASTIC MOISTURE BARRIER THAT EXTENDS 6" BELOW CURB. C.F. AND H SHALL BE PER PLAN.

4. THESE CURBS ARE NON-WATER CARRYING. TRANSITION TO TYPE "C" CURB AND GUTTER PER PLAN.

5. CONCRETE SHALL BE 560-C-3250 PER CURRENT EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION SEC. 201-1.1.2 .

REVISED 4-16-86

CITY OF COSTA MESA CALIFORNIA PUBLIC SERVICES DEPARTMENT	TYPES "A" & "B" CURBS	DRAWN DWL SCALE NONE
	APPROVED Brice Matthew R.C.E. 14588 DATE 4/23/86	STD. DRWG. NO. 311

CONC. PER LIN. FT. = 0.05054 CU. YDS.
1 CU. YD. = 19.7863 LIN. FT.

TYPE "C-6" CURB & GUTTER

CONC. PER LIN. FT. = 0.0645 CU. YDS.
1 CU. YD. = 15.50 LIN. FT.

TYPE "C-8" CURB & GUTTER

NOTES:

1. ¼" EXPANSION JOINTS SHALL BE PLACED AT 40' INTERVALS AND AT ALL B.C.R.'S E.C.R.'S AND 1/8"X 2" WEAKENED PLANE OR PLASTIC CONTROL JOINTS SHALL BE PLACED AT 10' INTERVALS. FOR DETAILS, SEE STD. DWG. NO. 314.
2. CONCRETE SHALL BE 560-C-3250 PER CURRENT EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION SEC. 201-1.1.2.
3. SUBGRADE RELATIVE COMPACTION SHALL NOT BE LESS THAN 90%.

CITY OF COSTA MESA CALIFORNIA PUBLIC SERVICES DEPARTMENT	TYPE "C" CURB & GUTTER	DRAWN M.K.S. SCALE NONE
	APPROVED B.D. Mattern DATE 12/13/85 BRUCE D. MATTERN R.C.E. 19388	STD. DWG. NO. 312

REV.

SECTION A-A

PLAN

NOTES:

1. FOR CURB AND GUTTER DETAILS, SEE STD. DWG. NO. 312.
2. FOR JOINT DETAILS, SEE STD. DWG. NO. 314.
3. CONCRETE TO BE 560-C-3250 PER CURRENT EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION SEC. 201-1.1.2
4. ALL DRIVEWAY LOCATIONS AND DIMENSIONS SHALL BE APPROVED BY TRANSPORTATION SERVICES ENGINEER.

DIMENSIONS:

W = 10' MIN.–16' MAX. FOR RESIDENTIAL DRIVEWAYS IN R-1 ZONE. Y = 0.
W = 16' MIN.–26' MAX. FOR OTHER DRIVEWAYS.
X = 4' FOR 6" CURB FACE.
X = 5' FOR 8" CURB FACE.

CITY OF COSTA MESA CALIFORNIA PUBLIC SERVICES DEPARTMENT	DEPRESSED CURB FOR DRIVEWAY APPROACH APPROVED BDMattern DATE 12/13/85 BRUCE D. MATTERN R.C.E. 19388	DRAWN M.K.S. SCALE NONE STD. DWG. NO. 313

REV.

1/4" EXPANSION JOINT
40' INTERVALS

1/8" x 2" WEAKENED PLANE JOINT
10' INTERVALS

CONSTRUCTION JOINT

CITY OF COSTA MESA CALIFORNIA PUBLIC SERVICES DEPARTMENT	JOINT DETAILS APPROVED BD Mattern DATE 12/13/85 BRUCE D. MATTERN R.C.E. 19388	DRAWN M.K.S. SCALE NONE STD. DWG. NO. 314

REV.

SECTION A-A

DIMENSIONS:

PK = PARKWAY WIDTH
S = SIDEWALK WIDTH

50' R/W — PK = 5'	S = 4'-4"	
60' R/W — PK = 10'	S = 4'-4"	
84' R/W — PK = 7'	S = 4'-4"	RESIDENTIAL, 6'-4" COMMERCIAL & INDUSTRIAL
106' R/W — PK = 7'	S = 4'-4"	RESIDENTIAL, 6'-4" COMMERCIAL & INDUSTRIAL
120' R/W — PK = 8'	S = 4'-4"	RESIDENTIAL, 7'-4" COMMERCIAL & INDUSTRIAL

S' = 4'-0"

PLAN

NOTES:

1. 1/4" EXPANSION JOINTS SHALL BE PLACED AT 40' INTERVALS AND AT THE END OF ALL CURB RETURNS.
2. 1/8" 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.

CITY OF COSTA MESA CALIFORNIA PUBLIC SERVICES DEPARTMENT	STANDARD SIDEWALK DETAILS	DRAWN: W.A.B. SCALE: NONE
	APPROVED BD Mattern DATE 12/12/85 BRUCE D. MATTERN R.C.E. 19388	STD. DWG. NO. 411

REV. 6-9-75 DS

SECTION A-A

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. 1/4" EXPANSION JOINTS SHALL BE PLACED AT 40' INTERVALS AND AT THE END OF ALL CURB RETURNS.
2. 1/8" X 2" WEAKENED PLANE OR PLASTIC CONTROL 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 FOR PUBLIC WORKS CONSTRUCTION SEC. 201-1.1.2.
7. TREE WELL BLOCKOUTS TO BE CONSTRUCTED W/ LOCATION & SPACING PER PLAN.
8. 10' INTERVAL BETWEEN TRANSVERSE JOINTS MAY BE VARIED IF JOINING EXISTING IMPROVEMENTS.
9. ALL EXPOSED CORNERS ON SIDEWALK SHALL BE ROUNDED WITH 1/2" RADIUS, EXCEPT AS OTHERWISE SHOWN ON STD. DWG. NO. 314.
10. WIDEN SIDEWALK TO PROVIDE MIN. CLEAR DISTANCE PER STD. DWG. NO. 413.
11. SIDEWALK WIDTH(S) SHALL BE PER STD. DWG. NO. 411.

REV. 6-25-80 H.R.
REV. 2-2-79 CMG
REV. 3-23-78
REV. 5-12-77
REV. 12-23-75

CITY OF COSTA MESA CALIFORNIA PUBLIC SERVICE DEPARTMENT	COMMERCIAL SIDEWALK DETAILS	DRAWN W.A.B. SCALE NONE
	APPROVED [signature] DATE [signature] BRUCE D. MATTERN R.C.E. 19388	STD. DWG. NO. 412

REV.

PLAN

NOTES:

1. FOR STANDARD SIDEWALK DETAILS, SEE STD. DWG. NO. 411 AND/OR 412.
2. FIRE HYDRANTS SHALL BE 2' CLEAR OFF OF THE CURB FACE.
3. NO VERTICAL OBSTRUCTION WITHIN 3' CLEAR OF DRIVEWAY TOP OF "X."
4. MAILBOXES SHALL BE 6" CLEAR OFF THE CURB FACE, ULTIMATE LOCATION, HEIGHT, AND MATERIAL TO BE APPROVED BY LOCAL POSTMASTER.
5. POWER POLES, GUY ANCHORS, AND STREET LIGHTS SHALL BE 18" CLEAR OFF CURB FACE.

CITY OF COSTA MESA CALIFORNIA PUBLIC SERVICES DEPARTMENT	SIDEWALK OBSTRUCTIONS FLARE	DRAWN W.A.B. SCALE NONE
	APPROVED [redacted] DATE [redacted] BRUCE D. MATYEAN R.C.E. 19388	STD. DWG. NO. 413

DIMENSIONS:

PK = PARKWAY WIDTH
S = SIDEWALK WIDTH SEE NOTE 7
50' R/W — PK=5'
60' R/W — PK=10'
84' R/W — PK=7'
106' R/W — PK=7'
120' R/W — PK=8'
"Y" — RADIUS VARIES (25' OR 35')
5' = 4'—0"

PLAN

NOTES:

1. 1/4" EXPANSION JOINTS SHALL BE PLACED AT END OF CURB RETURNS.
2. 1/8" X 2" WEAKENED PLANE OR PLASTIC CONTROL JOINTS SHALL BE PLACED SO AS NOT TO EXCEED 10' O.C. AT R.
3. FOR EXPANSION JOINT AND WEAKENED PLANE JOINT DETAILS, SEE STD. DWG. NO. 314.
4. CONCRETE SHALL BE PER CURRENT EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION SEC. 201-1.1.2, CLASS 520C-2500
5. ALL ELEVATIONS PER PLAN. FOR CROSS GUTTERS F.L.P.I. PER STD. DWG. NO. 415 SHALL BE SHOWN ON PLAN.
6. FOR STREET RADIUS DATA, SEE STD. DWG. NO. 214.
7. SEE STD. DWG. NO. 411, 412 AND 415 FOR BASE AND SIDEWALK REQUIREMENTS.

CITY OF COSTA MESA CALIFORNIA PUBLIC SERVICES DEPARTMENT	STANDARD SIDEWALK RETURN APPROVED [redacted] DATE [redacted]	DRAWN W.A.B. SCALE NONE STD. DWG. NO. 414

SECTION A-A

PLAN

NOTES:

1. SMOOTH TROWEL 8" WIDE FLOW LINE IN CROSS-GUTTER AND SPANDRELS.
2. AGGREGATE BASE THICKNESS FOR SPANDRELS SHALL BE THE SAME AS FOR CROSS-GUTTER.
3. POUR CURB MONOLITHICALLY WITH SPANDREL.
4. FOR JOINT DETAILS, SEE STD. DWG. NO. 314 AND 414.
5. CONCRETE SHALL BE 560 C 3250 PER CURRENT EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, SEC 201-1.1.2.
6. ALL ELEVATIONS SHALL BE PER PLAN.
7. DISTANCE L FROM MIDDLE ORDINATE OF CURB RETURN TO JOINT SHALL BE 7' FOR 8" C.F. OR 6' FOR 6" C.F..
8. ANY CROSS-GUTTER TO BE CONSTRUCTED ON LESS THAN 0.20 % SHALL HAVE DRAINAGE STRUCTURES CONSTRUCTED TO MITIGATE THE ADVERSE EFFECTS OF NUISANCE WATER AND FULL CONCRETE APRON WITH EXPANSION JOINTS ALONG ℄ AND ALONG EDGE OF GUTTERS.

CITY OF COSTA MESA CALIFORNIA PUBLIC SERVICES DEPARTMENT	TYPICAL CROSS-GUTTER	DRAWN M.K.S. SCALE NONE
	APPROVED [signature] DATE 9/16/97 BRUCE D. MATTERN R.C.E. 19586	STD. DWG. NO. 415

SECTION A-A

SECTION-INLET TYPE I

SECTION B-B

DETAIL OF ANCHOR
(SEE NOTES 5 & 7)

INLET TYPE II | INLET TYPE I

PLAN

SECTION-INLET TYPE II

PROFILE

NOTES:

1. FLOOR OF BOX TO BE TROWELED SMOOTH.
2. WHEN THE TOE OF SLOPE IS WITHIN THE R/W, INLET TYPE I BEGINS AT THE TOE RATHER THAN AT THE R/W LINE.
3. 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.
4. TOP OF INLET STRUCTURE (TYPE I & II) TO BE FLUSH WITH ADJACENT SURFACE WHERE PRACTICABLE.
5. A HEADED STEEL STUD $\frac{5}{8}$" X 6$\frac{1}{2}$" WITH HEAD D=1" ATTACHED BY A FULL PENETRATION BUTT WELD MAY BE USED AS AN ALTERNATE ANCHOR.
6. NORMAL CURB FACE AT POINT M AND Q, B+5" AT POINT N AND P.
7. THE 3" LEG OF THE INTERIOR ANCHORS SHALL BE PARALLEL TO THE TOP OF SIDEWALK.
8. G, S, AND ℄ A SHALL BE PER IMPROVEMENT PLANS.
9. CURB BATTER SHALL CONFORM TO EXISTING ADJOINING CURB. SEE STD. DWG. NO. 311.
10. CONCRETE SHALL BE CLASS 560 C 3250.

STEEL LIST

S	B	GALVANIZED STEEL ANGLE	ANCHOR	J BAR SIZE	J BAR SPACING	J BAR LENGTH
1'-0"	3"	2$\frac{1}{2}$" X 2" X $\frac{3}{16}$"	2	#3	7"	1'-8"
1'-6"	"	"	"	"	"	2'-3"
2'-0"	"	"	"	"	"	2'-8"
2'-6"	"	"	"	"	"	3'-3"
3'-0"	"	"	3	"	"	3'-8"
3'-6"	"	"	"	"	6"	4'-3"
4'-0"	"	"	"	"	5"	4'-8"
4'-6"	4"	3$\frac{1}{2}$" X 3" X $\frac{1}{2}$"	"	"	6$\frac{1}{2}$"	5'-3"
5'-0"	"	"	"	"	5"	5'-8"
5'-6"	"	"	"	"	4"	6'-3"
6'-0"	"	"	"	"	3$\frac{1}{2}$"	6'-8"

CITY OF COSTA MESA CALIFORNIA PUBLIC SERVICES DEPARTMENT	PARKWAY DRAIN NO. 1	DRAWN E.K.S. SCALE NONE
	APPROVED B.D. Mattern DATE 12/13/65 BRUCE D. MATTERN R.C.E. 19309	STD. DWG. NO. 417

REV.

PLAN

CASE I INLET

DROP INLET CATCH BASIN SECTION

CASE II INLET

GRADED DITCH SECTION

CURB PROFILE

8" NORMAL CURB FACE

SECTION A-A

* NORMAL T.C. GRADE LINE AS SHOWN ON PROFILE

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 CONJUCTION 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" H 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 "α" 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
	APPROVED B D Mattern DATE 12/13/85 BRUCE D. MATTERN R.C.E. 19368	STD. DWG. NO. 418

REV.

PARKWAYS LESS THAN 8'
1 COVER REQUIRED
CASE I: 2'X 4' TREE WELL

PARKWAYS 8' OR GREATER
2 COVERS REQUIRED
CASE II: 4' X 4' TREE WELL

TREE WELLS

CASE	A	B	C	D
I	4'-0"	2'-0"	3'-11"	1'-11½"
II	4'-0"	4'-0"	3'-11"	1'-11½"

POROUS TREE WELL COVER

TYPICAL SECTIONS

NOTES:

1. TREE WELLS SHALL BE PLACED APPROXIMATELY 50' APART, BUT NOT LESS THAN ONE PER RESIDENTIAL LOT.
2. LOCATION OF TREE WELLS WILL BE SUBJECT TO THE FOLLOWING CONDITIONS:
   A. 25' FROM CURB RETURNS.
   B. 15' FROM LIGHT STANDARDS AND POWER POLES.
   C. 10' FROM FIRE HYDRANTS, DRIVEWAYS, HOUSE WALKS, UTILITY METERS, PEDESTALS.
   D. 10' FROM ALL UTILITY LATERALS AND MAINS.
3. COVERS ARE TO BE COLORED BUFF USING AN ACCEPTABLE COLORING AGENT.
4. TREE WELLS ARE TO BE BACKFILLED WITH CLEAN DIRT AND FLUSH WITH ADJACENT WALK UNTIL TREES ARE PLANTED.

CITY OF COSTA MESA CALIFORNIA PUBLIC SERVICES DEPARTMENT	SIDEWALK TREE WELL & COVER	DRAWN E.K.S. SCALE NONE
	APPROVED B D Mattern DATE 12/13/85 BRUCE D. MATTERN R.C.E. 19388	STD. DWG. NO. 419

REV.

SECTION A-A

N.T.S.

PLAN

N.T.S.

CITY OF COSTA MESA PUBLIC SERVICES DEPARTMENT	RESIDENTIAL DRIVEWAY APPROACH TYPE I	
APPROVED BY: ERNESTO MUÑOZ, CITY ENGINEER — WILLIAM MORRIS, DIRECTOR OF PUBLIC SERVICES 1/10/03		STD. DWG. NO. 513

FILE NAME: STD-513.DWG / REVISED: SHT. 1 OF 2

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 MUÑOZ CITY ENGINEER — WILLIAM MORRIS DIRECTOR OF PUBLIC SERVICES 1/10/03		STD. DWG. NO. 513

FILE NAME: STD–513.DWG REVISED: SHT. 2 OF 2

SECTION A–A

N.T.S.

PLAN

N.T.S.

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 9/24/03

STD. DWG. NO. 514

FILE NAME: STD–514.DWG

REVISED:

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 9/24/03		STD. DWG. NO. 514

FILE NAME: STD–514.DWG REVISED: SHT. 2 OF 2

TYPE A

SECTION A–A

CURB FACE, mm	X, mm	Y, mm
150 (6") or less	900 (3'–0")	1200 (4'–0")
175 (7")	1050 (3'–6")	1425 (4'–9")
200 (8")	1200 (4'–0")	1700 (5'–8")
225 (9")	1350 (4'–6")	1950 (6'–6")
250 (10")	1500 (5'–0")	2175 (7'–3")
275 (11")	1650 (5'–6")	2400 (8'–0")
300 (12") or more	1800 (6'–0")	2625 (8'–9")

TYPE B

NOTES:

1. RESIDENTIAL DRIVEWAYS SHALL BE 100 mm (4") THICK PCC.
2. COMMERCIAL DRIVEWAYS SHALL BE 150 mm (6") THICK PCC.
3. WEAKENED PLANE JOINTS SHALL BE INSTALLED AT BOTH SIDE OF A DRIVEWAY AND AT APPROXIMATELY 3000 mm (10') INTERVALS.
4. CURB FOR TYPE C DRIVEWAY SHALL BE INTEGRAL AND MATCH ADJACENT CONSTRUCTION.
5. REFER TO LOCAL DEVELOPMENT REGULATIONS FOR AMERICANS WITH DISABILITIES ACCESS REQUIREMENTS AND MAXIMUM PERMITTED DRIVEWAY WIDTHS.
6. DIMENSIONS SHOWN ON THIS PLAN FOR METRIC AND ENGLISH UNITS ARE NOT EXACTLY EQUAL VALUES. IF METRIC UNITS ARE USED, ALL VALUES USED FOR CONSTRUCTION SHALL BE METRIC VALUES. IF ENGLISH UNITS ARE USED, ALL VALUES USED FOR CONSTRUCTION SHALL BE ENGLISH VALUES.

TYPE C

AMERICAN PUBLIC WORKS ASSOCIATION - SOUTHERN CALIFORNIA CHAPTER

PROMULGATED BY THE PUBLIC WORKS STANDARDS INC. GREENBOOK COMMITTEE 1964 REV. 1998

DRIVEWAY APPROACHES

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN METRIC 110 - 1 SHEET 1 OF1

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY

Approved W.L. Zoun Director of Public Works

Adopted: Res. 78-791 As Revised: Res. 86-1141, 88-1341, 95-546

TREE ROOT BARRIER

STD. PLAN

1708

SHT. 1 OF 2

NOTES:

Tree Trimming :

1. Prior to root pruning, each tree shall be trimmed to reduce its overall size by one-third (1/3) and to promote improved growth. Trimming shall also provide:

   a. Removal of all dead, damaged, diseased, or structurally deficient limbs;
   b. Thinning to reduce interior wind resistance;
   c. Vertical clearance of 14.0 feet over roadways 9.0 feet over sidewalks;
   d. Visual clearance around all traffic control devices and signs;
   e. An overall balanced appearance.

2. Root Pruning :

   Root pruning cuts shall be made immediately adjacent to the sidewalk and shall be 4" wide, 16" deep (measured from the top of the final grade of the sidewalk) and 16' long centered 8' either side of the center of the tree. The bottom 13" of the root prune cut shall be filled with pea gravel, to promote deeper watering, with the top 3" filled with native soil free from rocks or other materials that would interfere with landscape maintenance tasks. At least 18 months shall transpire before root pruning the opposite of a tree. In general, root pruning would not be performed adjacent to the curb due to the normal depth of the curb.

3. Root Control Barrier :

   Barrier shall be fabricated from a high density, high impact plastic, i.e. Polystyrene, Polyethylene, Polyvinyl Chloride, (PVC), or Acrylonitrile-Butadiene-Styrene (ABS). The interior surface shall have ½" high (minimum) raised vertical ribs spaces 6" to 8" apart the full depth of the barrier and shall be expressly designed for root deflection.

   Barrier used for root pruning shall have a minimum depth of 12" with a minimum thickness of 0.06". Barriers shall be 16 feet long in one continuous piece (preferred) or in a combination of pieces securely fastened with adhesive at joint points.

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY

Approved W.L. Zauk
W.L. Zauk, Director of Public Works

Adopted: Res. 78-791 Revised: Res. 86-1141; 88-1341; 96-546

TREE ROOT BARRIER

STD. PLAN
1708
SHT. 2 OF 2

UNITED STATES POST OFFICE

OUR REF: WED13:JDIAZ:am:-9998 DATE: May 30, 1990

SUBJECT: Location of mailboxes P.O.CL:

TO: City of Costa Mesa

Mailboxes shall be located on the right hand side of the roadway in the direction of the delivery route except on one way streets where they may be placed on the left hand side. The bottom of the box shall be set at an elevation established by the U.S. Postal Service, usually between 3'6" and 4'0" above the roadway surface.

On curbed streets, the roadside face of the mailbox shall be set back from the face of the curb a distance between 6 and 12 inches. On residential streets without curbs, that carry low traffic volumes, the roadside face of a mailbox shall be offset between 8 and 12 inches behind the edge of pavement.

156.54 D.M.M. Location

Rural boxes must be placed so that they may be safely and conveniently served by carriers without leaving their conveyances.

In all new housing tracks, we instruct the builders to install curbline delivery boxes at 2 to a post, at the property line on the curb.

155.262 Hardship cases

a) Changes in the type of delivery authorized for an area will be considered where service by existing methods would impose an extreme physical hardship on an individual customer. Any request for a change in delivery methods must be submitted in writing. Approval of these requests should be based upon humanitarian and not economic criteria. Each request for a change in delivery service should be evaluated on the basis of the customer's needs; a request should not be denied solely because of increased operational costs or because a family member or other party may be available to receive mail for the customer.

MAILBOX IMPROVEMENT WEEK—Continued

Exhibit C

Exhibit D

Contract Delivery Routes

Contract delivery route customers must use an approved traditional rural-type or contemporary design box as new or replacement boxes.

General Requirements

The placement of mailboxes on both rural and contract routes must be safe and convenient for carriers. The boxes must be on the right-hand side of the road in the carrier's travel direction so they can deliver mail without leaving their conveyance. This rule especially applies where traffic conditions make it dangerous for the carrier to drive to the left in order to reach the boxes, or when doing so would constitute a violation of traffic laws and regulations (apartment house or other multiple dwellings can be exempted from this rule as described in DMM 156.312).

On new rural routes, all boxes must be on the right-hand side of the road in the direction of the route line of travel. Box placement must conform with state laws and highway regulations. Rural carriers are subject to the same traffic laws and regulations as other motorists. Customers must remove obstructions, including vehicles, trash cans, and snow, that impede efficient delivery. Except when a box is temporarily blocked, carriers must have access to the box without leaving the vehicle unless authorized to dismount.

Mailbox Supports

Supports for mailboxes should be of adequate strength and size to support the box properly. However, customers should avoid using massive mailbox supports that, when struck, could damage vehicles and cause serious injury to vehicle occupants. Heavy metal posts, concrete posts, and miscellaneous items of farm equipment, such as milk cans filled with concrete, are examples of potentially dangerous supports. The ideal support is an assembly that bends or falls away from a striking vehicle. DMM sections 156.531, 156.54, 157.32c, and 157.4 specify postal regulations regarding construction and placement of mailboxes and supports on rural and highway contract routes.

The Federal Highway Administration (FHWA) has determined that mailbox supports no larger than 4 inches by 4 inches or a 4½-inch diameter wood post or a 2-inch diameter standard steel or aluminum pipe, buried no more than 24 inches, should safely break away if struck by a vehicle. The mailbox must also be securely attached to its post to prevent separation when struck. Exhibits E and F on page 12 are detailed examples of mailbox mountings and supports suggested by the FHWA. Boxes and supports should also be painted and free from rust.

NDCBUs and All-Weather Parcel Lockers

During Mailbox Improvement Week, postmasters/managers or their designees should also review Neighborhood Delivery and Collection Box Units (NDCBUs) and All-Weather Parcel Lockers in their delivery area to identify any hazards or irregularities. Exhibit G on page 13 is a suggested format for use in conducting the review. Results of the review should be recorded.

Employees conducting the review must complete Form 1624, *Delivery and Collection Equipment Work Request*, for any equipment that poses a safety hazard to postal customers or employees. Use Form 7380, *MDC Supply Requisition*, to request Form 1624 from the materiel distribution centers.

Equipment Review Procedure

Employees should use the NDCBU and parcel locker Equipment Checklist and Followup Review Procedure, Exhibit G, when examining the condition of NDCBU and parcel locker equipment. This exhibit may be reproduced locally. They should:

1. List the unit location, type, and manufacturer in the left-hand column (omit manufacturer if all items are in order).
2. Assign each checklist item one of the following ratings:
   - OK—Equipment does not need attention for this item.
   - X—Equipment needs attention for this item.
   - NA—Item does not apply to this particular piece of equipment.
3. Examine the following items and annotate Exhibit G:

a. Equipment should be straight, vertical, and firmly mounted. Attempt to shake the unit; it should not move. If equipment is not firmly mounted, note whether it is the connection at ground level that is loose or the pedestal to customer compartments connection that needs attention.

b. Check visible welds. Make note of cracked, broken, or rusted welds.

c. Observe whether the carrier access door is locked and secure. Open it and observe that it is not bowed or warped and that the door and locking bar operate smoothly. With carrier access door(s) open, notice if restraining devices prevent the door

Exhibit E

CANTILEVER MAILBOX SUPPORTS

Exhibit F

SPACING FOR MULTIPLE POST INSTALLATION

SINGLE AND DOUBLE MAILBOX INSTALLATIONS

TYPICAL CROSS SECTIONS
NOTES: REFER TO MASTER PLAN OF BIKEWAYS FOR STREETS REQUIRING BICYCLE FACILITIES. ADDITIONAL RIGHT OF WAY MAY BE REQUIRED TO MEET A.D.A. ACCESSIBILITY REQUIREMENTS AT BUS STOPS AND DRIVE APPROACHES.
FOUR LANES - NO PARKING SECONDARY HIGHWAY
SIX LANES - MEDIAN - NO PARKING MAJOR HIGHWAY
TWO LANES - NO PARKING COLLECTOR HIGHWAY
FOUR LANES - MEDIAN - NO PARKING PRIMARY HIGHWAY
ACTION
PLANNING COMMISSION
COUNCIL
Adopted
Revised
LEGEND
MAJOR (104' R/W)
PRIMARY (80' R/W)
SECONDARY (72' R/W)
COLLECTOR (60' R/W)
RIGHT TURN LANE
MACARTHUR
HYLAND
HARBOR
COUNTRY CLUB
GISLER
MESA VERDE
NUTGROVE
SOUTH COAST
SUNFLOWER
FAIRVIEW PARK
ADAMS
BLUFF
CANYON
NATIONAL
BAKER
FAIRVIEW
PAULARINO
ORANGE COAST COLLEGE
EL CAMINO
MENDOZA
BEAR
PLAZA
SOUTH COAST PLAZA
TOWN CENTER DR.
FLOWER
WHITTIER
MONROVIA
PLACENTIA
POMONA
HAMILTON
VICTORIA
MESA
HARBOR
MERRIMAC
FORDHAM
FAIR
WAKE FOREST
FAIRVIEW
COLLEGE
BAY
THURSTON
VANGUARD CMC CENTER
ORANGE COUNTY FAIRGROUNDS
ARLINGTON
PRESIDIO
JAMBORI
BEAR
BRISTOL
ANTON
SAKIOKA
MAIN
I-405
SR-55
SUPERIOR
INDUSTRIAL
NEWPORT
PROPOSED FREEWAY
ANAHEIM
PARK
16TH
17TH
18TH
ELDEN
ORANGE
SANTA ANA
TUSTIN
IRVINE
SANTA ISABEL
MESA
DEL
KAMAN
PULLMAN
BRISTOL
KILLION
FISHER
BRIGGS
RED HILL
AIRWAY
AIRPORT LOOP
CLINTON
CITY OF COSTA MESA, CALIFORNIA
MASTER PLAN OF HIGHWAYS
AMENDED OCTOBER 18, 2005
GENERAL PLAN AMENDMENT 05-5

City of Costa Mesa Building Division

RETAINING WALLS

**SUBJECT TO ADJACENT PROPERTY OWNER'S APPROVAL

NOTES:

1. Retaining wall shall be grouted solid.
2. Reinforcing splices in masonry shall be lapped not less than 15", in concrete not less than 12".
3. Omit mortar at head joints of first course at 32" o.c.
4. Mortar shall be no leaner than 3 to 1.
5. Inspection required prior to grouting cells.
6. Retaining walls greater than 4'-0" in height or with surcharge loads other than shown above shall be fully engineered by a licensed engineer.
7. Retaining walls with standard concrete block walls or fences of any materials constructed above, shall be fully engineered by a licensed engineer.
8. A survey of the lot may be required by the building official to verify that the structure is located in accordance with the approved plans (2001 CBC, Section 108.1).

SPECIFICATIONS:

CONCRETE: 2500 psi at 28 days.

BLOCK: Grade N, Type 1 A.S.T.M. C-90.

REINFORCING: Grade 40 A.S.T.M. A615.

A	B
0 TO 6" (0 TO 150 mm)	2" (50 mm)
6" TO 16" (151 TO 400 mm)	4" (100 mm)
17" TO 48" (410 TO 1200 mm)	6" (150 mm)

NOTES

1. MAX HEIGHT OF WALL IS 3 COURSES OF 8" (200 mm) HIGH BLOCK.
2. NO LIVE-LOAD SURCHARGE SHALL BE ALLOWED ON RETAINED SOIL.
3. POUR FOOTING AGAINST UNDISTURBED EARTH.
4. TOP OF FOOTING MAY BE PLACED AT SAME GRADE AS STREET IF STREET GRADE IS UNIFORM AND 5% MAX.
5. PLACE CONCRETE BLOCKS IMMEDIATELY AFTER POURING THE FOOTING. FILL ALL CELLS SOLID WITH GROUT AND ROD SO THAT GROUT IS MONOLITHIC WITH FOOTING.
6. IN FIRST COURSE ABOVE FINISHED GRADE, OMIT MORTAR FROM VERTICAL JOINTS EACH 32" (800 mm) TO SERVE AS WEEP HOLES.

CASE A

CASE B

CASE C

CASE D

CASE E

DETAIL A

TYPICAL TWO-RAMP CORNER INSTALLATION

See Note 1

DETAIL B

TYPICAL ONE-RAMP CORNER INSTALLATION

See Notes 1 and 3

SECTION A-A

SECTION B-B

Depress entire sidewalk as required

SECTION C-C

RAISED TRUNCATED DOME PATTERN (IN-LINE)

DETECTABLE WARNING SURFACE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

May 31, 2018

PLANS APPROVAL DATE

Rebecca Lynn Mowry No. C54415 Exp. 12-31-19 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES: See Note 10

1. As site conditions dictate, Case A through Case G curb ramps may be used for corner installations similar to those shown in Detail A and Detail B. The case of curb ramps used in Detail A do not have to be the same. Case A 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.
2. 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.
3. When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
4. As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
5. The ramp portion of the curb ramp is a typical rectangle, unless modified in the Project Plans.
6. Side slope of ramp flares vary uniformly from a maximum of 9.0% at curb to conform with longitudinal sidewalk slope adjacent to top of the ramp, except in Case C and Case F.
7. The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.
8. Counter slopes of adjoining gutters and road surfaces immediately adjacent to and within 24 inches of the curb ramp shall not be steeper than 1V:20H (5.0%). Gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.
9. Transition gutter pan slope from 1" of depth for each 2'-0" of width to match typical gutter pan slope per Standard Plan A87A.
10. 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 3'-0" depth of the ramp. Detectable warning surfaces shall extend the full width of the ramp except a maximum gap of 1 inch is allowed on each side of the ramp. Detectable warning surfaces shall conform to the requirements in the Standard Specifications.
11. Sidewalk and ramp thickness, "T", shall be 3½" minimum.
12. 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.
13. Detectable warning surface may have to be cut to allow removal of utility covers while maintaining detectable warning width and depth.

GUTTER PAN TRANSITION

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURB RAMP DETAILS

NO SCALE

A88A

1-29-18

Return to Table of Contents

DETAIL "A"

NEW MANHOLE PVC LINER DETAIL

NOTES:

1. MAKE FINAL ADJUSTMENTS AT THE MORTAR JOINT BETWEEN THE FIRST AND SECOND GRADE RINGS. SET FLUSH WITH PAVEMENT TO ONE-EIGHTH INCH HIGH.
2. ADD OR REMOVE GRADE RINGS, REPAIR PVC OR SPRAYED ON LINER, AND TEST LINER FOR PINHOLES AND "PROBE TEST" FOR WEAK WELDS AS APPROVED BY THE ENGINEER. ADJUST HEIGHT AT MANHOLE RISER SECTIONS IF THE TOTAL HEIGHT OF GRADE RINGS WOULD EXCEED 24 INCHES.
3. BACKFILL FLUSH WITH SURFACE OR BELOW PAVEMENT SURFACE AS REQUIRED GOVERNING AGENCY WITH 3250 PSI (CLASS B) QUICK SETTING CONCRETE FOR COLLAR. EXPOSED CONCRETE SHALL BE BLACK IN COLOR.
4. FILL AREA ABOVE BELOW-GRADE COLLAR WITH AC WEARING SURFACE TO MATCH ADJACENT AC.
5. WHERE ODOR CONDITIONS EXIST OR WHERE DESIGNATED, SEAL MANHOLE RIM AND HOLES WITH DUCT-SEAL MASTIC. RE-SEAL IF EXISTING MANHOLE COVER WAS SEALED.

NO.	APPROVED	DATE
1	EDAC	02/22/2017

ORANGE COUNTY SANITATION DISTRICT
ORANGE COUNTY, CALIFORNIA
APPROVED BY
DIRECTOR OF ENGINEERING — DATE 5/20/18

PVC LINER INSTALLATION EXISTING MANHOLE ADJUST TO GRADE

NO SCALE

STANDARD DWG.

S-050A

DWG: J:_CAD Standards\WIP\WIP_Engineering Standard Drawings\REVISED\S-050A - PVC LINER INSTALLATION EXISTING MANHOLE ADJUST TO GRADE.dwg
DATE: May 15, 2019 8:42am

CROSS SECTION

NOTES:

1. NEATLY REMOVE PAVEMENT AND AGGREGATE BASE AS NECESSARY TO MAKE ADJUSTMENT.
2. MAKE FINAL ADJUSTMENTS AT THE MORTAR JOINT BETWEEN THE FIRST AND SECOND GRADE RINGS. SET FLUSH WITH PAVEMENT TO 1/8" HIGH.
3. AT EXISTING MANHOLES, ADD OR REMOVE GRADE RINGS, REPAIR PVC OR SPRAYED LINER, AND TEST LINER FOR PINHOLES AS APPROVED BY THE ENGINEER. ADJUST HEIGHT AT MANHOLE RISER SECTIONS IF THE TOTAL HEIGHT OF GRADE RINGS WOULD EXCEED 24".
4. BACKFILL FLUSH WITH SURFACE OR BELOW PAVEMENT SURFACE AS REQUIRED BY GOVERNING AGENCY WITH 3250 PSI (CLASS B) QUICK-SETTING CONCRETE TO FORM COLLAR. EXPOSED CONCRETE SHALL BE BLACK IN COLOR.
5. FILL AREA ABOVE BELOW-GRADE COLLAR WITH AC WEARING SURFACE TO MATCH ADJACENT AC.
6. WHERE ODOR CONDITIONS EXIST OR WHERE DESIGNATED, SEAL MANHOLE RIM AND HOLES WITH DUCT-SEAL MASTIC. RE-SEAL IF EXISTING MANHOLE COVER WAS SEALED.

NO.	APPROVED	DATE
1	EDAC	02/22/2017

ORANGE COUNTY SANITATION DISTRICT
ORANGE COUNTY, CALIFORNIA
APPROVED BY
DIRECTOR OF ENGINEERING — DATE 5/20/18

MANHOLE ADJUSTMENT TO GRADE

NO SCALE

STANDARD DWG.

S-055

DWG: J:_CAD Standards\WIP\WIP_Engineering Standard Drawings\REVISED\S-055 - MANHOLE ADJUSTMENT TO GRADE.dwg
DATE: Apr 03, 2019 12:23pm

DETAIL "A"

EXISTING MANHOLE PVC LINER DETAIL

NOTES:

1. AT EXISTING MANHOLES, ADD OR REMOVE GRADE RINGS, REPAIR PVC OR SPRAYED ON LINER, AND TEST LINER FOR PINHOLES AND "PROBE TEST" FOR WEAK WELDS AS APPROVED BY THE ENGINEER. ADJUST HEIGHT AT MANHOLE RISER SECTIONS IF THE TOTAL HEIGHT OF GRADE RINGS WOULD EXCEED 24 INCHES.
2. WHERE ODOR CONDITIONS EXIST OR WHERE DESIGNATED, SEAL MANHOLE RIM AND HOLES WITH DUCT-SEAL MASTIC. RE-SEAL IF EXISTING MANHOLE COVER WAS SEALED.

NO.	APPROVED	DATE
1	EDAC	02/22/2017

ORANGE COUNTY SANITATION DISTRICT
ORANGE COUNTY, CALIFORNIA
APPROVED BY
DIRECTOR OF ENGINEERING — DATE 5/20/18

PVC LINER REPAIR EXISTING MANHOLE

NO SCALE

STANDARD DWG.

S-055A

DWG: J:_CAD Standards\WIP\WIP_Engineering Standard Drawings\REVISED\S-055A - PVC LINER REPAIR EXISTING MANHOLE.dwg
DATE: Apr 17, 2019 10:15am

CITY OF COSTA MESA

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

FROM THE PUBLIC WORKS DEPARTMENT / ENGINEERING DIVISION

DATE: **NOVEMBER 3, 2022**

TO: **ALL PROSPECTIVE BIDDERS**

SUBJECT: **ADDENDUM NO. 1 – CITYWIDE NEW TRAFFIC SIGNAL AND HAWK SIGNAL INSTALLATION PROJECT, CITY PROJECT NO. 22-07**

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 *janet.zuazo@costamesaca.gov*. **A COPY WILL NOT BE SENT BY MAIL.**

Received by: _____

Company: _____

All bidders shall register with PlanetBids.com in order to retrieve addenda. It is the responsibility of each prospective bidder to check the City's PlanetBids.com portal at: *https://www.planetbids.com/portal/portal.cfm?CompanyID=45476* 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 added to the *Notice to Bidders, Proposal, Contract, and Special Provisions* (i.e., bid project documents):

- Design plans from Southern California Edison (SCE) for all project locations. SCE design plans reflect power connections, conduit installations, hardware installations, etc.

The following **SHALL** be replaced in its complete entirety to the *Notice to Bidders, Proposal, Contract, and Special Provisions* (i.e., bid project documents):

- Clearer traffic signal and HAWK signal plans for all the project locations. No edits to the plans were made.
- Revised Notice Inviting Bids (pages N-1 and N-2). Change made to Item No. 6: CONTRACTOR'S LICENSE. C-10 (Electrical) license added along with Class "A" (General Engineering Contractor) license.
- Revised SECTION C (i.e., Bid Proposal Schedule) [pages P-1a and P-1b]. Concrete curb extensions (i.e., "bulb-outs") are now line itemized instead of lump sum.
- Revised SECTION E – SPECIAL PROVISIONS [pages SP-33 and SP-34]. Itemized requirements for the concrete curb extensions (i.e., "bulb-outs").

The following are Question and Answer (Q&A) responses to bidder questions:

1. **Question:** Is a non-admitted surplus line carrier approved by the State of California Dept. of Insurance allowable to meet the City's insurance requirement? If yes, please provide rating.

   Answer: Please follow the instructions in Section "F" – Miscellaneous Contract Documents, in which there is a document titled "INSURANCE REQUIREMENT FOR CITY OF COSTA MESA." Insurance company ratings must be at least B++, BBB, or Baa1.

2. **Question:** Refer to page "GP6" where the contractor is directed to Appendix "C" – Caltrans Encroachment Permit. Caltrans encroachment permit not found in appendix. Can you please provide and include fee for permit, double permit rider, etc. related to Caltrans?

   Answer: No Caltrans encroachment permit is necessary. Only City of Costa Mesa Public Works encroachment permit is necessary.

3. **Question:** Are there any SCE fees borne by the contractor? If yes, what are the fees?

   Answer: Only City-specific SCE fees will be borne by the City. All other SCE fees are considered project related and will be borne by the contractor. Actual fee amounts will be determined by SCE. Bidding proposers are advised to submit bids that reflect and cover these costs.

4. **Question:** Are there any specific SCE plans made available for this project?

   Answer: Yes, the SCE plans are attached to this bid addendum (see page 1 of this bid addendum).

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 *janet.zuazo@costamesaca.gov*.

Please acknowledge receipt of this bid addendum by signing on page "P-4" of the proposal within the bid contract documents AND by filling out and signing within the rectangle on the first page of this bid addendum and e-mailing it to *janet.zuazo@costamesaca.gov*.

Sincerely,

S. Yang

Seung Yang, P.E.
City Engineer

SY: Attachments

CITY OF COSTA MESA
ORANGE COUNTY, CALIFORNIA
NOTICE INVITING BIDS

NOTICE IS HEREBY GIVEN that the City of Costa Mesa ("City") invites sealed bids, to be submitted electronically only, for the following project:

CITYWIDE NEW TRAFFIC SIGNAL AND HAWK SIGNAL INSTALLATION PROJECT, CITY PROJECT NO. 22-07

1. **BID SUBMISSION AND OPENING:** Bids must be submitted electronically via the City of Costa Mesa's PlanetBids portal before the deadline of **2:00 P.M., Wednesday, November 9, 2022**, at which time or shortly thereafter the City Clerk will open bids electronically. The bid results will be posted online via PlanetBids. No paper bids or any other form of submittal will be accepted. Any bid received after the scheduled closing time for the receipt of bids will be rejected. The City is not responsible for and accepts no liability in the event a response is late due to any network, internet, or any other technical difficulty or interruption. It shall be the sole responsibility of the bidder to ensure that his/her/its bid is received by the deadline.

   To access the bid documents and bid on this project, potential vendors and bidders must first register through the City's PlanetBids portal at: https://www.planetbids.com/portal/portal.cfm?CompanyID=45476.

2. **SCOPE OF WORK AND BID DOCUMENTS:** The scope of work generally consists of mobilization, installation of a new traffic signal at the intersection of W. 19th Street & Wallace Avenue; installation of a new HAWK signal at W. 18th Street across from Lions Park; installation of a new HAWK signal at Wilson Street across from Wilson Park; concrete sidewalk and curb & gutter modifications; curb access ramp modifications; notifications to businesses and residents; traffic signing; striping and markings; installation of pavement markers; and implementing traffic control.

   The plans, specifications, and bid documents for this project can be obtained via the City's PlanetBids portal at: https://www.planetbids.com/portal/portal.cfm?CompanyID=45476.

   It is the bidder's responsibility to ensure that the most current version of the solicitation, including any addenda, has been downloaded. Bids received without the applicable addenda will be rejected as incomplete.

3. **PRE-BID MEETING OR JOB WALK:** None.

4. **BID CONTENTS:** All bids must be submitted on the proposal form included in the bid documents. 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.

5. **BID SECURITY:** Each bidder must submit 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, to the Costa Mesa City Clerk **PRIOR** to the bid submission deadline. No bid will be considered unless such certified check, cashier's check, or bid bond is received by the City Clerk prior to the bid submission deadline.

6. **CONTRACTOR'S LICENSE:** A valid **California Contractor's License Class "A" (General Engineering Contractor) OR "C-10" (Electrical)** 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 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 Labor Code 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 works 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 (DIR) 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 Costa Mesa Public Services Department 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: http://www.dir.ca.gov; these rates are subject to predetermined increases. The prime contractor shall post a copy of the DIR'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 DIR.

9. **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.

10. **RETENTION:** The City withholds five percent (5%) of each progress payment as retention. Pursuant to Public Contract Code section 22300, the successful bidder may substitute certain securities for money withheld by the City to ensure performance of the contract. At the request and expense of the contractor, securities equivalent to the amount withheld shall be deposited with the public agency, or with a state or federally chartered bank in this state as the escrow agent, who shall then pay those moneys to the contractor. Securities will be returned to the contractor upon satisfactory completion of the contract.

11. **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.

12. **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.

13. **ADDITIONAL REQUIREMENTS:** This project is subject to local, State, and Federal regulations and requirements, as detailed in the bid documents.

For all inquiries, please contact Administrative Secretary: Janet Zuazo, Public Works Department, via e-mail at janet.zuazo@costamesaca.gov.

Brenda Green, City Clerk
City of Costa Mesa
Dated: October 5, 2022

BID SCHEDULE PROPOSAL

ITEM #	BID ITEM DECRIPTION	QTY.	UNIT	UNIT PRICE (in figures)	ITEMS TOTAL (in figures)
Project "A": NEW TRAFFIC SIGNAL AT W. 19TH STREET & WALLACE AVENUE					
1A	Mobilization and Demobilization	1	L.S.		
2A	Implement Traffic Control, including all Equipment, Material, Labor, and Set Up (includes removal at the end of project)	1	L.S.		
3A	Furnish and Install New Traffic Signal, including all Appurtenant Material, Equipment, Labor, and Construction to Produce a Full Functioning Traffic Signal that is Connected and Fully Communicates with the City's Traffic Management Center (TMC)	1	L.S.		
4A	Complete Signing, Striping, and Markings per Plan	1	L.S.		
5A	Implement Traffic Signal Interconnect and Full Functionality with the City's Traffic Management Center (TMC)	1	L.S.		
6	Construct Two (2) Intersection "Bulb-Outs" at the Northerly Intersection of West 19th St. and Wallace Ave., including All Demolition & Haul Away, Construction of Concrete Sidewalk (4-inch Concrete over 4-inch C.M.B.), A.D.A. Curb Ramps per Plan, Curb & Gutter per Plan, Asphalt Concrete (A.C.) Slot Pave, and All Other Ancillary Work Needed for Completion per Engineer's Direction.				
6A	Asphalt Slot Paving (per Item #6 above)	25	TON		
6B	Demolish Existing and Construct New C-6 Curb & Gutter [6-inch Portland Cement Concrete (PCC) over 6-inch Crushed Miscellaneous Base (CMB)] (per Item #6 above)	150	L.F.		
6C	Demolish Existing and Construct New C-8 Curb & Gutter [6-inch Portland Cement Concrete (PCC) over 6-inch Crushed Miscellaneous Base (CMB)] (per Item #6 above)	40	L.F.		
6D	Demolish Existing and Construct New Sidewalk [4-inch Portland Cement Concrete (PCC) over 4-inch Crushed Miscellaneous Base (CMB)] (per Item #6 above)	1,600	S.F.		
6E	Install New Truncated Domes (Federal Yellow) at All Newly Constructed Curb Ramps (per Item #6 above)	5	EA		
6F	Demolish Existing and Construct New Cross-Gutter [8-inch Portland Cement Concrete (PCC) over 8-inch Crushed Miscellaneous Base (CMB)] (per Item #6 above)	50	S.F.		

_____
Bidder's Initials

Project "B": NEW HAWK SIGNAL AT W. 18TH STREET ACROSS FROM LIONS PARK					
1B	Mobilization and Demobilization	1	L.S.		
2B	Implement Traffic Control, including all Equipment, Material, Labor, and Set Up (includes removal at the end of project)	1	L.S.		
3B	Furnish and Install New HAWK Signal, including all Appurtenant Material, Equipment, Labor, and Construction to Produce a Full Functioning HAWK Signal	1	L.S.		
4B	Complete Signing, Striping, and Markings per Plan	1	L.S.		

Project "C": NEW HAWK SIGNAL AT WILSON STREET ACROSS FROM WILSON PARK					
1C	Mobilization and Demobilization	1	L.S.		
2C	Implement Traffic Control, including all Equipment, Material, Labor, and Set Up (includes removal at the end of project)	1	L.S.		
3C	Furnish and Install New HAWK Signal, including all Appurtenant Material, Equipment, Labor, and Construction to Produce a Full Functioning HAWK Signal	1	L.S.		
4C	Complete Signing, Striping, and Markings per Plan	1	L.S.		

TOTAL BID PROPOSAL FIGURES: $

TOTAL BID PROPOSAL (Words):

_____

_____

The award of the Contract shall be based on the lowest responsive Bid amount, and the City reserves the right to delete one or more bid items and/or to increase and/or to decrease bid items' quantities.

The CITY also reserves the right to reject all Bids.

_____
Bidder's Initials

BID ITEM NO. 6: ***CONSTRUCT TWO (2) INTERSECTION "BULB-OUTS" AT THE NORTHERLY INTERSECTION OF WEST 19TH ST. AND WALLACE AVE.,, INCLUDING ALL DEMOLITION & HAUL AWAY, CONSTRUCTION OF CONCRETE SIDEWALK (4-INCH CONCRTE OVER 4-INCH C.M.B.), A.D.A. CURB RAMPS PER PLAN, CURB & GUTTER PER PLAN, ASPHALT CONCRETE (A.C.) SLOT PAVE, AND ALL OTHER ANCILLAY WORK NEEDED FOR COMPLETION PER ENGINEER'S DIRECTION***

Bid item nos. ***6A*** *through* ***6F*** *are described in* ***i.*** *through* ***iv.*** *below:*

i. Remove Existing and Reconstruct Concrete Sidewalk [4" Portland Cement Concrete (P.C.C.) over 4" Crushed Miscellaneous Base (CMB)] Including ADA Ramps

Measurement and Payment for this task shall be per the unit price bid per **Square Foot (S.F.)** as constructed in accordance with these Special Provisions, Standard Specifications, and as shown on the Plans. The Work Limits is as shown on the Plans and shall include, but not limited to, the following Work:

1. Saw cutting, clearing and grubbing, unclassified excavation, furnishing, placement and compaction of 4" CMB, placement of concrete, removing tree roots encounter within the excavation limits, blocking out and/or widening existing tree wells.
2. Restoration of existing sprinkler systems including any reducers required for different pipe sizes, and from existing or new pipes to the sprinkler heads, connection points, all fittings, all tees and ells, backfill material for pipe trench, and all miscellaneous materials for proper installation and/or modification for construction of complete sprinkler system removed by sidewalk replacement operations.
3. Furnish and place Modified Class "A" Topsoil, landscaping, plants and new sod as disturbed by operations.
4. Re-grading the areas adjacent to the new sidewalk construction to transition to join new improvements.
5. Adjusting water meter boxes and water valves to grade within replacement area.
6. Replacement, or repair to the existing curb drains during construction operations.
7. At certain addresses, the Contractor will be directed to remove parkway concrete and/or other improvements in the right-of-way. Upon the completion of the removal of existing concrete improvements within the parkway, including the underlying aggregate base for which no replacement is required, the Contractor shall backfill the void with Modified Class "A" Topsoil for placing new sod or seed as directed in those respective bid items.

Payment shall be considered full compensation for furnishing all labor, materials, equipment, and disposal costs to complete the Work and no additional compensation will be allowed.

ii. Remove Existing and Reconstruct C-6 Curb & Gutter over 6" Crushed Miscellaneous Base (CMB) with 2' Asphalt Concrete (A.C.) Slot Pave

Measurement and Payment for this task shall be per the unit price bid per **Lineal Foot (L.F.)** as constructed in accordance with these Special Provisions, Standard Specifications, and as shown on the Plans. This bid item shall include the removal and disposal of existing curb and gutter, sawcutting, unclassified excavation, furnishing and placing CMB below curb and gutter, root removal, temporary AC pavement, repair of AC slot pavement adjacent to the proposed curb & gutter removal and construction, construction of variable curb height to meet existing sidewalk and existing improvements, depressed curb for driveway approach, curb drain removal and replacement, replacement of any damaged irrigation lines and sprinkler heads, replacement of any damaged grass, paint red curb, replacements of any survey monuments and/or ties; replacement of any damaged traffic signal home-run or wiring to the signal pull box, and other work as required to complete the work. No additional compensation shall be allowed.

iii. Remove Existing and Reconstruct C-8 Curb & Gutter over 6" Crushed Miscellaneous Base (CMB) with 2' Asphalt Concrete (A.C.) Slot Pave

Measurement and Payment for this this task shall be per the unit price bid per **Lineal Foot (L.F.)** as constructed in accordance with these Special Provisions, Standard Specifications, and as shown on the Plans. This bid item shall include the removal and disposal of existing curb and gutter, sawcutting, unclassified excavation, furnishing and placing CMB below curb and gutter, root removal, temporary AC pavement, repair of AC slot pavement adjacent to the proposed curb & gutter removal and construction, construction of variable curb height to meet existing sidewalk and existing improvements, depressed curb for driveway approach, curb drain removal and replacement, replacement of any damaged irrigation lines and sprinkler heads, replacement of any damaged grass, paint red curb, replacements of any survey monuments and/or ties; replacement of any damaged traffic signal home-run or wiring to the signal pull box, and other work as required to complete the work. No additional compensation shall be allowed.

iv. Remove & Reconstruct P.C.C. Cross-Gutter, Spandrel, Local Depression, and P.C.C. Pad with 3' Asphalt Concrete (A.C.) Slot Pave

Measurement and Payment for this task shall be 8" Portland Cement Concrete (P.C.C.) over 8" Crushed Miscellaneous Base (C.M.B.) per the unit price bid per **Square Foot (SF)** and shall include sawcut, removal and disposal of existing P.C.C., asphalt and miscellaneous improvements, excavation and subgrade preparation, Crushed Miscellaneous Base, forms, steel reinforcement, steel plates, and all labor, materials, equipment and incidentals as required to complete the work. No other compensation will be allowed.

CONSTRUCTION NOTES

1. FURNISH AND INSTALL ECONOLITE COBALT CONTROLLER ASSEMBLY IN NEW TS-2 TYPE-2 "P-44" CABINET ON RAISED 18" FOUNDATION EQUIPPED WITH 32 CHANNELS OF DETECTION. FURNISH AND INSTALL SENSORS, MMU, HARNESSES AND ALL REQUIRED APPURTENANCES INSIDE CONTROLLER CABINET AS NEEDED TO PROVIDE INTENDED OPERATION ON THESE PLANS. INSTALL 6 PORT FIBER PATCH PANEL. FURNISH AND INSTALL POLARA INS NAVIGATOR APS SYSTEM. FURNISH AND INSTALL GLOBAL TRAFFIC TECHNOLOGIES (GTT) OPTICOM PHASE SELECTOR MODEL 764 IN NEW 760 CARD RACK COMPLETELY WITH 768 AUXILIARY INTERFACE PANEL AND ALL NECESSARY APPURTENANCES FOR INTENDED OPERATIONS. FURNISH AND INSTALL NEW ETHERWAN EX78802-0VBT WITH 2 FIBER SFP 100MB MODULE ETHERNET SWITCH. CONTRACTOR TO ASSIGN CITY-FURNISHED IP ADDRESS TO CONTROLLER AND ETHERNET SWITCH. FURNISH AND INSTALL NEW ITERIS VANTAGE VECTOR VIDEO/RADAR HYBRID DETECTION SYSTEM AND ALL NECESSARY APPURTENANCES INCLUDING MOUSE AND MONITOR SET-UP IN THE CONTROLLER CABINET. CONTRACTOR TO ASSIGN CITY-FURNISHED IP ADDRESS AND ESTABLISH LIVE VIDEO FEED WITH THE TRAFFIC MANAGEMENT CENTER (TMC). CONTRACTOR SHALL SCHEDULE TURN-ON SUPPORT WITH MANUFACTURER'S REPRESENTATIVES.
2. FURNISH AND INSTALL NEW 120/240 V TYPE II-B SIGNAL AND LIGHTING SERVICE ENCLOSURE WITH TYPE V PEC ON LEFT SIDE OF CONTROLLER ASSEMBLY COMPLETE. SERVICE SHALL INCLUDE A 100 AMP MAIN BREAKER, 50 AMP SIGNAL BREAKER, 30 AMP LIGHTING BREAKER, 15 AMP LIGHTED STREET NAME SIGN BREAKER AND 15 AMP SPARE. SIGNAL CIRCUIT IS 120V METERED AND LIGHTING IS 120V UNMETERED.
3. INSTALL NEW 3" CONDUIT UP TO 3' OF SCE PULLBOX TO ALLOW FOR SWEEP. SEE SCE DESIGN PLAN NO. XXXXXXX AND CONTACT SCE, 714-895-0221 TO COORDINATE FOR SERVICE TIE-IN.
4. FURNISH AND INSTALL ITERIS VANTAGE VECTOR HYBRID VIDEO/RADAR CAMERA ON SIGNAL MAST ARM POLE. FURNISH AND INSTALL VIDEO DETECTOR CABLES PER MANUFACTURER RECOMMENDATION, INSIDE NEW CONDUIT FROM NEW VIDEO CAMERA TO CONTROLLER CABINET AND ALL NECESSARY APPURTENANCES. NO SPLICING IS ALLOWED. PROGRAM VIDEO DETECTION ZONES AS SHOWN FOR VEHICULAR/BICYCLE LANES AND RADAR DETECTION ZONES FOR ADVANCE DETECTION THROUGH COORDINATION WITH THE CITY ENGINEER OR HIS DESIGNEE, AND THE MANUFACTURER'S REPRESENTATIVE.
5. FURNISH AND INSTALL GTT OPTICOM MODEL 3100 GPS RADIO UNIT ON TRAFFIC SIGNAL POLE SHAFT AS INDICATED IN THE FIELD BY THE MANUFACTURER'S REPRESENTATIVE. FURNISH AND INSTALL OPTICOM MODEL 1070 GPS CABLE THROUGH CONDUIT TO CONTROLLER ASSEMBLY FOR INTENDED OPERATIONS.
6. INTERCEPT EXISTING FIBER CONDUIT AND INSTALL NEW 6E PULLBOX WITH SPLICE ENCLOSURE. FURNISH AND INSTALL 2" CONDUIT WITH 12 STRAND SMFO CABLE TO NEW SIGNAL CABINET. SPLICE DESIGNATED FIBERS FROM 72 STRAND SMFO CABLE TO 12 STRAND SMFO CABLE WITH AVAILABLE UNUSED FIBER PAIRS PER DIRECTION OF CITY STAFF. COIL AN ADDITIONAL 25' OF 12 STRAND SMFO CABLE IN 6E PULLBOX.
7. INSTALL THERMOPLASTIC 12 FOOT WIDE WHITE LADDER CROSSWALK 2' WIDE BARS @ 4' O.C. WITH 1' WIDE TRANSVERSE CROSSWALK MARKINGS ON BOTH SIDES.
8. INSTALL THERMOPLASTIC 1' WIDE LIMIT LINE.

IS INSTALL SIGN ON SIGNAL MAST ARM.

NEW SIGNS ON THIS SHEET

R10-12 LEFT TURN YIELD ON GREEN 24"x30"

R3-4 24"x24"

LEGEND

- HYBRID VIDEO/RADAR DETECTION CAMERA
- EMERGENCY VEHICLE PREEMPTION (EVP)

SIGNAL PHASE DIAGRAM

ø1	ø2	NOT USED	ø4
ø5	ø6	NOT USED	ø7 ø8

■ PROTECTIVE/PERMISSIVE

DETAIL "A"
12", 5-SECTION VEHICLE HEAD
NO SCALE

DETAIL "B"
12", 5-SECTION VEHICLE HEAD
NO SCALE

VIDEO/RADAR DETECTION ZONE DETAIL
NOT TO SCALE

TRAFFIC SIGNAL GENERAL NOTES

1. ALL METHODS, MATERIALS, AND EQUIPMENT SHALL CONFORM TO THE LATEST EDITIONS OF THE CALTRANS STANDARD PLANS AND SPECIFICATIONS, CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD), AND THE SPECIAL PROVISIONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL EXISTING UNDERGROUND UTILITIES, WHETHER OR NOT THEY ARE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL CONTACT USA (800-277-2600) AT LEAST 48 HOURS BEFORE BEGINNING WORK. THE CONTRACTOR SHALL POTHOLE ALL PROPOSED TRAFFIC SIGNAL LOCATIONS TO VERIFY/CONFIRM EXISTING UNDERGROUND UTILITIES, PRIOR TO ORDERING TRAFFIC SIGNAL EQUIPMENT.
3. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND NOTIFY ALL AFFECTED AGENCIES AND UTILITY COMPANIES A MINIMUM OF 48 HOURS PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY AND IRRIGATION COMPANIES PRIOR TO WORK ON EXCAVATION TO DETERMINE EXACT LOCATION OF ALL LINES AFFECTING THIS WORK, WHETHER OR NOT SHOWN HEREON, AND FOR ANY DAMAGE OR PROTECTION OF THESE LINES.
4. EXISTING IMPROVEMENTS, INCLUDING SUBSTRUCTURES THAT ARE DAMAGED BY THE CONTRACTOR, WHICH ARE NOT DESIGNATED BY THE PLANS OR SPECIFICATIONS TO BE DISTURBED, SHALL BE RESTORED OR REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
5. ALL ELECTRICAL EQUIPMENT, INCLUDING SIGNAL POLES, PULL BOXES, DETECTORS, AND SERVICE/CONTROLLER CABINETS, ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. PROPOSED FINAL LOCATIONS ARE TO BE APPROVED IN THE FIELD BY THE ENGINEER PRIOR TO EXCAVATION FOR FOUNDATIONS. THE CONTRACTOR SHALL GIVE 48 HOURS NOTICE FOR APPROVAL OF PROPOSED EQUIPMENT LOCATIONS.
6. CONDUCTOR SCHEDULE IS FURNISHED AS AN INSTALLATION GUIDELINE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CORRECT CONDUCTORS REQUIRED FOR THE INTENDED OPERATION.
7. ALL PULL BOXES SHALL BE NO. 6, UNLESS OTHERWISE NOTED ON THE PLANS. NEW PULL BOXES SHALL BE TYPE N SERIES WITH FIBRELYTE LID. PULL BOXES SHALL NOT BE LOCATED IN CURB RAMPS. ALL NEW PULL BOX COVERS SHALL BE LABELED WITH APPROPRIATE LABELS "TRAFFIC SIGNAL", "LIGHTING", "SERVICE", "SIGNAL INTERCONNECT", ETC.
8. THE CONTRACTOR SHALL VERIFY WITH THE ENGINEER THE PRECISE FIELD LOCATIONS OF ALL TRAFFIC SIGNAL EQUIPMENT PRIOR TO THE INSTALLATION.
9. PEDESTRIAN PUSH BUTTON ASSEMBLIES SHALL BE ADA COMPLIANT, APS TYPE.
10. TRAFFIC SIGNAL PRODUCTS SHALL CONFORM TO THE SPECIAL PROVISIONS AND CALTRANS TEES, LATEST EDITION, AND SHALL BE LISTED ON THE QUALIFIED PRODUCTS LIST.
11. THE CONTRACTOR IS RESPONSIBLE FOR HAVING A COMPLETE AND CURRENT COPY OF APPROVED PLAN ON THE JOB SITE AT ALL TIMES.
12. WHERE SIDEWALK, DRIVEWAYS, CURBS OR GUTTERS ARE CUT FOR INSTALLATION OF TRAFFIC SIGNAL EQUIPMENT OR SIGN POSTS, CUTS SHALL BE MADE AT THE NEAREST SCORE MARK. CONTRACTOR SHALL REPLACE THE ENTIRE SECTION AND MATCH EXISTING SCORE PATTERNS, SURFACE COLOR, AND TEXTURE. DAMAGED OR EXCAVATED LANDSCAPED AREAS SHALL BE RESTORED TO MATCH EXISTING.
13. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN EGRESS AND INGRESS OF ABUTTING DRIVEWAYS AND MINOR STREET INTERSECTIONS AND ACCESS TO ALL PUBLIC AND PRIVATE DRIVEWAYS IN THE CONSTRUCTION AREA NOT RELATED TO THE SPECIFIC PROJECT. CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO NEIGHBORING RESIDENTS, BUSINESSES, PROPERTY OWNERS, AND OCCUPANTS WITHIN 1000' OF THE WORK ZONE 72-HOURS IN ADVANCE REGARDING PLANNED LANE AND ROAD CLOSURES OR CONSTRUCTION WORK THAT WILL DIRECTLY AFFECT AND BLOCK DRIVEWAY ACCESS.
14. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER.
15. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT AND APPURTENANCES NECESSARY FOR THE SIGNAL TO OPERATE AS INTENDED IN THESE PLANS.
16. ALL NEW CONDUCTORS AND THEIR TERMINATORS SHALL BE CLEARLY MARKED.
17. ALL PEDESTRIAN SIGNALS SHALL BE COUNTDOWN LED TYPE. VEHICULAR SIGNAL HEADS SHALL HAVE 12" LED INDICATIONS WITH BACKPLATES. ALL NEW PEDESTRIAN PUSH BUTTONS SHALL BE APS TYPE.
18. EXISTING CITY AND/OR SERVICE LIGHTING CONDUCTORS WHICH ARE NOT IDENTIFIED FOR REMOVAL SHALL BE PROTECTED IN PLACE DURING CONSTRUCTION.
19. HARD HATS AND HIGH VISIBILITY REFLECTIVE VESTS SHALL BE WORN AT ALL TIMES WHEN WORKING ON THE PROJECT
20. IN THE COURSE OF RUNOFF WATER CONTROL, THE CONTRACTOR SHALL PROTECT ALL WATER COURSES, THE GROUND WATER AND BODIES OF WATER FROM POLLUTION BY FUEL, OILS, BITUMENS OR OTHER HARMFUL MATERIALS.
21. ALL SPARES SHALL TERMINATE AT THE SIGNAL TERMINAL COMPARTMENTS AND IN THE CONTROLLER CABINET. SPARES SHALL BE TAPED ON THE END AND SHALL BE CONTINUOUS.
22. NO SPLICING OF CABLES SHALL BE PERMITTED, WITH EXCEPTION OF DLC.
23. HOLES REMAINING IN POLES SHALL BE WELDED CLOSED, FINISHED SMOOTH AND GALVANIZED

Underground Service Alert
Call: TOLL FREE
1-800
422-4133
TWO WORKING DAYS BEFORE YOU DIG

REVISIONS

NO.	DATE	DESCRIPTION	APP.

PREPARED BY:
LINSCOTT, LAW & GREENSPAN, ENGINEERS
TRANSPORTATION PLANNING - TRAFFIC ENGINEERING - PARKING
600 S. Lake Avenue, Suite 500, Pasadena, CA 91106 (626) 796-2322
2 Executive Circle, Suite 250, Irvine, CA 92614 (949) 825-8175
4542 Ruffner Street, Suite 100, San Diego, CA 92111 (858) 300-8800

KALYAN C. YELLAPU RCE# 75023 8/29/22 DATE

REGISTERED PROFESSIONAL ENGINEER KALYAN C. YELLAPU 75023 Exp. Dec. 31, 2023 CIVIL STATE OF CALIFORNIA

P.E. SEAL

BENCHMARK
BENCH MARK NO.:
ELEVATION: DATUM:
DESCRIPTION:
BASIS OF BEARING:

		DATE
DESIGNED BY:	KHP	8/29/22
DRAWN BY:	HA	8/29/22
RECOMMENDED BY:		
JENNIFER ROSALES, TRANSPORTATION SERVICE MANAGER, T.E. 2761		
APPROVED BY:		
SEUNG YANG, CITY ENGINEER R.C.E. #66786		

CITY OF COSTA MESA
DEPARTMENT OF PUBLIC SERVICES / ENGINEERING DIVISION

TRAFFIC SIGNAL PLAN
W. 19TH STREET
AT
WALLACE AVENUE

SHEET NO. 1 OF 2

PLAN NUMBER TS-1

\\22162625 - hawk and 19th signal public, costa mesa\dwg\19th signal design\traffic signal plan\8625 ts-01 19th at wallace ave updated.dwg LDP 13:30:26 08-29-2022 pmap

CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE		POLE	PHASE		CONDUIT SIZE AND RUN 1	2	3	4	5	6	7	8
NO.14 CABLES		(A)	ø1,ø6,ø6P	/ø4PPB	1	1	1	1	1	–	–	1
CONDUCTOR 12		(B)	ø8,ø4P	/ø6PPB	–	1	1	1	1	–	–	1
		(C)	ø8,ø8P	/ø6PPB	–	–	1	1	1	–	–	1
		(D)	ø2,ø5,ø6P	/ø8PPB	–	–	–	1	1	–	–	1
		(E)	–	/ø8PPB	–	–	–	–	0	–	–	0
CONDUCTOR 3		(F)	ø2,ø5,ø2P	/–	–	–	–	–	1	–	–	1
		(G)	ø4,ø8P	/ø2PPB	–	–	–	–	–	–	–	1
		(H)	ø4,ø4P	/ø2PPB	–	–	–	–	–	–	1	1
		(I)	ø1,ø6,ø2P	/ø4PPB	–	–	–	–	–	1	1	1
TOTAL CABLES – 12 CON / 3 CON					1/1	2/2	3/3	4/4	5/5	1/1	2/2	6/6
#6	SIGNAL SERVICE				–	–	–	–	–	–	–	–
#10	LUMINAIRES				2	2	2	2	2	–	2	2
#12	IISNS				2	2	2	2	2	–	2	2
#8	GROUND				1	1	1	1	1	1	1	1
VIDEO DETECTION CABLE AND POWER					1	1	2	2	3	–	1	4
GTT CABLE					–	–	–	–	1	–	–	1
APS 3#14 CABLE					2	–	2	–	2	2	–	–
PERCENT FILL (%)					16%	14%	21%	25%	16%	9%	14%	24%
CONDUIT SIZES (INCHES)					3"	4"	4"	4"	2–4"	3"	4"	2–4"

PPB = PED PUSH BUTTON
ALL CONDUITS AND CONDUCTORS ARE NEW.

EQUIPMENT SCHEDULE

POLE DATA NO.	TYPE	HEIGHT	SIGNAL M.A.	L.E.D.■ M.A.	WATTS	SIGNAL HEADS AND MOUNTINGS VEHICULAR	M.A.	PEDESTRIAN	PED PUSH BUTTON● PHASE	QUAD.	▲POLE LOC. "A"	"B"	INTERNALLY ILLUMINATED STREET NAME SIGN (LED dbl. face)
(A)	24–4–100	30'	35'	15'	185W	SV–1–T	MAS–5A,MAS F=14'	SP–1–T	ø4	E	–1.5'	3'	Wallace Ave
(B)	1–A	10'	–	–	–	TV–1–T	–	SP–1–T	ø6	S	0'	8'	–
(C)	17–3–100	30'	15'	12'	185W	SV–1–T	MAS	SP–1–T	ø6	S	–5'	3'	W 19th St
(D)	1–A	10'	–	–	–	TV–1–T	–	SP–1–T	ø8	W	1'	6.5'	–
(E)	PPB POST	4'–7"	–	–	–	–	–	–	ø8	W	3'	4'	–
(F)	26–4–100	30'	45'	15'	185W	SV–1–T	MAS–5A,MAS F=14'	SP–1–T	–	–	1'	12'	Wallace Ave
(G)	1–A	10'	–	–	–	TV–1–T	–	SP–1–T	ø2	N	2.5'	3'	–
(H)	17–3–100	30'	20'	12'	185W	SV–1–T	MAS	SP–1–T	ø2	N	3.5'	3'	W 19th St
(I)	1–A	10'	–	–	–	TV–1–T	–	SP–1–T	ø4	E	4.5'	3'	–

ALL EQUIPMENT IS NEW.
■ LEOTEK GCL1–80G–MV–NW–3R–GY–700–WL–PCR7–LLPC–SC (CITY FURNISHED)
● POLARA INS NAVIGATOR 2–WIRE PUSH BUTTON STATION (IN2 PBS) MODEL IN2 5 BB1–B–BD–ES WITH PEU.

▲ POLE LOCATION TO BE DETERMINED BY ENGINEER IN THE FIELD. PROPOSED FINAL LOCATIONS ARE TO BE APPROVED IN THE FIELD BY THE ENGINEER PRIOR TO EXCAVATION FOR FOUNDATIONS.

▲ POLE LOCATION DETAIL
NO SCALE

Underground Service Alert
Call: TOLL FREE
1–800
422–4133
TWO WORKING DAYS BEFORE YOU DIG

REVISIONS			
NO.	DATE	DESCRIPTION	APP.

PREPARED BY:
LINSCOTT, LAW & GREENSPAN, ENGINEERS
TRANSPORTATION PLANNING – TRAFFIC ENGINEERING – PARKING
600 S. Lake Avenue, Suite 500, Pasadena, CA 91106 (626) 796–2322
2 Executive Circle, Suite 250, Irvine, CA 92614 (949) 825–8178
4542 Ruffner Street, Suite 100, San Diego, CA 92111 (858) 300–8800
KALYAN C. YELLAPU RCE# 75023 8/29/22 DATE

REGISTERED PROFESSIONAL ENGINEER KALYAN C. YELLAPU 75023 Exp. Dec. 31, 2023 CIVIL STATE OF CALIFORNIA
P.E. SEAL

BENCH MARK NO.:
ELEVATION: DATUM:
DESCRIPTION:
BASIS OF BEARING:

		DATE
DESIGNED BY:	KHP	8/29/22
DRAWN BY:	HA	8/29/22
RECOMMENDED BY:		
JENNIFER ROSALES, TRANSPORTATION SERVICE MANAGER, T.E. 2761		
APPROVED BY:		
SEUNG YANG, CITY ENGINEER R.C.E. #66786		

CITY OF COSTA MESA
DEPARTMENT OF PUBLIC SERVICES / ENGINEERING DIVISION
TRAFFIC SIGNAL PLAN
W. 19TH STREET
AT
WALLACE AVENUE

SHEET NO. 2 OF 2
PLAN NUMBER TS-2

I:\2216525 - hawk and 19th signal public costa mesa\dwg\19th signal design\traffic signal plan\6525 ts-01 19th at wallace ave equipment sheet.dwg LDP 13:24:56 08-29-2022 ahsp

CONSTRUCTION NOTES

1. FURNISH AND INSTALL ECONOLITE COBALT CONTROLLER ASSEMBLY IN NEW TS-2 TYPE-2 "P-44" CABINET ON RAISED 18" FOUNDATION. FURNISH AND INSTALL SENSORS, MMU, HARNESSES AND ALL REQUIRED APPURTENANCES INSIDE CONTROLLER CABINET AS NEEDED TO PROVIDE INTENDED OPERATION ON THESE PLANS. CONSTRUCT 4" THICK PCC PAD TO ACCOMMODATE CONTROLLER FOUNDATION. CONTRACTOR TO SCHEDULE TURN ON SUPPORT FOR SIGNAL CONTROLLER AND CABINET.
2. FURNISH AND INSTALL NEW 120/240 V TYPE II-B SIGNAL AND LIGHTING SERVICE ENCLOSURE WITH TYPE V PEC ON LEFT SIDE OF CONTROLLER ASSEMBLY COMPLETE. SERVICE SHALL INCLUDE A 100 AMP MAIN BREAKER, 50 AMP SIGNAL BREAKER, 30 AMP LIGHTING BREAKER, 15 AMP LIGHTED STREET NAME SIGN BREAKER AND 15 AMP SPARE. SIGNAL CIRCUIT IS 120V METERED AND LIGHTING IS 120V UNMETERED.
3. INSTALL NEW 3" CONDUIT UP TO 3' OF SCE PULLBOX TO ALLOW FOR SWEEP. SEE SCE DESIGN PLAN NO. XXXXXX AND CONTACT SCE, 714-895-0221 TO COORDINATE FOR SERVICE TIE-IN.
4. CONSTRUCT 4" THICK PCC PAD TO ACCOMMODATE SIGNAL POLE FOOTING.
5. INSTALL NEW SIGN ONTO POST OR SIGNAL POLE AS SHOWN.
6. INSTALL PPB SIGN PLAQUE AS NOTED ON PLAN.
7. INSTALL 12" SOLID WHITE THERMOPLASTIC LIMIT LINE PER CALTRANS STD PLAN A24E.
8. INSTALL THERMOPLASTIC WHITE CONTINENTAL CROSSWALK WITH 2' WIDE BARS AT 4' SPACING O.C.

IS INSTALL SIGN ON SIGNAL MAST.

E EXISTING TO REMAIN UNLESS NOTED OTHERWISE.

SIGNAL PHASE DIAGRAM

MAST ARM MOUNTED SIGN

R10-23

(24"X30")

POLE MOUNTED SIGNS

(30"X30") (24"X12") (24"X12") (9"x15") (9"x15") (24"X36")

SIGNAL HEADS DETAILS

EQUIPMENT SCHEDULE

POLE DATA			SIGNAL M.A.	L.E.D. **		SIGNAL HEADS AND MOUNTINGS			PED PUSH BUTTON ●	▲POLE LOC.	
NO.	TYPE	HEIGHT		M.A.	WATTS	VEHICULAR	M.A.	PEDESTRIAN	PHASE	QUAD.	"A"	"B"
Ⓐ	■19-4-100 •	■24'	30'	8'◆	105	SV-1-T	MAS MAS◆	SP-1-T	ø4	E	-6'	3.5'
Ⓑ	1-A	14'	–	–	–	TV-1-T	–	SP-1-T	ø4	E	AS SHOWN	3.5'

ALL EQUIPMENT IS NEW.
*INSTALL END OF ARM MAS TENON ON OPPOSITE SIDE OF POLE FOR INTENDED OPERATION AS SHOWN.
**LEOTEK GCL1-60G-MV-NW-3R-GY-530-WL-PCR7-LLPC-SC (CITY FURNISHED)
● POLARA BDL3 BULL DOG VANDAL RESISTANT ADA PUSH BUTTON WITH 9"X15" SIGN BACK PLATE.
▲ POLE LOCATIONS SHOWN ARE APPROXIMATE. POLE LOCATION SHALL BE APPROVED IN THE FIELD BY THE ENGINEER AND POLES SHALL BE POTHOLED TO FULL WIDTH AND DEPTH PRIOR TO ORDERING OF POLES.
■ MODIFY POLE AS NEEDED FOR CUSTOM HEIGHT AS SHOWN.
◆ INSTALL STRAIGHT ARM LUMINAIRE ARM.

CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE		POLE	PHASE		CONDUIT SIZE AND RUN ⚠1	⚠2
NO.14 CABLES		Ⓐ	ø2,ø6,ø4P	/ø4PPB	–	1
		Ⓑ	ø2,ø4P	/ø4PPB	1	1
12 CONDUCTOR	3 CONDUCTOR	Ⓒ	–	/–	–	–
		Ⓓ	–	/–	–	–
		Ⓔ	–	/–	–	–
		Ⓕ	–	/–	–	–
		Ⓖ	–	/–	–	–
		Ⓗ	–	/–	–	–
TOTAL CABLES – 12 CON / 3 CON					1	2
#6			SIGNAL SERVICE		–	–
#10			LUMINAIRES		–	2
#8			GROUND		1	1
PERCENT FILL (%)					9%	12%
CONDUIT SIZES (INCHES)					3"(E)	4"

PPB = PED PUSH BUTTON

▲POLE LOCATION DETAIL
NO SCALE

SIGNAL SEQUENCE

TRAFFIC SIGNAL GENERAL NOTES

1. ALL METHODS, MATERIALS, AND EQUIPMENT SHALL CONFORM TO THE 2018 CALTRANS STANDARD PLANS AND SPECIFICATIONS, CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD), AND THE SPECIAL PROVISIONS UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL EXISTING UNDERGROUND UTILITIES, WHETHER OR NOT THEY ARE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL CONTACT USA (800-277-2600) AT LEAST 48 HOURS BEFORE BEGINNING WORK. THE CONTRACTOR SHALL POTHOLE ALL PROPOSED TRAFFIC SIGNAL LOCATIONS TO VERIFY/CONFIRM EXISTING UNDERGROUND UTILITIES, PRIOR TO ORDERING TRAFFIC SIGNAL EQUIPMENT.
3. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND NOTIFY ALL AFFECTED AGENCIES AND UTILITY COMPANIES A MINIMUM OF 48 HOURS PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY AND IRRIGATION COMPANIES PRIOR TO WORK ON EXCAVATION TO DETERMINE EXACT LOCATION OF ALL LINES AFFECTING THIS WORK, WHETHER OR NOT SHOWN HEREON, AND FOR ANY DAMAGE OR PROTECTION OF THESE LINES.
4. EXISTING IMPROVEMENTS, INCLUDING SUBSTRUCTURES THAT ARE DAMAGED BY THE CONTRACTOR, WHICH ARE NOT DESIGNATED BY THE PLANS OR SPECIFICATIONS TO BE DISTURBED, SHALL BE RESTORED OR REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
5. ALL ELECTRICAL EQUIPMENT, INCLUDING SIGNAL POLES, PULL BOXES, DETECTORS, AND SERVICE/CONTROLLER CABINETS, ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. PROPOSED FINAL LOCATIONS ARE TO BE APPROVED IN THE FIELD BY THE ENGINEER PRIOR TO EXCAVATION FOR FOUNDATIONS. THE CONTRACTOR SHALL GIVE 48 HOURS NOTICE FOR APPROVAL OF PROPOSED EQUIPMENT LOCATIONS.
6. CONDUCTOR SCHEDULE IS FURNISHED AS AN INSTALLATION GUIDELINE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CORRECT CONDUCTORS REQUIRED FOR THE INTENDED OPERATION.
7. ALL PULL BOXES SHALL BE NO. 6, UNLESS OTHERWISE NOTED ON THE PLANS. NEW PULL BOXES SHALL BE LIGHT WEIGHT FIBER MATERIAL. PULL BOXES SHALL NOT BE LOCATED IN CURB RAMPS. ALL NEW PULL BOX COVERS SHALL BE LABELED WITH APPROPRIATE LABELS "TRAFFIC SIGNAL", "LIGHTING", "SERVICE", "SIGNAL INTERCONNECT", ETC.
8. THE CONTRACTOR SHALL VERIFY WITH THE ENGINEER THE PRECISE FIELD LOCATIONS OF ALL TRAFFIC SIGNAL EQUIPMENT PRIOR TO THE INSTALLATION.
9. PEDESTRIAN PUSH BUTTON ASSEMBLIES SHALL BE ADA COMPLIANT, BULLDOG TYPE.
10. TRAFFIC SIGNAL PRODUCTS SHALL CONFORM TO THE SPECIAL PROVISIONS AND CALTRANS TEES, LATEST EDITION, AND SHALL BE LISTED ON THE QUALIFIED PRODUCTS LIST.
11. THE CONTRACTOR IS RESPONSIBLE FOR HAVING A COMPLETE AND CURRENT COPY OF APPROVED PLAN ON THE JOB SITE AT ALL TIMES.
12. WHERE SIDEWALK, DRIVEWAYS, CURBS OR GUTTERS ARE CUT FOR INSTALLATION OF TRAFFIC SIGNAL EQUIPMENT OR SIGN POSTS, CUTS SHALL BE MADE AT THE NEAREST SCORE MARK. CONTRACTOR SHALL REPLACE THE ENTIRE SECTION AND MATCH EXISTING SCORE PATTERNS, SURFACE COLOR, AND TEXTURE. DAMAGED OR EXCAVATED LANDSCAPED AREAS SHALL BE RESTORED TO MATCH EXISTING.
13. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN EGRESS AND INGRESS OF ABUTTING DRIVEWAYS AND MINOR STREET INTERSECTIONS AND ACCESS TO ALL PUBLIC AND PRIVATE DRIVEWAYS IN THE CONSTRUCTION AREA NOT RELATED TO THE SPECIFIC PROJECT. CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO NEIGHBORING RESIDENTS, BUSINESSES, PROPERTY OWNERS, AND OCCUPANTS WITHIN 1000' OF THE WORK ZONE 72-HOURS IN ADVANCE REGARDING PLANNED LANE AND ROAD CLOSURES OR CONSTRUCTION WORK THAT WILL DIRECTLY AFFECT AND BLOCK DRIVEWAY ACCESS.
14. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER.
15. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT AND APPURTENANCES NECESSARY FOR THE SIGNAL TO OPERATE AS INTENDED IN THESE PLANS.
16. ALL NEW CONDUCTORS AND THEIR TERMINATORS SHALL BE CLEARLY MARKED.
17. ALL PEDESTRIAN SIGNALS SHALL BE COUNTDOWN LED TYPE. VEHICULAR SIGNAL HEADS SHALL HAVE 12" LED INDICATIONS WITH BACKPLATES. ALL NEW PEDESTRIAN PUSH BUTTONS SHALL BE BULLDOG TYPE.
18. EXISTING CITY AND/OR SERVICE LIGHTING CONDUCTORS WHICH ARE NOT IDENTIFIED FOR REMOVAL SHALL BE PROTECTED IN PLACE DURING CONSTRUCTION.
19. HARD HATS AND HIGH VISIBILITY REFLECTIVE VESTS SHALL BE WORN AT ALL TIMES WHEN WORKING ON THE PROJECT
20. IN THE COURSE OF RUNOFF WATER CONTROL, THE CONTRACTOR SHALL PROTECT ALL WATER COURSES, THE GROUND WATER AND BODIES OF WATER FROM POLLUTION BY FUEL, OILS, BITUMENS OR OTHER HARMFUL MATERIALS.
21. ALL SPARES SHALL TERMINATE AT THE SIGNAL TERMINAL COMPARTMENTS AND IN THE CONTROLLER CABINET. SPARES SHALL BE TAPED ON THE END AND SHALL BE CONTINUOUS.
22. NO SPLICING OF CABLES SHALL BE PERMITTED, WITH EXCEPTION OF DLC.
23. LOOP DETECTORS SHALL BE TESTED AND APPROVED BEFORE FILLING SAWCUTS.
24. HOLES REMAINING IN POLES SHALL BE WELDED CLOSED, FINISHED SMOOTH AND GALVANIZED

Underground Service Alert
Call: TOLL FREE
1-800 422-4133
TWO WORKING DAYS BEFORE YOU DIG

N

20 10 0 20 40
SCALE IN FEET
1 inch = 20 ft.

\\2226565 - wilson street hawk poles, costa mesa\dwg\traffic signal plan\6565 ts-01 wilson ave.dwg LDP 11:11:39 07-14-2022 prep

REVISIONS			
NO.	DATE	DESCRIPTION	APP.

PREPARED BY:
LINSCOTT, LAW & GREENSPAN, ENGINEERS
TRANSPORTATION PLANNING – TRAFFIC ENGINEERING – PARKING
600 S. Lake Avenue, Suite 500, Pasadena, CA 91106 (626) 796-2322
2 Executive Circle, Suite 250, Irvine, CA 92614 (949) 825-8175
4643 Ruffner Street, Suite 100, San Diego, CA 92111 (858) 300-8800
Kalyan Y
KALYAN C. YELLAPU RCE# 75023 7/27/22 DATE

REGISTERED PROFESSIONAL ENGINEER KALYAN C. YELLAPU 75023 Exp. Dec. 31, 2023 CIVIL STATE OF CALIFORNIA
P.E. SEAL

BENCHMARK
BENCH MARK NO.:
ELEVATION: DATUM:
DESCRIPTION:
BASIS OF BEARING:

		DATE
DESIGNED BY:	KHP	3/29/22
DRAWN BY:	HA	3/29/22
RECOMMENDED BY:		
JENNIFER ROSALES, TRANSPORTATION SERVICE MANAGER, T.E. 2761		
APPROVED BY:		
SEUNG YANG, CITY ENGINEER R.C.E. #66786		

CITY OF COSTA MESA
DEPARTMENT OF PUBLIC SERVICES / ENGINEERING DIVISION
HAWK TRAFFIC SIGNAL PLAN
WILSON STREET
AT
FORDHAM DRIVE

SHEET NO. 1 OF 1
PLAN NUMBER TS-1

CONSTRUCTION NOTES

1. FURNISH AND INSTALL ECONOLITE COBALT CONTROLLER ASSEMBLY IN NEW TS-2 TYPE-2 "P-44" CABINET ON RAISED 18" FOUNDATION. FURNISH AND INSTALL SENSORS, MMU, HARNESSES AND ALL REQUIRED APPURTENANCES INSIDE CONTROLLER CABINET AS NEEDED TO PROVIDE INTENDED OPERATION ON THESE PLANS. CONSTRUCT 4" THICK PCC PAD TO ACCOMMODATE CONTROLLER FOUNDATION. FURNISH AND INSTALL POLARA iNS NAVIGATOR APS SYSTEM. CONFIGURE ALL PBS FOR INTENDED OPERATIONS. CONTRACTOR TO SCHEDULE TURN ON SUPPORT FOR SIGNAL CONTROLLER AND CABINET.
2. FURNISH AND INSTALL NEW 120/240 V TYPE II-B SIGNAL AND LIGHTING SERVICE ENCLOSURE WITH TYPE V PEC ON LEFT SIDE OF CONTROLLER ASSEMBLY COMPLETE. SERVICE SHALL INCLUDE A 100 AMP MAIN BREAKER, 50 AMP SIGNAL BREAKER, 30 AMP LIGHTING BREAKER, 15 AMP LIGHTED STREET NAME SIGN BREAKER AND 15 AMP SPARE. SIGNAL CIRCUIT IS 120V METERED AND LIGHTING IS 120V UNMETERED.
3. INSTALL NEW 3" CONDUIT UP TO 3' OF SCE PULLBOX TO ALLOW FOR SWEEP. SEE SCE DESIGN PLAN NO. XXXXXX AND CONTACT SCE, 714-895-0221 TO COORDINATE FOR SERVICE TIE-IN.
4. CONSTRUCT 4" THICK PCC PAD TO ACCOMMODATE SIGNAL POLE FOOTING.
5. FURNISH AND INSTALL TRAFFIC SIGNAL STANDARD MOUNTED SIGN AS NOTED PER CALTRANS STANDARD PLAN ES-7N (DETAIL "U").
6. REMOVE EXISTING SIGN AND/OR POST, AS SHOWN.
7. INSTALL NEW SIGN ONTO POST OR SIGNAL POLE AS SHOWN.
8. INSTALL PPB SIGN PLAQUE AS NOTED ON PLAN.
9. INSTALL 12" SOLID WHITE THERMOPLASTIC LIMIT LINE PER CALTRANS STD PLAN A24E.
IS. INSTALL SIGN ON SIGNAL MAST.
E. EXISTING TO REMAIN UNLESS NOTED OTHERWISE.

SIGNAL PHASE DIAGRAM

MAST ARM MOUNTED SIGN IS

R10-23

POLE MOUNTED SIGNS 6

SIGNAL HEADS DETAILS

EQUIPMENT SCHEDULE

POLE DATA			SIGNAL M.A.	L.E.D.■		SIGNAL HEADS AND MOUNTINGS			PED PUSH BUTTON● ♦		POLE LOC.	
NO.	TYPE	HEIGHT		M.A.	WATTS	VEHICULAR	M.A.	PEDESTRIAN	PHASE	QUAD.	"A"	"B"
Ⓐ	PPB POST	5'-7"	–	–	–	–	–	–	ø4	W♦	AS SHOWN	8.5'
Ⓑ	29-5-100*	30'	50'	15'	105	SV-1-T**	MAS MAS*	SP-1-T	–	–	AS SHOWN	3'
Ⓒ	PPB POST***	5'-7"	–	–	–	–	–	–	ø4	W♦	AS SHOWN	1'
Ⓓ	1-A	7'	–	–	–	–	–	TP-1-T	–	–	AS SHOWN	2.5'
Ⓔ	PPB POST	5'-7"	–	–	–	–	–	–	ø4	E	AS SHOWN	10'
Ⓕ	1-A	10'	–	–	–	TV-1-T	–	–	–	–	AS SHOWN	4.5'

ALL EQUIPMENT IS NEW.
*INSTALL END OF ARM MAS TENON ON OPPOSITE SIDE OF POLE FOR INTENDED OPERATION AS SHOWN.
**INSTALL @ 17' HEIGHT.
***POLE TO ADHERE TO 2010 CALTRANS STANDARD PLAN ES-7A.
■ LEOTEK GCL1-60G-MV-NW-3R-GY-530-WL-PCR7-LLPC-SC (CITY FURNISHED)
● POLARA iNS NAVIGATOR 3-WIRE PUSH BUTTON STATION (iN3 PBS) MODEL iN3 5 BB1-B-BD-ES WITH PEU.
▲ POLE LOCATIONS SHOWN ARE APPROXIMATE. POLE LOCATION SHALL BE APPROVED IN THE FIELD BY THE ENGINEER AND POLES SHALL BE POTHOLED TO FULL WIDTH AND DEPTH PRIOR TO ORDERING OF POLES.
♦ INSTALL EXTENSION BRACKET FOR PUSH BUTTON.

CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE		POLE	PHASE	CONDUIT SIZE AND RUN 1	2	3	4
NO.14 CABLES	12 CONDUCTOR	Ⓐ	– /ø4PPB	0	1	0	1
		Ⓑ	ø2,ø6,ø4P /–	1	0	1	0
		Ⓒ	– /ø4PPB	–	0	1	0
		Ⓓ	ø4P /–	–	–	1	0
		Ⓔ	– /ø4PPB	–	–	0	1
	3 CONDUCTOR	Ⓕ	ø2 /–	–	–	1	0
		Ⓖ	– /–	–	–	–	–
		Ⓗ	– /–	–	–	–	–
TOTAL CABLES – 12 CON / 3 CON				1	1	2	0
#6			SIGNAL SERVICE	–	–	–	–
#10			LUMINAIRES	2	2	–	2
#8			GROUND	1	1	1	1
PERCENT FILL (%)				10%	12%	15%	15%
CONDUIT SIZES (INCHES)				3"(E)	3"(E)	3"	4"

PPB = PED PUSH BUTTON

♦POLE LOCATION DETAIL
NO SCALE

SIGNAL SEQUENCE

TRAFFIC SIGNAL GENERAL NOTES

1. ALL METHODS, MATERIALS, AND EQUIPMENT SHALL CONFORM TO THE 2018 CALTRANS STANDARD PLANS AND SPECIFICATIONS, CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD), AND THE SPECIAL PROVISIONS UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL EXISTING UNDERGROUND UTILITIES, WHETHER OR NOT THEY ARE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL CONTACT USA (800-277-2600) AT LEAST 48 HOURS BEFORE BEGINNING WORK. THE CONTRACTOR SHALL POTHOLE ALL PROPOSED TRAFFIC SIGNAL LOCATIONS TO VERIFY/CONFIRM EXISTING UNDERGROUND UTILITIES, PRIOR TO ORDERING TRAFFIC SIGNAL EQUIPMENT.
3. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND NOTIFY ALL AFFECTED AGENCIES AND UTILITY COMPANIES A MINIMUM OF 48 HOURS PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY AND IRRIGATION COMPANIES PRIOR TO WORK ON EXCAVATION TO DETERMINE EXACT LOCATION OF ALL LINES AFFECTING THIS WORK, WHETHER OR NOT SHOWN HEREON, AND FOR ANY DAMAGE OR PROTECTION OF THESE LINES.
4. EXISTING IMPROVEMENTS, INCLUDING SUBSTRUCTURES THAT ARE DAMAGED BY THE CONTRACTOR, WHICH ARE NOT DESIGNATED BY THE PLANS OR SPECIFICATIONS TO BE DISTURBED, SHALL BE RESTORED OR REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
5. ALL ELECTRICAL EQUIPMENT, INCLUDING SIGNAL POLES, PULL BOXES, DETECTORS, AND SERVICE/CONTROLLER CABINETS, ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. PROPOSED FINAL LOCATIONS ARE TO BE APPROVED IN THE FIELD BY THE ENGINEER PRIOR TO EXCAVATION FOR FOUNDATIONS. THE CONTRACTOR SHALL GIVE 48 HOURS NOTICE FOR APPROVAL OF PROPOSED EQUIPMENT LOCATIONS.
6. CONDUCTOR SCHEDULE IS FURNISHED AS AN INSTALLATION GUIDELINE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CORRECT CONDUCTORS REQUIRED FOR THE INTENDED OPERATION.
7. ALL PULL BOXES SHALL BE NO. 6, UNLESS OTHERWISE NOTED ON THE PLANS. NEW PULL BOXES SHALL BE LIGHT WEIGHT FIBER MATERIAL. PULL BOXES SHALL NOT BE LOCATED IN CURB RAMPS. ALL NEW PULL BOX COVERS SHALL BE LABELED WITH APPROPRIATE LABELS "TRAFFIC SIGNAL", "LIGHTING", "SERVICE", "SIGNAL INTERCONNECT", ETC.
8. THE CONTRACTOR SHALL VERIFY WITH THE ENGINEER THE PRECISE FIELD LOCATIONS OF ALL TRAFFIC SIGNAL EQUIPMENT PRIOR TO THE INSTALLATION.
9. PEDESTRIAN PUSH BUTTON ASSEMBLIES SHALL BE ADA COMPLIANT, APS TYPE.
10. TRAFFIC SIGNAL PRODUCTS SHALL CONFORM TO THE SPECIAL PROVISIONS AND CALTRANS TEES, LATEST EDITION, AND SHALL BE LISTED ON THE QUALIFIED PRODUCTS LIST.
11. THE CONTRACTOR IS RESPONSIBLE FOR HAVING A COMPLETE AND CURRENT COPY OF APPROVED PLAN ON THE JOB SITE AT ALL TIMES.
12. WHERE SIDEWALK, DRIVEWAYS, CURBS OR GUTTERS ARE CUT FOR INSTALLATION OF TRAFFIC SIGNAL EQUIPMENT OR SIGN POSTS, CUTS SHALL BE MADE AT THE NEAREST SCORE MARK. CONTRACTOR SHALL REPLACE THE ENTIRE SECTION AND MATCH EXISTING SCORE PATTERNS, SURFACE COLOR, AND TEXTURE. DAMAGED OR EXCAVATED LANDSCAPED AREAS SHALL BE RESTORED TO MATCH EXISTING.
13. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN EGRESS AND INGRESS OF ABUTTING DRIVEWAYS AND MINOR STREET INTERSECTIONS AND ACCESS TO ALL PUBLIC AND PRIVATE DRIVEWAYS IN THE CONSTRUCTION AREA NOT RELATED TO THE SPECIFIC PROJECT. CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO NEIGHBORING RESIDENTS, BUSINESSES, PROPERTY OWNERS, AND OCCUPANTS WITHIN 1000' OF THE WORK ZONE 72-HOURS IN ADVANCE REGARDING PLANNED LANE AND ROAD CLOSURES OR CONSTRUCTION WORK THAT WILL DIRECTLY AFFECT AND BLOCK DRIVEWAY ACCESS.
14. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER.
15. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT AND APPURTENANCES NECESSARY FOR THE SIGNAL TO OPERATE AS INTENDED IN THESE PLANS.
16. ALL NEW CONDUCTORS AND THEIR TERMINATORS SHALL BE CLEARLY MARKED.
17. ALL PEDESTRIAN SIGNALS SHALL BE COUNTDOWN LED TYPE. VEHICULAR SIGNAL HEADS SHALL HAVE 12" LED INDICATIONS WITH BACKPLATES. ALL NEW PEDESTRIAN PUSH BUTTONS SHALL BE APS TYPE.
18. EXISTING CITY AND/OR SERVICE LIGHTING CONDUCTORS WHICH ARE NOT IDENTIFIED FOR REMOVAL SHALL BE PROTECTED IN PLACE DURING CONSTRUCTION.
19. HARD HATS AND HIGH VISIBILITY REFLECTIVE VESTS SHALL BE WORN AT ALL TIMES WHEN WORKING ON THE PROJECT
20. IN THE COURSE OF RUNOFF WATER CONTROL, THE CONTRACTOR SHALL PROTECT ALL WATER COURSES, THE GROUND WATER AND BODIES OF WATER FROM POLLUTION BY FUEL, OILS, BITUMENS OR OTHER HARMFUL MATERIALS.
21. ALL SPARES SHALL TERMINATE AT THE SIGNAL TERMINAL COMPARTMENTS AND IN THE CONTROLLER CABINET. SPARES SHALL BE TAPED ON THE END AND SHALL BE CONTINUOUS.
22. NO SPLICING OF CABLES SHALL BE PERMITTED, WITH EXCEPTION OF DLC.
23. LOOP DETECTORS SHALL BE TESTED AND APPROVED BEFORE FILLING SAWCUTS.
24. HOLES REMAINING IN POLES SHALL BE WELDED CLOSED, FINISHED SMOOTH AND GALVANIZED

Underground Service Alert
Call: TOLL FREE
1-800
422-4133
TWO WORKING DAYS BEFORE YOU DIG

SCALE IN FEET
1 inch = 20 ft.

REVISIONS

NO.	DATE	DESCRIPTION	APP.

PREPARED BY:
LINSCOTT, LAW & GREENSPAN, ENGINEERS
TRANSPORTATION PLANNING – TRAFFIC ENGINEERING – PARKING
600 S. Lake Avenue, Suite 500, Pasadena, CA 91106 (626) 796-2322
2 Executive Circle, Suite 250, Irvine, CA 92614 (949) 825-8175
4542 Ruffner Street, Suite 100, San Diego, CA 92111 (858) 300-8800
KALYAN C. YELLAPU RCE# 75023 5/19/22 DATE

REGISTERED PROFESSIONAL ENGINEER KALYAN C. YELLAPU 75023 Exp. Dec. 31, 2023 CIVIL STATE OF CALIFORNIA
P.E. SEAL

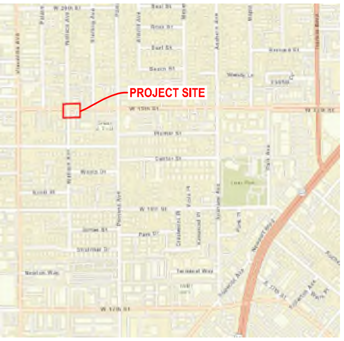
BENCHMARK
BENCH MARK NO.:
ELEVATION: DATUM:
DESCRIPTION:
BASIS OF BEARING:

		DATE
DESIGNED BY:	KHP	3/29/22
DRAWN BY:	HA	3/29/22
RECOMMENDED BY:		
JENNIFER ROSALES, TRANSPORTATION SERVICE MANAGER, T.E. 2761		
APPROVED BY:		
SEUNG YANG, CITY ENGINEER R.C.E. #66786		

CITY OF COSTA MESA
DEPARTMENT OF PUBLIC SERVICES / ENGINEERING DIVISION
HAWK TRAFFIC SIGNAL PLAN
W. 18TH STREET
AT
LIONS PARK

SHEET NO. 1 OF 1
PLAN NUMBER TS-1

I:\2216025 - hawk and 19th signal public_costa mesa\dwg\hawk design\traffic signal plan\16525 hawk.dwg LDP 15:15:51 05-19-2022 pmap



CONSTRUCTION NOTES:

Unless otherwise specified on the working drawing which forms a part of the specification, the Contractor/Developer shall furnish the following items at no cost to the Edison Company.

Southern California Edison Company has attempted to correctly show all existing utilities and substructures in the vicinity of the work, but does not guarantee there are no other substructures in the area.
Failure of SCE to show all substructures in their correct location will not be a basis for a claim for extra work, and the contractor shall be responsible for all damages to substructures whether shown or not.

1. FOR GENERAL SPECIFICATIONS SEE UGS GI 001.

2. CONDUIT:
   a. Minimum cover in street or parkway is 30" below gutter grade, unless noted otherwise.
   b. Minimum cover on private property is 30" below finished grade, unless noted otherwise.
   c. Contractor is to furnish and install approved conduit to Edison specifications per UGS CD 100.1, 110 AND 120.
   d. For the type of conduit for this job, See UGS CD 110.1.
   e. Install all risers per UGS CD 160, 161, 162 and 170.
   f. Cap all mainline conduits per UGS CD 148 and service conduits per UGS CD 150.
   g. Install blank conduit plugs in all conduits terminating into Vaults, Manhole's, PMH's, SOE's & all cap locations, per UGS CD 180.1 & UGS CD 180.2
   h. Install pull rope in all conduit runs. Pull rope to be at least 3/8" polypropylene rope, braided or twisted. For specifications, approved makes, and suppliers, see UGS GI 040.
   i. All conduit must be mandreled with the approved mandrel UGS CD 197.

3. CONDUIT RADIUS REQUIREMENTS:
   a: The minimum radius for bends are:
      36" for conduits 3" in diameter or smaller
      48" for conduits 4" and 5" in diameter
      60" for 6" diameter conduit
   b: The minimum radius for all sweeps of all mainline conduits is 12'-6" (unless noted otherwise).

4. EXCAVATION AND BACKFILL:
   a. Work area shall be cleared and rough graded to within four inches of final grade prior to installation of Edison conduit or structures.
   b. All excavations shall be in accordance with the California State Construction Safety Orders (when applicable), Edison specifications, and all governing local ordinances.
   c. Each trench to be a uniform depth below final grade prior to installation of Edison conduit or structures.
   d. Backfill shall be provided by the Contractor for all excavations and shall include crushed rock, concrete, and/or imported backfill, when required.
   e. Backfill with a MINIMUM of one sack per yard sand cement slurry around and over vaults and manholes per UGS GI 030, section 6.4 and around PMH's within one foot of finished grade, per UGS SS 590.1.
   f. Backfill, per Edison specifications, shall immediately follow conduit or substructure installation. At no time shall conduit be left exposed over 24 hours.
   g. No rocks are allowed within 12 inches of direct-buried cables or any conduit without concrete encasement. Native backfill capable of passing through a one-half inch mesh screen shall be considered to be "rock free". If existing backfill does not pass through a 1/2" screen, place imported sand 3" below and 12" above Edison cables. After this point, no rocks larger than 12" diameter are permitted.
   h. All backfill shall be compacted to meet or exceed local ordinances or other requirements. It shall be placed in a manner that will not damage the conduit or substructure or allow future subsidence of the trench or structures.

5. PAVING:
   Repaving, where required, shall be placed in such a manner that interference with traffic, including pedestrian traffic, will be kept to a minimum. The Contractor shall establish a program of repaving acceptable to the Municipality, County, or other authority having jurisdiction and which is acceptable to Edison.

6. STRUCTURES:
   a. All substructures shall be constructed or installed to Edison specifications.
   b. Install protection barriers per UGS MS 830 when required in areas exposed to traffic, per Edison Inspector.
   c. All conduit lines and concrete floored substructures shall be water tight.
   d. All grounding materials shall be furnished and installed by the Contractor.

7. RETAINING WALLS:
   When required, retaining walls shall be provided by the Developer. Walls are required wherever grade rises more than 18 inches above the structure or 24" above the pad surface at a distance of 5 feet from the same, or in areas subject to erosion. Design and installation must comply with local building ordinances. Refer to Edison Inspector for typical space requirements.

8. PERMITS:
   All permits necessary for excavation shall be provided by the Contractor/Developer.

9. ACCESS:
   Heavy truck access shall be maintained to equipment locations. Structures must be clear of all appurtenances that would obstruct the loading or unloading of equipment.

10. SERVICES:
   a. Meters and services shall comply with Edison Electrical Services Requirements.
   b. Wiring must be in accordance with applicable local ordinances and approved by local Inspection Authorities.

11. LOCATION:
   a. The location of excavations and structures for Edison shall be as shown on the working drawing. No deviation from the planned locations will be permitted unless approved by the Edison Inspector. See UGS GI 001, section 2.2.
   b. Actual location of obstructions, storm drains, and/or other foreign utilities to be the responsibility of the Contractor. See UGS GI 001, section 2.3.

12. Contractor is to verify location and widths of all sidewalks and driveways prior to street light installation. See UGS CD 175.1, UGS CD 175.2 and UGS CD 175.3.

13. SURVEY:
   Surveying of street improvements, property corners, lot lines, finished grade, etc., necessary for the installation of underground facilities must be completed and markers or stakes placed prior to the start of the installation. In addition, Developer shall maintain the markers during the installation and inspection by Edison. Grade and property line stakes must show any offset measurements.

14. COORDINATION AND SUPERVISION:
   The Developer shall provide supervision over and coordination among the various contractors working within the development in order to prevent damage to Edison facilities. He is responsible for the cost of repairs, replacement, relocation, or other corrections to Edison facilities made necessary by his failure to provide supervision or to otherwise comply with these specifications.

15. TELEPHONE AND OTHER UTILITY REQUIREMENTS:
   The drawing prepared for this job may also cover the facilities to be installed for the telephone company and/or other utility. Any questions concerning details of their installation should be referred to the company concerned.

16. OWNERSHIP:
   Developer is to deed to the Edison Company all structures shown hereon except those shown as customer owned.

17. WARRANTY:
   Applicants expressly represent and warrant that all work performed and all material used in meeting Applicants' obligations herein are free from defects in workmanship and are in conformity with Southern California Edison Company's requirements. This warranty shall commence upon receipt by Applicants of Company's final acceptance and shall expire one year from that date. Applicants agree to promptly correct to the Company's satisfaction and that of any governmental agency having jurisdiction and at Applicant's expense any breach of this warranty which may become apparent through inspection or operation of underground electric system by Company during this warranty period.

18. INSPECTION:
   Inspection is required during the construction period. A 48 hour advance notice of intent to start construction is required from the contractor to the Southern California Edison Company. Standards of Edison construction requirements are available upon request.

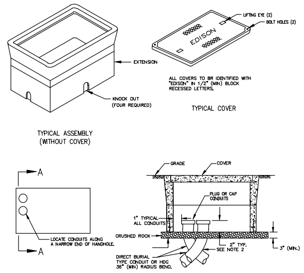
Duct and Structure Inspector: STEVE LOVE — Phone: 714-895-0426

Cabling Construction Coordinator: — Phone:

D05: Rev. 07/21/16

FILE NAME:1556292_0.01.DWG SAVE DATE:10/19/2022 3:15 PM SAVED BY:DOMINGM3

TYPICAL HANDHOLE INSTALLATION
SEE UGS HP 205



NOTES:

1. SEE UGS HP 200 FOR DIMENSIONS OF VARIOUS SIZE HANDHOLES AVAILABLE.
2. RADIUS ANGLE MAY BE REDUCED TO LESS THAN 90° PROVIDING THE PROJECTED CENTER LINE OF THE CONDUIT CLEARS HANDHOLE OPENING.
3. TWO HOLD DOWN DEVICES TO BE SUPPLIED WITH EACH HANDHOLE.

D75 REV. 05/09/13

Figure 3-27: Non-Residential Service Pedestals 0-200A, 0-600V

EUSERC No. 308

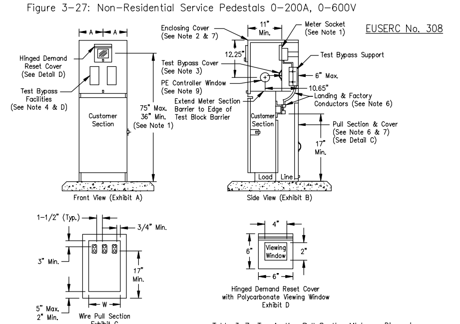


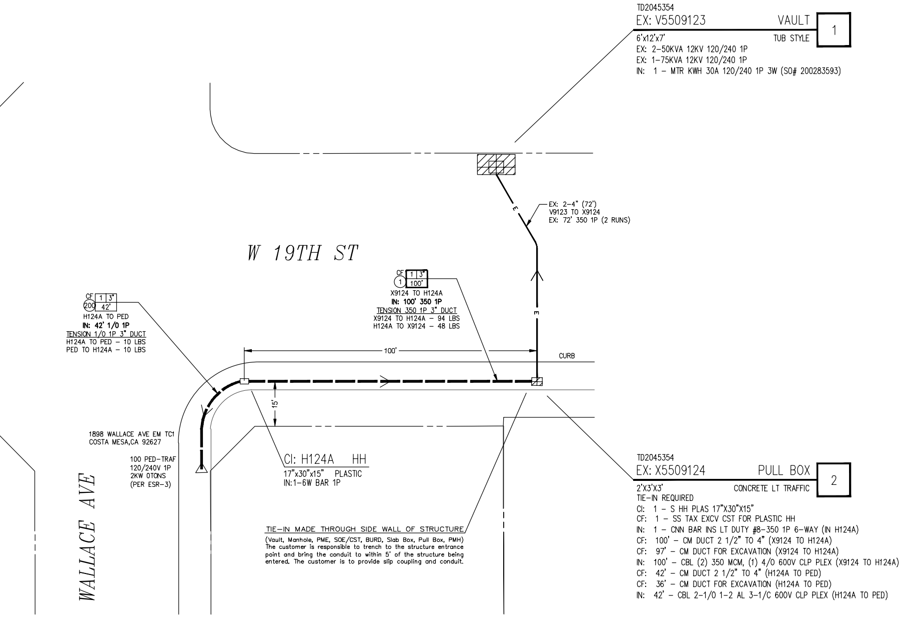
Table 3-7: Terminating Pull Section Minimum Dimensions

Service	W a/ (in)	A b/ (in)
1 Phase	10-1/2	10
3 Phase	12-1/2	

a/ See Note 6.
b/ See Note 2.

(Notes):
1. The meter socket shall be rigidly mounted on a support, attached to the meter panel, and provided with a sealing ring. Ringless sockets are not acceptable. Meter height is measured from the center of the meter socket.
2. The meter socket shall be enclosed and the enclosing cover shall be as follows:
   - Hinged to allow the top and front to be rotated back as one unit to expose the metering compartment. The "A" Dimension applies when the metering compartment side panels are fixed and obstruct the meter side clearance. The lifting force required to open the cover shall not exceed 25 pounds.
   - Equipped with a lifting handle.
   - Provided with a demand reset cover with a viewing window (see Exhibit D). The reset cover shall be sealable and lockable with a padlock having a 5/16-inch lockshaft.
3. Test-bypass compartment covers shall be sealable and fitted with a lifting handle; covers exceeding 16 inches in width shall require two lifting handles.
4. Test-bypass blocks with rigid barriers shall be furnished, installed, and wired or bussed to the meter socket by the manufacturer. Connection sequences shall be LINE-LOAD from left to right and clearly identified by 3/4-inch minimum block letter labeling. See ESR-5 for test-bypass block details.
5. Test-bypass shall be installed with the following clearances:
   - Three inches of vertical clearance from the upper test connector stud to the upper compartment access opening and 3 inches from the center of the cable terminal screw to the lower compartment access opening.
   - One and one-half inches of side clearance from the rigid insulating barriers to the compartment sides and one inch to the compartment access openings.
6. The terminating pull section requirements are as follows:
   - Comply with the minimum dimensions shown in Table 3-7 (the "W" Dimension is measured between the access opening return flanges), accept a minimum three-inch conduit, and the cover shall be equipped with a lifting handle.
   - Be equipped with aluminum-bodied, pressure-type lugs, with a range of #6 AWG through 250 kcmil, for termination of the service conductors. Insulated cable or bus shall be installed between the termination lugs and the test-bypass facilities.
   - Have a protective metallic barrier (16-gauge minimum) between the pull section and the customer distribution section. There shall be a 1/4-inch minimum clearance between the customer section wall and the barrier to prevent screws and bolts from protruding into the pull section.
7. Compartment covers (for example, meter cover, demand reset cover, and pull section) shall be sealable and lockable with a padlock having a 5/16-inch lockshaft.
8. Internal equipment attached to the outer walls of the enclosure shall be secured in place with devices that may not be loosened from the outside. Screws or bolts requiring special tools for installation or removal are not acceptable.
9. Pedestals serving both metered and unmetered loads, for instance, traffic signals and street lighting, must have landing lugs, with customer wire from lugs-to-bypasses (metered load) and from lugs-to-breakers (unmetered loads). A photoelectric (PE) receptacle shall be required in the meter/test bypass compartment for the unmetered service. Company will furnish and install PE controller for unmetered service.
10. Pedestal shall be structurally supported with anchors on a concrete pad.
11. For identification purposes, the numeric portion of the address must be painted with weatherproof paint on the exterior face of the portion of the pedestal facing the street or drivable surface in numbers at least one inch high.

D155: Rev. 09/19/22



SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

SCALE: 1" = 20'

0 20 40

UNDERGROUND SERVICE ALERT
Contact USA
Dial 811 or 800-422-4133
www.digalert.org/contact
For Underground Locating
Two Working Days Before You Dig

D16: Rev. 05/28/20

WARNING

THE EXCAVATOR MUST TAKE ALL STEPS NECESSARY TO AVOID CONTACT WITH UNDERGROUND FACILITIES WHICH MAY RESULT IN INJURY TO PERSONS OR DAMAGE TO FACILITIES IN THE AREA. THE INDICATED LOCATIONS OF EDISON UNDERGROUND FACILITIES, AS PROVIDED, ARE BELIEVED TO BE ACCURATE. HOWEVER, THE FINAL DETERMINATION OF EXACT LOCATIONS AND THE COST OF REPAIR TO DAMAGED FACILITIES IS THE RESPONSIBILITY OF THE EXCAVATOR.

NOTE:
ALL ELECTRICAL DUCTS AND STRUCTURES WILL CONFORM TO GENERAL ORDER #128 (RULES FOR CONSTRUCTION OF UNDERGROUND ELECTRICAL SUPPLY AND COMMUNICATION PRESCRIBED BY THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA, JANUARY 2006).

CUSTOMER-OWNED CONDUIT MATERIAL* AND CONCRETE ENCASEMENT ARE TO BE INSTALLED IN ACCORDANCE WITH EDISON ELECTRICAL SERVICE REQUIREMENTS.

*SUBJECT TO APPROVAL BY LOCAL INSPECTION AUTHORITIES

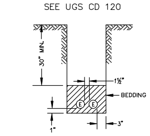
D14: Rev. 01/85

CONNECTING TO EXISTING SCE STRUCTURES

- Per SCE requirements, customers are not allowed to enter, intercept or tie-in to existing SCE facilities; e.g. structures, equipment, multi-conduit runs/banks, or conductors. These facilities may be energized and the work will only be performed by SCE. Contact the appropriate SCE inspector to schedule an appointment. Customers may connect to an existing conduit stub without a SCE inspector present.
- Multi-conduit runs/banks are runs of conduit in close proximity to each other and other SCE facilities. A conduit stub is a single empty conduit stub that is not in close proximity to other SCE owned facilities. Refer to the work order map for details.
- Per CPUC/SCE's Rule 15 B.1.A and Rule 16 D.1.A., the customer will provide all necessary excavations (with the exception of excavation under pads and primary splice boxes), material (including conduit and structures) and encasement, to be utilized in the intercept/tie-in process.
- The customer must adhere to all applicable Cal-OSHA, local, city, state and federal regulations, (including, but not limited to, all necessary shoring and traffic control in place to perform the intercept/tie-in work by SCE's underground civil contractor(s)).
- Intercept/tie-in work must be coordinated with SCE's civil contractors through the Division Inspector/P-Spec to limit exposure of excavation(s). Customer is responsible for securing excavation(s).

D08: 11/13/18

TYPICAL CONDUIT BANK SECTION
SEE UGS CD 120



DIRECT BURIAL
SIMILAR CONSTRUCTION FOR FEWER CONDUIT
2 CONDUITS MAX.

D81: Rev. 09/23/09

T.L.M. DATA: 5509123

	SIZE	KVA	CUST	% LOAD
EXIST.	175	118.8	15	68%
PROP.	175	121	16	69%

VOLTAGE DROP: 0.13%

FLICKER FACTOR: N/A

PRI. CIRCUIT: GEHRIG 12KV

D27: REV. 12/10/21

PROJECT REQUIREMENTS (Y/N)

EDISON EASEMENT REQUIRED	N
PWRD 88 REQUIRED	Y
UG CIVIL ONLY WORK ORDER	N
PERMIT REQUIRED	Y
PERMIT TYPE: ENCROACHMENT	
OUTAGE REQUIRED	N
OUTAGE DATE: N/A TIME: N/A	
TRAFFIC CONTROL REQUIRED	Y
PED. TRAFFIC CONTROL REQ'D	Y
CONVEYANCE LETTER REQ'D	N
ENVIRONMENTAL REQUIREMENTS DOCUMENT (ERD) REQUIRED	N
CSD 140 (TLM) REQ'D	N
DIG ALERT APP	Y
VERIFIED ACTIVE AND CONFIRMED USA TICKETS	☐
UTILIQUEST NOTIFIED	☐
STANDARD ADHERENCE: 4 Q/ 2022 Y	

D124: Rev. 10/12/21

FINAL DESIGN
APPROVED FOR CONSTRUCTION

DISTRICT: 33 - HUNTINGTON BEACH	PROJ. MGR. N/A; PHONE
PLANNER: RANGEL, MIKALA K; PHONE 626-302-3238	DESIGNER: DOMINGUEZ, MARVI
PROJECT NO.: 2508228	SERVICE REQUEST: 3397448
MSR NO.: (SEE MAP)	PRODUCT-1: **2045354-LINE EXTENSION**
ASSOC DESGN: 1556292	
CIRCUIT / VOLTAGE: GEHRIG 12KV	GPS: N/A
PRODUCT-2	ASSOC DESGN
SUB / PG NO.: HAMILTON / A3	CIRCUIT CODE: 07140
PRODUCT-3	ASSOC DESGN
INVENTORY MAP: MT-1322-B2	J.P.A. NO.: N/A
PROPOSED CONSTRUCTION (LOCATION): RULE 15 - NEW UG M&S WORK W/ TD2045410; 1898 WALLACE AVE EM; COSTA MESA CA 92627	

TYPE	DATE	APPROVED BY	CHECKED BY	DRAWN BY	PAX #
F	10/19/22	REV	MKR	MLD	23238

Southern California Edison Company

SHEET 1 OF 1

DESIGN\DRWG NO. 1556292_0.01

CONSTRUCTION NOTES:

Unless otherwise specified on the working drawing which forms a part of the specification, the Contractor/Developer shall furnish the following items at no cost to the Edison Company.

Southern California Edison Company has attempted to correctly show all existing utilities and substructures in the vicinity of the work, but does not guarantee there are no other substructures in the area.
Failure of SCE to show all substructures in their correct location will not be a basis for a claim for extra work, and the contractor shall be responsible for all damages to substructures whether shown or not.

1. FOR GENERAL SPECIFICATIONS SEE UGS GI 001.

2. CONDUIT:
   a. Minimum cover in street or parkway is 30" below gutter grade, unless noted otherwise.
   b. Minimum cover on private property is 30" below finished grade, unless noted otherwise.
   c. Contractor is to furnish and install approved conduit to Edison specifications per UGS CD 100.1, 110 AND 120.
   d. For the type of conduit for this job, See UGS CD 110.1.
   e. Install all risers per UGS CD 160, 161, 162 and 170.
   f. Cap all mainline conduits per UGS CD 148 and service conduits per UGS CD 150.
   g. Install blank conduit plugs in all conduits terminating into Vaults, Manhole's, PMH's, SOE's & all cap locations, per UGS CD 180.1 & UGS CD 180.2
   h. Install pull rope in all conduit runs. Pull rope to be at least 3/8" polypropylene rope, braided or twisted. For specifications, approved makes, and suppliers, see UGS GI 040.
   i. All conduit must be mandreled with the approved mandrel UGS CD 197.

3. CONDUIT RADIUS REQUIREMENTS:
   a: The minimum radius for bends are:
      36" for conduits 3" in diameter or smaller
      48" for conduits 4" and 5" in diameter
      60" for 6" diameter conduit
   b: The minimum radius for all sweeps of all mainline conduits is 12'–6" (unless noted otherwise).

4. EXCAVATION AND BACKFILL:
   a. Work area shall be cleared and rough graded to within four inches of final grade prior to installation of Edison conduit or structures.
   b. All excavations shall be in accordance with the California State Construction Safety Orders (when applicable), Edison specifications, and all governing local ordinances.
   c. Each trench to be a uniform depth below final grade prior to installation of Edison conduit or structures.
   d. Backfill shall be provided by the Contractor for all excavations and shall include crushed rock, concrete, and/or imported backfill, when required.
   e. Backfill with a MINIMUM of one sack per yard sand cement slurry around and over vaults and manholes per UGS GI 030, section 6.4 and around PMH's within one foot of finished grade, per UGS SS 590.1.
   f. Backfill, per Edison specifications, shall immediately follow conduit or substructure installation. At no time shall conduit be left exposed over 24 hours.
   g. No rocks are allowed within 12 inches of direct-buried cables or any conduit without concrete encasement. Native backfill capable of passing through a one-half inch mesh screen shall be considered to be "rock free". If existing backfill does not pass through a 1/2" screen, place imported sand 3" below and 12" above Edison cables. After this point, no rocks larger than 12" diameter are permitted.
   h. All backfill shall be compacted to meet or exceed local ordinances or other requirements. It shall be placed in a manner that will not damage the conduit or substructure or allow future subsidence of the trench or structures.

5. PAVING:
   Repaving, where required, shall be placed in such a manner that interference with traffic, including pedestrian traffic, will be kept to a minimum. The Contractor shall establish a program of repaving acceptable to the Municipality, County, or other authority having jurisdiction and which is acceptable to Edison.

6. STRUCTURES:
   a. All substructures shall be constructed or installed to Edison specifications.
   b. Install protection barriers per UGS MS 830 when required in areas exposed to traffic, per Edison Inspector.
   c. All conduit lines and concrete floored substructures shall be water tight.
   d. All grounding materials shall be furnished and installed by the Contractor.

7. RETAINING WALLS:
   When required, retaining walls shall be provided by the Developer. Walls are required wherever grade rises more than 18 inches above the structure or 24" above the pad surface at a distance of 5 feet from the same, or in areas subject to erosion. Design and installation must comply with local building ordinances.
   Refer to Edison Inspector for typical space requirements.

8. PERMITS:
   All permits necessary for excavation shall be provided by the Contractor/Developer.

9. ACCESS:
   Heavy truck access shall be maintained to equipment locations. Structures must be clear of all appurtenances that would obstruct the loading or unloading of equipment.

10. SERVICES:
   a. Meters and services shall comply with Edison Electrical Services Requirements.
   b. Wiring must be in accordance with applicable local ordinances and approved by local Inspection Authorities.

11. LOCATION:
   a. The location of excavations and structures for Edison shall be as shown on the working drawing. No deviation from the planned locations will be permitted unless approved by the Edison Inspector. See UGS GI 001, section 2.2.
   b. Actual location of obstructions, storm drains, and/or other foreign utilities to be the responsibility of the Contractor. See UGS GI 001, section 2.3.

12. Contractor is to verify location and widths of all sidewalks and driveways prior to street light installation.
   See UGS CD 175.1, UGS CD 175.2 and UGS CD 175.3.

13. SURVEY:
   Surveying of street improvements, property corners, lot lines, finished grade, etc., necessary for the installation of underground facilities must be completed and markers or stakes placed prior to the start of the installation. In addition, Developer shall maintain the markers during the installation and inspection by Edison.
   Grade and property line stakes must show any offset measurements.

14. COORDINATION AND SUPERVISION:
   The Developer shall provide supervision over and coordination among the various contractors working within the development in order to prevent damage to Edison facilities. He is responsible for the cost of repairs, replacement, relocation, or other corrections to Edison facilities made necessary by his failure to provide supervision or to otherwise comply with these specifications.

15. TELEPHONE AND OTHER UTILITY REQUIREMENTS:
   The drawing prepared for this job may also cover the facilities to be installed for the telephone company and/or other utility. Any questions concerning details of their installation should be referred to the company concerned.

16. OWNERSHIP:
   Developer is to deed to the Edison Company all structures shown hereon except those shown as customer owned.

17. WARRANTY:
   Applicants expressly represent and warrant that all work performed and all material used in meeting Applicants' obligations herein are free from defects in workmanship and are in conformity with Southern California Edison Company's requirements. This warranty shall commence upon receipt by Applicants of Company's final acceptance and shall expire one year from that date. Applicants agree to promptly correct to the Company's satisfaction and that of any governmental agency having jurisdiction and at Applicant's expense any breach of this warranty which may become apparent through inspection or operation of underground electric system by Company during this warranty period.

18. INSPECTION:
   Inspection is required during the construction period. A 48 hour advance notice of intent to start construction is required from the contractor to the Southern California Edison Company. Standards of Edison construction requirements are available upon request.

Duct and Structure Inspector: STEVE LOVE　　Phone: 714–895–0426

Cabling Construction Coordinator:　　Phone:

D05: Rev. 07/21/16

Figure 3–27: Non–Residential Service Pedestals 0–200A, 0–600V

EUSERC No. 308

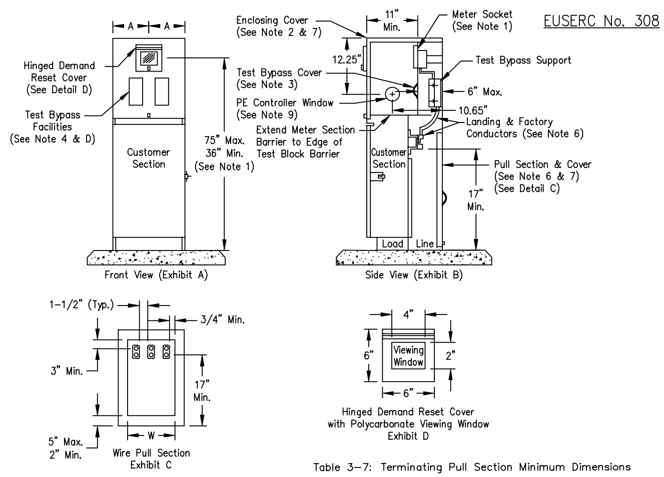


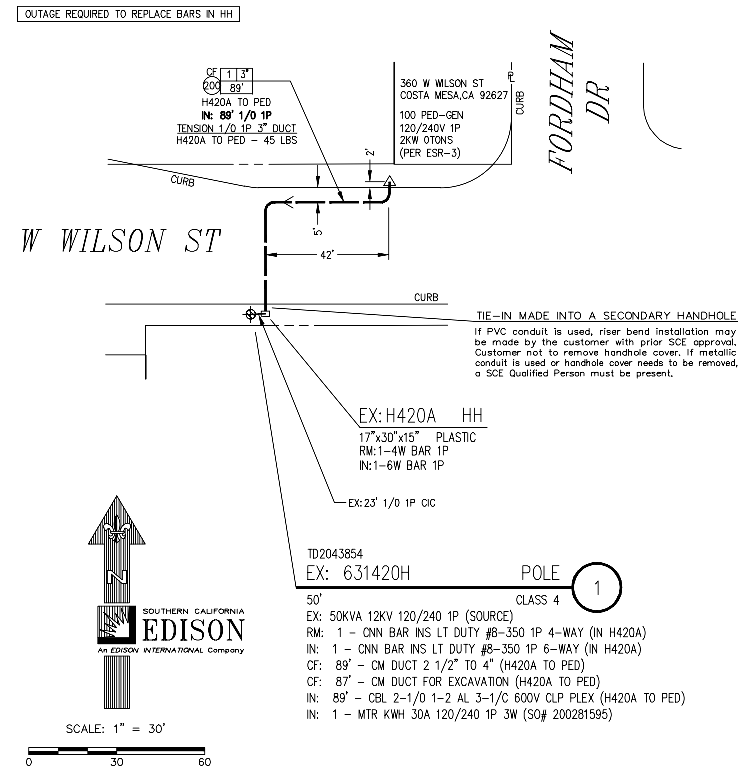
Table 3–7: Terminating Pull Section Minimum Dimensions

Service	W a/ (in)	A b/ (in)
1 Phase	10–1/2	10
3 Phase	12–1/2	

a/ See Note 6.
b/ See Note 2.

(Notes):
1. The meter socket shall be rigidly mounted on a support, attached to the meter panel, and provided with a sealing ring. Ringless sockets are not acceptable. Meter height is measured from the center of the meter socket.
2. The meter socket shall be enclosed and the enclosing cover shall be as follows:
   - Hinged to allow the top and front to be rotated back as one unit to expose the metering compartment. The "A" Dimension applies when the metering compartment side panels are fixed and obstruct the meter side clearance. The lifting force required to open the cover shall not exceed 25 pounds.
   - Equipped with a lifting handle.
   - Provided with a demand reset cover with a viewing window (see Exhibit D). The reset cover shall be sealable and lockable with a padlock having a 5/16–inch lockshaft.
3. Test–bypass compartment covers shall be sealable and fitted with a lifting handle; covers exceeding 16 inches in width shall require two lifting handles.
4. Test–bypass blocks with rigid barriers shall be furnished, installed, and wired or bussed to the meter socket by the manufacturer. Connection sequences shall be LINE–LOAD from left to right and clearly identified by 3/4–inch minimum block letter labeling. See ESR–5 for test–bypass block details.
5. Test–bypass shall be installed with the following clearances:
   - Three inches of vertical clearance from the upper test connector stud to the upper compartment access opening and 3 inches from the center of the cable terminal screw to the lower compartment access opening.
   - One and one–half inches of side clearance from the rigid insulating barriers to the compartment sides and one inch to the compartment access openings.
6. The terminating pull section requirements are as follows:
   - Comply with the minimum dimensions shown in Table 3–7 (the "W" Dimension is measured between the access opening return flanges), accept a minimum three–inch conduit, and the cover shall be equipped with a lifting handle.
   - Be equipped with aluminum–bodied, pressure–type lugs, with a range of #6 AWG through 250 kcmil, for termination of the service conductors. Insulated cable or bus shall be installed between the termination lugs and the test–bypass facilities.
   - Have a protective metallic barrier (16–gauge minimum) between the pull section and the customer distribution section. There shall be a 1/4–inch minimum clearance between the customer section wall and the barrier to prevent screws and bolts from protruding into the pull section.
7. Compartment covers (for example, meter cover, demand reset cover, and pull section) shall be sealable and lockable with a padlock having a 5/16–inch lockshaft.
8. Internal equipment attached to the outer walls of the enclosure shall be secured in place with devices that may not be loosened from the outside. Screws or bolts requiring special tools for installation or removal are not acceptable.
9. Pedestals serving both metered and unmetered loads, for instance, traffic signals and street lighting, must have landing lugs, with customer wire from lugs–to–bypasses (metered load) and from lugs–to–breakers (unmetered loads). A photoelectric (PE) receptacle shall be required in the meter/test bypass compartment for the unmetered service. Company will furnish and install PE controller for unmetered service.
10. Pedestal shall be structurally supported with anchors on a concrete pad.
11. For identification purposes, the numeric portion of the address must be painted with weatherproof paint on the exterior face of the portion of the pedestal facing the street or drivable surface in numbers at least one inch high.

D155: Rev. 09/19/22



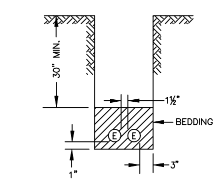
CONNECTING TO EXISTING SCE STRUCTURES

- Per SCE requirements, customers are not allowed to enter, intercept or tie–in to existing SCE facilities; e.g. structures, equipment, multi–conduit runs/banks, or conductors. These facilities may be energized and the work will only be performed by SCE. Contact the appropriate SCE inspector to schedule an appointment. Customers may connect to an existing conduit stub without a SCE inspector present.
- Multi–conduit runs/banks are runs of conduit in close proximity to each other and other SCE facilities. A conduit stub is a single empty conduit stub that is not in close proximity to other SCE owned facilities. Refer to the work order map for details.
- Per CPUC/SCE's Rule 15 B.1.A and Rule 16 D.1.A., the customer will provide all necessary excavations (with the exception of excavation under pads and primary splice boxes), material (including conduit and structures) and encasement, to be utilized in the intercept/tie–in process.
- The customer must adhere to all applicable Cal–OSHA, local, city, state and federal regulations, (including, but not limited to, all necessary shoring and traffic control in place to perform the intercept/tie–in work by SCE's underground civil contractor(s)).
- Intercept/tie–in work must be coordinated with SCE's civil contractors through the Division Inspector/P–Spec to limit exposure of excavation(s). Customer is responsible for securing excavation(s).

D08: 11/13/18

TYPICAL CONDUIT BANK SECTION

SEE UGS CD 120



DIRECT BURIAL
SIMILAR CONSTRUCTION FOR FEWER CONDUIT
2 CONDUITS MAX.

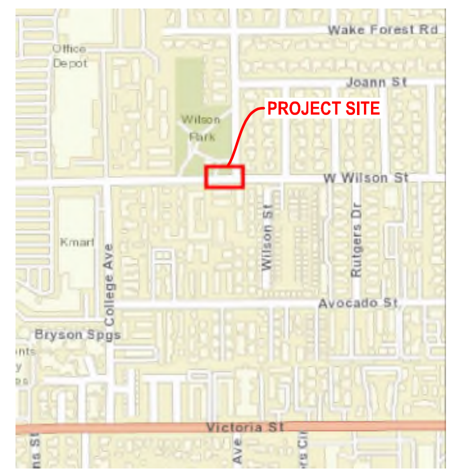
D81: Rev. 09/23/09

PROJECT REQUIREMENTS (Y/N)

EDISON EASEMENT REQUIRED	N
PWRD 88 REQUIRED	N
UG CIVIL ONLY WORK ORDER	N
PERMIT REQUIRED	Y
PERMIT TYPE: ENCROACHMENT	
OUTAGE REQUIRED	Y
OUTAGE DATE: ________ TIME: ____	
TRAFFIC CONTROL REQUIRED	Y
PED. TRAFFIC CONTROL REQ'D	Y
CONVEYANCE LETTER REQ'D	N
ENVIRONMENTAL REQUIREMENTS DOCUMENT (ERD) REQUIRED	N
CSD 140 (TLM) REQ'D	N
DIG ALERT APP	N
VERIFIED ACTIVE AND CONFIRMED USA TICKETS	☐
UTILIQUEST NOTIFIED	☐

STANDARD ADHERENCE: 4 Q/ 2022 Y

D124: Rev. 10/12/21



FINAL DESIGN

APPROVED FOR CONSTRUCTION

WARNING

THE EXCAVATOR MUST TAKE ALL STEPS NECESSARY TO AVOID CONTACT WITH UNDERGROUND FACILITIES WHICH MAY RESULT IN INJURY TO PERSONS OR DAMAGE TO FACILITIES IN THE AREA. THE INDICATED LOCATIONS OF EDISON UNDERGROUND FACILITIES, AS PROVIDED, ARE BELIEVED TO BE ACCURATE, HOWEVER, THE FINAL DETERMINATION OF EXACT LOCATIONS AND THE COST OF REPAIR TO DAMAGED FACILITIES IS THE RESPONSIBILITY OF THE EXCAVATOR.

NOTE:
ALL ELECTRICAL DUCTS AND STRUCTURES WILL CONFORM TO GENERAL ORDER #128 (RULES FOR CONSTRUCTION OF UNDERGROUND ELECTRICAL SUPPLY AND COMMUNICATION PRESCRIBED BY THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA, JANUARY 2006).

UNDERGROUND SERVICE ALERT
Contact USA
Dial 811 or 800-422-4133
www.digalert.org/contact
For Underground Locating
Two Working Days Before You Dig

D16: Rev. 05/28/20

T.L.M. DATA: 631420H

	SIZE	KVA	CUST	% LOAD
EXIST.	50	25.5	12	50%
PROP.	50	27.3	13	55%

VOLTAGE DROP: 0.81%
FLICKER FACTOR: N/A
PRI. CIRCUIT: BASS 12KV

D27: REV. 12/10/21

DISTRICT: 33 – HUNTINGTON BEACH	PROJ. MGR. N/A PHONE	PLANNER RANGEL, MIKALA K PHONE 626–302–3238	DESIGNER DOMINGUEZ, MARVI
PROJECT NO. 2506196 / SERVICE REQUEST 3395445	MSR NO. (SEE MAP)	PRODUCT–1 **2043854–NEW METER & SERVICE**	ASSOC DESGN 1555095
CIRCUIT / VOLTAGE BASS 12KV	GPS N/A	PRODUCT–2	ASSOC DESGN
SUB / PG NO. BAYSIDE / A1	CIRCUIT CODE 01203	PRODUCT–3	ASSOC DESGN
INVENTORY MAP MT–1524–E	J.P.A. NO. N/A	PROPOSED CONSTRUCTION (LOCATION) RULE 16 – NEW UG M&S 360 W WILSON ST COSTA MESA CA 92627	

TYPE	DATE	APPROVED BY	CHECKED BY	DRAWN BY	PAX #
F	10/26/22	REV	MKR	MLD	23238
F	10/14/22	REV	MKR	MLD	23238

Southern California Edison Company

SHEET 1 OF 1　　DESIGN\DRWG NO. 1555095_1.01

FILE NAME:1555095_1.01.DWG SAVE DATE:10/26/2022 3:20 PM SAVED BY:DOMINGM3

CONSTRUCTION NOTES:

Unless otherwise specified on the working drawing which forms a part of the specification, the Contractor/Developer shall furnish the following items at no cost to the Edison Company.

Southern California Edison Company has attempted to correctly show all existing utilities and substructures in the vicinity of the work, but does not guarantee there are no other substructures in the area. Failure of SCE to show all substructures in their correct location will not be a basis for a claim for extra work, and the contractor shall be responsible for all damages to substructures whether shown or not.

1. FOR GENERAL SPECIFICATIONS SEE UGS GI 001.

2. CONDUIT:
   a. Minimum cover in street or parkway is 30" below gutter grade, unless noted otherwise.
   b. Minimum cover on private property is 30" below finished grade, unless noted otherwise.
   c. Contractor is to furnish and install approved conduit to Edison specifications per UGS CD 100.1, 110 AND 120.
   d. For the type of conduit for this job, See UGS CD 110.1.
   e. Install all risers per UGS CD 160, 161, 162 and 170.
   f. Cap all mainline conduits per UGS CD 148 and service conduits per UGS CD 150.
   g. Install blank conduit plugs in all conduits terminating into Vaults, Manhole's, PMH's, SOE's & all cap locations, per UGS CD 180.1 & UGS CD 180.2
   h. Install pull rope in all conduit runs. Pull rope to be at least 3/8" polypropylene rope, braided or twisted. For specifications, approved makes, and suppliers, see UGS GI 040.
   i. All conduit must be mandreled with the approved mandrel UGS CD 197.

3. CONDUIT RADIUS REQUIREMENTS:
   a: The minimum radius for bends are:
      36" for conduits 3" in diameter or smaller
      48" for conduits 4" and 5" in diameter
      60" for 6" diameter conduit
   b: The minimum radius for all sweeps of all mainline conduits is 12'-6" (unless noted otherwise).

4. EXCAVATION AND BACKFILL:
   a. Work area shall be cleared and rough graded to within four inches of final grade prior to installation of Edison conduit or structures.
   b. All excavations shall be in accordance with the California State Construction Safety Orders (when applicable), Edison specifications, and all governing local ordinances.
   c. Each trench to be a uniform depth below final grade prior to installation of Edison conduit or structures.
   d. Backfill shall be provided by the Contractor for all excavations and shall include crushed rock, concrete, and/or imported backfill, when required.
   e. Backfill with a MINIMUM of one sack per yard sand cement slurry around and over vaults and manholes per UGS GI 030, section 6.4 and around PMH's within one foot of finished grade, per UGS SS 590.1.
   f. Backfill, per Edison specifications, shall immediately follow conduit or substructure installation. At no time shall conduit be left exposed over 24 hours.
   g. No rocks are allowed within 12 inches of direct-buried cables or any conduit without concrete encasement. Native backfill capable of passing through a one-half inch mesh screen shall be considered to be "rock free". If existing backfill does not pass through a 1/2" screen, place imported sand 3" below and 12" above Edison cables. After this point, no rocks larger than 12" diameter are permitted.
   h. All backfill shall be compacted to meet or exceed local ordinances or other requirements. It shall be placed in a manner that will not damage the conduit or substructure or allow future subsidence of the trench or structures.

5. PAVING:
   Repaving, where required, shall be placed in such a manner that interference with traffic, including pedestrian traffic, will be kept to a minimum. The Contractor shall establish a program of repaving acceptable to the Municipality, County, or other authority having jurisdiction and which is acceptable to Edison.

6. STRUCTURES:
   a. All substructures shall be constructed or installed to Edison specifications.
   b. Install protection barriers per UGS MS 830 when required in areas exposed to traffic, per Edison Inspector.
   c. All conduit lines and concrete floored substructures shall be water tight.
   d. All grounding materials shall be furnished and installed by the Contractor.

7. RETAINING WALLS:
   When required, retaining walls shall be provided by the Developer. Walls are required wherever grade rises more than 18 inches above the structure or 24" above the pad surface at a distance of 5 feet from the same, or in areas subject to erosion. Design and installation must comply with local building ordinances. Refer to Edison Inspector for typical space requirements.

8. PERMITS:
   All permits necessary for excavation shall be provided by the Contractor/Developer.

9. ACCESS:
   Heavy truck access shall be maintained to equipment locations. Structures must be clear of all appurtenances that would obstruct the loading or unloading of equipment.

10. SERVICES:
   a. Meters and services shall comply with Edison Electrical Services Requirements.
   b. Wiring must be in accordance with applicable local ordinances and approved by local Inspection Authorities.

11. LOCATION:
   a. The location of excavations and structures for Edison shall be as shown on the working drawing. No deviation from the planned locations will be permitted unless approved by the Edison Inspector. See UGS GI 001, section 2.2.
   b. Actual location of obstructions, storm drains, and/or other foreign utilities to be the responsibility of the Contractor. See UGS GI 001, section 2.3.

12. Contractor is to verify location and widths of all sidewalks and driveways prior to street light installation. See UGS CD 175.1, UGS CD 175.2 and UGS CD 175.3.

13. SURVEY:
   Surveying of street improvements, property corners, lot lines, finished grade, etc., necessary for the installation of underground facilities must be completed and markers or stakes placed prior to the start of the installation. In addition, Developer shall maintain the markers during the installation and inspection by Edison. Grade and property line stakes must show any offset measurements.

14. COORDINATION AND SUPERVISION:
   The Developer shall provide supervision over and coordination among the various contractors working within the development in order to prevent damage to Edison facilities. He is responsible for the cost of repairs, replacement, relocation, or other corrections to Edison facilities made necessary by his failure to provide supervision or to otherwise comply with these specifications.

15. TELEPHONE AND OTHER UTILITY REQUIREMENTS:
   The drawing prepared for this job may also cover the facilities to be installed for the telephone company and/or other utility. Any questions concerning details of their installation should be referred to the company concerned.

16. OWNERSHIP:
   Developer is to deed to the Edison Company all structures shown hereon except those shown as customer owned.

17. WARRANTY:
   Applicants expressly represent and warrant that all work performed and all material used in meeting Applicants' obligations herein are free from defects in workmanship and are in conformity with Southern California Edison Company's requirements. This warranty shall commence upon receipt by Applicants of Company's final acceptance and shall expire one year from that date. Applicants agree to promptly correct to the Company's satisfaction and that of any governmental agency having jurisdiction and at Applicant's expense any breach of this warranty which may become apparent through inspection or operation of underground electric system by Company during this warranty period.

18. INSPECTION:
   Inspection is required during the construction period. A 48 hour advance notice of intent to start construction is required from the contractor to the Southern California Edison Company. Standards of Edison construction requirements are available upon request.

Duct and Structure Inspector: STEVE LOVE — Phone: 714-895-0426

Cabling Construction Coordinator: — Phone:

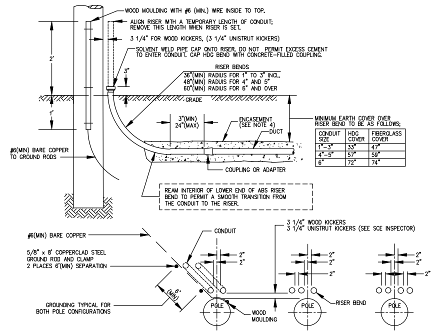
D05: Rev. 07/21/16

FILE NAME:1553722_0.01.DWG SAVE DATE:10/5/2022 3:30 PM SAVED BY:DOMINGM3

FINAL DESIGN

APPROVED FOR CONSTRUCTION

POLE RISER BEND FOR RISER ON KICK BLOCKS
SEE UGS CD 161



1. APPROVED RISER BENDS ARE SHOWN ON FOLLOWING TABLE;

MATERIAL	1"	1-1/2"	2"	2-1/2"	3"	4"	5"	6"
ABS	–	–	–	–	X	X	X	–
FIBERGLASS	–	–	–	–	X	X	X	X
HDG	X	X	X	X	X	X	X	X

NOTE: 6" HDG OR FIBERGLASS RISER BEND SHALL BE USED WHEN SPECIFIED ON THE WORKING DRAWING. SEE UGS AC 702 FOR GROUNDING HDG RISER BENDS.

2. THE TOP AND BOTTOM OF 3", 4", 5" OR 6" FIBERGLASS BENDS ARE FURNISHED WITH PERMANENTLY ATTACHED PVC COUPLINGS. ALSO INCLUDED IS A 6" LONG 3", 4", 5" OR 6" SCHEDULE 80 PVC STUB-OUT, SOLVENT WELDED INTO THE TOP COUPLING. SEE UGS CD 166 FOR FIBERGLASS RISER BEND MATERIAL INFORMATION AND SUPPLIERS.
3. TWO GROUND RODS ARE REQUIRED AT ALL PRIMARY RISER POLES. DRIVE RODS IN TRENCH BOTTOM WITH 6' MINIMUM SEPARATION IN UNDISTURBED EARTH. LEAVE THE ROD TOPS 3" ABOVE THE TRENCH BOTTOM AND ATTACH CONTINUOUS GROUND WIRE WITH CLAMPS. EXTEND WIRE TO INDICATED LOCATION ON POLE AND STUB UP 2' ABOVE GRADE IN WOOD MOULDING. ALL GROUNDING MATERIALS FURNISHED BY THE CONTRACTOR. SEE UGS AC 703 FOR APPROVED GROUNDING MATERIALS.
4. ENCASEMENT REQUIRED ONLY WHEN CALLED OUT ON WORKING DRAWING.
5. SCHEDULE 80 PVC BENDS MAY BE SUBSTITUTED FOR FIBERGLASS BENDS FOR STRAIGHT RUNS OF 150' OR LESS IN CONDUIT SIZES 4" AND UNDER.

D78A: REV. 01/09/12

Figure 3-27: Non-Residential Service Pedestals 0-200A, 0-600V

EUSERC No. 308

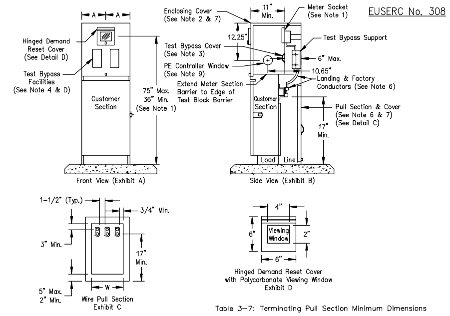


Table 3-7: Terminating Pull Section Minimum Dimensions

Service	W a/ (in)	A b/ (in)
1 Phase	10-1/2	10
3 Phase	12-1/2	

a/ See Note 6.
b/ See Note 2.

(Notes):
1. The meter socket shall be rigidly mounted on a support, attached to the meter panel, and provided with a sealing ring. Ringless sockets are not acceptable. Meter height is measured from the center of the meter socket.
2. The meter socket shall be enclosed and the enclosing cover shall be as follows:
   - Hinged to allow the top and front to be rotated back as one unit to expose the metering compartment. The 'A' Dimension applies when the metering compartment side panels are fixed and obstruct the meter side clearance. The lifting force required to open the cover shall not exceed 25 pounds.
   - Equipped with a lifting handle.
   - Provided with a demand reset cover with a viewing window (see Exhibit D). The reset cover shall be sealable and lockable with a padlock having a 5/16-inch lockshaft.
3. Test-bypass compartment covers shall be sealable and fitted with a lifting handle; covers exceeding 16 inches in width shall require two lifting handles.
4. Test-bypass blocks with rigid barriers shall be furnished, installed, and wired or bussed to the meter socket by the manufacturer. Connection sequences shall be LINE-LOAD from left to right and clearly identified by 3/4-inch minimum block letter labeling. See ESR-5 for test-bypass block details.
5. Test-bypass shall be installed with the following clearances:
   - Three inches of vertical clearance from the upper test connector stud to the upper compartment access opening and 3 inches from the center of the cable terminal screw to the lower compartment access opening.
   - One and one-half inches of side clearance from the rigid insulating barriers to the compartment sides and one inch to the compartment access openings.
6. The terminating pull section requirements are as follows:
   - Comply with the minimum dimensions shown in Table 3-7 (the 'W' Dimension is measured between the access opening return flanges), accept a minimum three-inch conduit, and the cover shall be equipped with a lifting handle.
   - Be equipped with aluminum-bodied, pressure-type lugs, with a range of #6 AWG through 250 kcmil, for termination of the service conductors. Insulated cable or bus shall be installed between the termination lugs and the test-bypass facilities.
   - Have a protective metallic barrier (16-gauge minimum) between the pull section and the customer distribution section. There shall be a 1/4-inch minimum clearance between the customer section wall and the barrier to prevent screws and bolts from protruding into the pull section.
7. Compartment covers (for example, meter cover, demand reset cover, and pull section) shall be sealable and lockable with a padlock having a 5/16-inch lockshaft.
8. Internal equipment attached to the outer walls of the enclosure shall be secured in place with devices that may not be loosened from the outside. Screws or bolts requiring special tools for installation or removal are not acceptable.
9. Pedestals serving both metered and unmetered loads, for instance, traffic signals and street lighting, must have landing lugs, with customer wire from lugs-to-bypasses (metered load) and from lugs-to-breakers (unmetered loads). A photoelectric (PE) receptacle shall be required in the meter/test bypass compartment for the unmetered service. Company will furnish and install PE controller for unmetered service.
10. Pedestal shall be structurally supported with anchors on a concrete pad.
11. For identification purposes, the numeric portion of the address must be painted with weatherproof paint on the exterior face of the portion of the pedestal facing the street or drivable surface in numbers at least one inch high.

D155: Rev. 09/19/22

T.L.M. DATA: 529423H	SIZE	KVA	CUST	% LOAD
EXIST.	50	1.5	2	3%
PROP.	50	3.7	3	7%

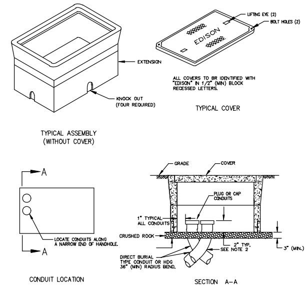
VOLTAGE DROP: 0.26%

FLICKER FACTOR: N/A

PRI. CIRCUIT: GEHRIG 12KV

D27: REV. 12/10/21

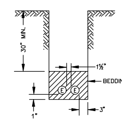
TYPICAL HANDHOLE INSTALLATION
SEE UGS HP 205



NOTES:
1. SEE UGS HP 200 FOR DIMENSIONS OF VARIOUS SIZE HANDHOLES AVAILABLE.
2. RADIUS ANGLE MAY BE REDUCED TO LESS THAN 90° PROVIDING THE PROJECTED CENTER LINE OF THE CONDUIT CLEARS HANDHOLE OPENING.
3. TWO HOLD DOWN DEVICES TO BE SUPPLIED WITH EACH HANDHOLE.

D75 REV. 05/09/13

TYPICAL CONDUIT BANK SECTION
SEE UGS CD 120



DIRECT BURIAL
SIMILAR CONSTRUCTION FOR FEWER CONDUIT
2 CONDUITS MAX.

D81: Rev. 09/23/09

WARNING

THE EXCAVATOR MUST TAKE ALL STEPS NECESSARY TO AVOID CONTACT WITH UNDERGROUND FACILITIES WHICH MAY RESULT IN INJURY TO PERSONS OR DAMAGE TO FACILITIES IN THE AREA. THE INDICATED LOCATIONS OF EDISON UNDERGROUND FACILITIES, AS PROVIDED, ARE BELIEVED TO BE ACCURATE. HOWEVER, THE FINAL DETERMINATION OF EXACT LOCATIONS AND THE COST OF REPAIR TO DAMAGED FACILITIES IS THE RESPONSIBILITY OF THE EXCAVATOR.

NOTE:
ALL ELECTRICAL DUCTS AND STRUCTURES WILL CONFORM TO GENERAL ORDER #128 (RULES FOR CONSTRUCTION OF UNDERGROUND ELECTRICAL SUPPLY AND COMMUNICATION PRESCRIBED BY THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA, JANUARY 2006).

UNDERGROUND SERVICE ALERT
Contact USA
Dial 811 or 800-422-4133
www.digalert.org/contact
For Underground Locating
Two Working Days Before You Dig

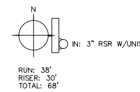
D16: Rev. 05/28/20

PROJECT REQUIREMENTS (Y/N)

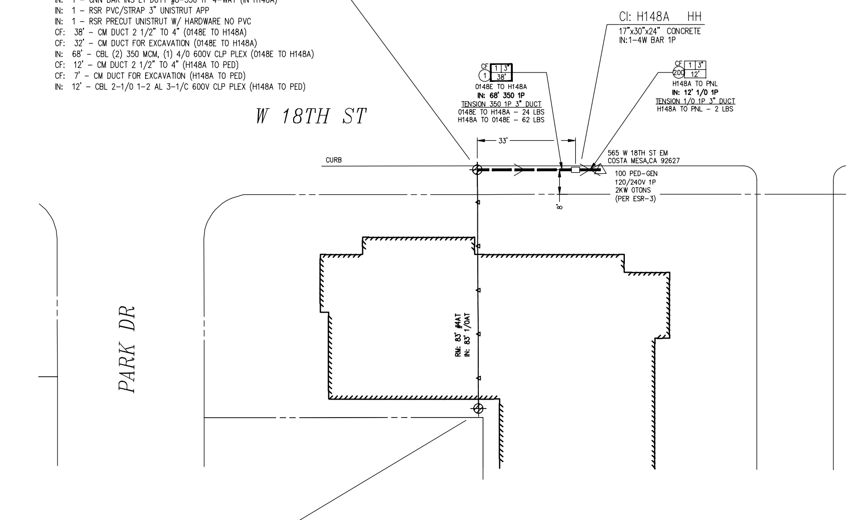
EDISON EASEMENT REQUIRED	N
PWRD 88 REQUIRED	N
UG CIVIL ONLY WORK ORDER	N
PERMIT REQUIRED	Y
PERMIT TYPE:	ENCROACHMENT
OUTAGE REQUIRED	Y
OUTAGE DATE: ______ TIME: ______	
TRAFFIC CONTROL REQUIRED	Y
PED. TRAFFIC CONTROL REQ'D	Y
CONVEYANCE LETTER REQ'D	N
ENVIRONMENTAL REQUIREMENTS DOCUMENT (ERD) REQUIRED	N
CSD 140 (TLM) REQ'D	N
DIG ALERT APP	Y
VERIFIED ACTIVE AND CONFIRMED USA TICKETS	
UTILIQUEST NOTIFIED	

STANDARD ADHERENCE: 4 Q/ 2022 Y

D124: Rev. 10/12/21



TD2042159
② EX: 440148E — POLE
50' — CLASS 3
RM: 1 – INS GLASS/POLY 35KV & LESS
IN: 1 – TM 2-350 & 1-4/0 600V 1P UG TO OH
CI: 1 – S HH CONC 17"X30"X24" (H148A)
CF: 1 – SS TAX EXCV CST FOR BD/PAD/PB/PME/SB/SOE (H148A)
IN: 1 – SEC ROLLER (166-CLEVIS & SPOOL)
IN: 1 – SEC BRACKET 9" EXTENSION FOR RACK SEC
IN: 1 – CNN BAR INS LT DUTY #8-350 1P 4-WAY (IN H148A)
IN: 1 – RSR PVC/STRAP 3" UNISTRUT APP
IN: 1 – RSR PRECUT UNISTRUT W/ HARDWARE NO PVC
CF: 38' – CM DUCT 2 1/2" TO 4" (0148E TO H148A)
CF: 32' – CM DUCT FOR EXCAVATION (0148E TO H148A)
IN: 68' – CBL (2) 350 MCM, (1) 4/0 600V CLP PLEX (0148E TO H148A)
CF: 12' – CM DUCT 2 1/2" TO 4" (H148A TO PED)
CF: 7' – CM DUCT FOR EXCAVATION (H148A TO PED)
IN: 12' – CBL 2-1/0 1-2 AL 3-1/C 600V CLP PLEX (H148A TO PED)



TD2042159
① EX: 529423H — POLE
40' — CLASS 4
EX: 50KVA 12KV 120/240 1P (SOURCE)
RM: 1 – INS GLASS/POLY 35KV & LESS
RM: 83' – CD #4 STR AL TRIPLEX W/ACSR NEUTRAL (9423H TO 0148E)
IN: 1 – SEC ROLLER (166-CLEVIS & SPOOL)
IN: 83' – CD 1/0 STR AL TRIPLEX W/ACSR NEUTRAL (9423H TO 0148E)
IN: 1 – MTR KWH 30A 120/240 1P 3W (SO# 200277437)

SOUTHERN CALIFORNIA EDISON — An EDISON INTERNATIONAL Company

SCALE: 1" = 20'
0 20 40

DISTRICT: 33 – HUNTINGTON BEACH	PROJ. MGR. N/A PHONE
PLANNER: RANGEL, MIKALA K PHONE 626-302-3238	DESIGNER: DOMINGUEZ, MARVI
PROJECT NO.: 2503326	SERVICE REQUEST: 3392615
MSR NO.: (SEE MAP)	PRODUCT-1: **2042159-LINE EXTENSION**
ASSOC DESGN: 1553722	
CIRCUIT / VOLTAGE: GEHRIG 12KV	GPS: N/A
PRODUCT-2:	ASSOC DESGN:
SUB / PG NO.: HAMILTON / A3	CIRCUIT CODE: 07140
PRODUCT-3:	ASSOC DESGN:
INVENTORY MAP: MT-1422-D	J.P.A. NO.: N/A

TYPE	DATE	APPROVED BY	CHECKED BY	DRAWN BY	PAX #
F	10/5/22	REV	MKR	MLD	23238

Southern California Edison Company

PROPOSED CONSTRUCTION (LOCATION)
RULE 15 – LINE EXTENSION
W 18TH ST AND PARK DR
COSTA MESA CA 92626

SHEET 1 OF 1

DESIGN\DRWG NO. 1553722_0.01

EXHIBIT C

BONDS

EXHIBIT D

DRUG-FREE WORKPLACE POLICY

CITY OF COSTA MESA, CALIFORNIA

COUNCIL POLICY

SUBJECT	POLICY NUMBER	EFFECTIVE DATE	PAGE
DRUG-FREE WORKPLACE	100-5	8-8-89	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 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

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:

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;

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.