

**CITY OF COSTA MESA
PUBLIC WORKS AGREEMENT FOR
CITY PROJECT NO. 20-09**

THIS PUBLIC WORKS AGREEMENT ("Agreement"), dated September 1, 2020 ("Effective Date"), is made by the CITY OF COSTA MESA, a political subdivision of the State of California ("CITY"), and AMTEK CONSTRUCTION, a California corporation ("CONTRACTOR").

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

ACCORDINGLY, the parties hereto agree as follows:

1. SCOPE OF WORK.

The Work consists of the installation of a total five (5) electric vehicle (EV) charging stations at City Hall and the creation of a total of nine (9) EV parking stalls. Two (2) dual port Level II charging stations will be installed at the back of City Hall to serve four (4) EV parking spaces, and two (2) dual port Level II charging stations plus one (1) DC fast Level III charging station will be installed in front of City Hall to serve a total of five (5) EV parking stalls. CONTRACTOR shall perform the Work in accordance with the CITY's plans and specifications.

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

The Project is known as the City Hall Electric Vehicle (EV) Charging Stations Project, City Project No. 20-09 ("Project").

2. CONTRACT DOCUMENTS.

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

- a. This Agreement;

- b. CONTRACTOR's bid (Exhibit A);
- c. Bid Package, including complete plans, profiles, detailed drawings and specifications, including general provisions and special provisions (Exhibit B);
- d. Addenda to the Bid Package (Exhibit C);
- e. Faithful Performance Bond and Labor and Material Bond, including agent's Power of Attorney for each bond (Exhibit D);
- f. Drug-Free Workplace Policy (Exhibit E);
- g. Provisions of the most current edition of The Greenbook: Standard Specifications for Public Works Construction ("The Greenbook"); and
- h. All addenda setting forth any modifications or interpretations of the above documents.

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

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

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

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

3. CITY'S REPRESENTATIVE.

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

4. CONTRACTOR'S PROJECT MANAGER; PERSONNEL.

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

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

This Paragraph 4 is a material provision of the Agreement.

5. SCHEDULE.

All Work shall be performed in accordance with the schedule approved on behalf of CITY by the Project Manager, and in accordance with the time of performance set forth in Paragraph 8 (Time of Performance).

6. EQUIPMENT - PERFORMANCE OF WORK.

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

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

7. CONTRACT PRICE.

Three Hundred Thirty-Three Thousand One Dollar and Forty Cents (\$333,001.40).

8. TIME OF PERFORMANCE.

CONTRACTOR shall commence Work by the date specified in CITY's Notice to Proceed, unless a later date is agreed upon in writing by the parties. The Work shall be completed within forty-five (45) working days from the first day of commencement of the Work.

9. TERMINATION.

(a) Termination for Convenience.

CITY may terminate this Agreement at any time, with or without cause, by providing thirty (30) days' written notice to CONTRACTOR.

(b) Termination for Breach of Contract.

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

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

(iii) If CONTRACTOR is in breach of any material provision of this

Agreement, CITY may immediately terminate this Agreement by providing written notice to CONTRACTOR of same.

10. LIQUIDATED DAMAGES.

In the event the Work is not completed, for any reason, within the time required including any approved extensions of time, and to the satisfaction of the Project Manager, CITY may, in addition to any other remedies, equitable and legal, including remedies authorized by Paragraph 9 (Termination) of this Agreement, charge to CONTRACTOR or its sureties, or deduct from payments or credits due CONTRACTOR, a sum equal to \$1,300.00 as liquidated damages for each day beyond the date provided for the completion of such Work.

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

11. PERFORMANCE BY SURETIES.

In the event CONTRACTOR fails or refuses to perform the Work, CITY may provide CONTRACTOR with a notice of intent to terminate as provided in Paragraph 9 (Termination), of this Agreement. The CITY shall immediately give written notice of such intent to terminate to CONTRACTOR and CONTRACTOR's surety or sureties, and the sureties shall have the right to take over and perform this Agreement; provided, however, that the sureties must, within five (5) days after CITY's giving notice of termination, (a) give the CITY written notice of their intention to take over the performance of this Agreement; (b) provide adequate assurances, to the satisfaction of the CITY that the

Work shall be performed diligently and in a timely manner; and (c) must commence performance thereof within five (5) days after providing notice to the CITY of their intention to take over the Work. Upon the failure of the sureties to comply with the provisions set forth above, CITY may take over the Work and complete it, at the expense of CONTRACTOR, and the CONTRACTOR and the sureties shall be liable to CITY for any excess costs or damages including those referred to in Paragraph 10 (Liquidated Damages), incurred by CITY. In such event, CITY may, without liability for so doing, take possession of such materials, equipment, tools, appliances, Contract Documents and other property belonging to CONTRACTOR as may be on the site of the Work and reasonably necessary therefor and may use them to complete the Work.

12. DISPUTES PERTAINING TO PAYMENT FOR WORK.

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

13. SUPERINTENDENCE BY CONTRACTOR.

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

14. INSPECTION BY CITY.

CONTRACTOR shall at all times maintain proper facilities and provide safe access for inspection by CITY to all parts of the Work and to all shops on or off-site where the

Work or portions of the Work, are in preparation. CITY shall have the right of access to the premises for inspection at all times. However, CITY shall, at all times, comply with CONTRACTOR's safety requirements on the job site.

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

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

16. PAYMENTS TO CONTRACTOR.

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

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

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

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

for all such claims in the aggregate paid pursuant to this provision shall be Five Thousand Dollars (\$5,000.00).

17. PROMPT PAYMENT OF SUBCONTRACTORS.

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

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

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

18. CONTRACT SECURITY AND GUARANTEE.

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

CONTRACTOR shall provide a certified copy of the certificate of authority of the

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

CONTRACTOR guarantees that all materials used in the Work and all labor performed shall be in conformity with the Contract Documents including, but not limited to, the standards and specifications set forth in the most current edition of The Greenbook. CONTRACTOR shall, at its own expense, make any and all repairs and replacements that shall become necessary as the result of any failure of the Work to conform to the aforementioned Contract Documents, and standard specifications; provided, however, that CONTRACTOR shall be obligated under this provision only to the extent of those failures or defects of which he is given notice within a period of twelve (12) months from the date that the Notice of Completion is recorded.

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

19. INDEMNIFICATION.

CONTRACTOR agrees to protect, defend, indemnify and hold harmless CITY and

its elected and appointed boards, officers, agents, and employees from any and all claims, liabilities, expenses, or damages of any nature, including attorney fees, for injury to or death of any person, and for injury or damage to any property, including consequential damages of any nature resulting therefrom, arising out of or in any way connected with the performance of this Agreement. The defense obligation provided for hereunder shall apply without any advance showing of negligence or wrongdoing by the CONTRACTOR, its employees, and/or authorized subcontractors, but shall be required whenever any claim, action, complaint, or suit asserts as its basis the negligence, errors, omissions or misconduct of the CONTRACTOR, its employees, and/or authorized subcontractors, and/or whenever any claim, action, complaint or suit asserts liability against the CITY, its elected officials, officers, agents and employees based upon the work performed by the CONTRACTOR, its employees, and/or authorized subcontractors under this Agreement, whether or not the CONTRACTOR, its employees, and/or authorized subcontractors are specifically named or otherwise asserted to be liable. Notwithstanding the foregoing, the CONTRACTOR shall not be liable for the defense or indemnification of the CITY for claims, actions, complaints or suits arising out of the sole active negligence or willful misconduct of the CITY. This provision shall supersede and replace all other indemnity provisions contained either in the CITY's specifications or CONTRACTOR's proposal, which shall be of no force and effect.

CONTRACTOR shall comply with all of the provisions of the Workers' Compensation insurance laws and Safety in Employment laws of the State of California, including the applicable provisions of Divisions 4 and 5 of the California Labor Code and all amendments thereto and regulations promulgated pursuant thereto, and all similar State, Federal or local laws applicable; and CONTRACTOR shall indemnify and hold

harmless CITY from and against all claims, liabilities, expenses, damages, suits, actions, proceedings and judgments, of every nature and description, including attorney fees, that may be presented, brought or recovered against CITY for or on account of any liability under or failure to comply with any of said laws which may be incurred by reason of any Work performed under this Agreement by CONTRACTOR or any subcontractor or others performing on behalf of CONTRACTOR.

CITY does not, and shall not, waive any rights against CONTRACTOR which it may have by reason of the above hold harmless agreements, because of the acceptance by CITY or the deposit with CITY by CONTRACTOR of any or all of the insurance policies described in Paragraph 20 (Insurance) of this Agreement.

The hold harmless agreements by CONTRACTOR shall apply to all liabilities, expenses, claims, and damages of every kind (including but not limited to attorney fees) incurred or alleged to have been incurred, by reason of the operations of CONTRACTOR or any subcontractor or others performing on behalf of CONTRACTOR, whether or not such insurance policies are applicable. CONTRACTOR shall require any and all tiers of subcontractors to afford the same degree of indemnification to the CITY OF COSTA MESA and its elected and appointed boards, officers, agents, and employees that is required of CONTRACTOR and shall incorporate identical indemnity provisions in all contracts between CONTRACTOR and all tiers of its subcontractors.

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

unless that settlement includes a full release and dismissal of all claims by the third party against the CITY.

20. INSURANCE.

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

Neither the failure of CONTRACTOR to supply specified insurance policies and coverage, nor the failure of CITY to approve same shall alter or invalidate the provisions of Paragraph 19 (Indemnification) of this Agreement.

(a) Workers' Compensation Insurance.

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

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

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

(b) Liability Insurance Coverage.

CONTRACTOR shall obtain and maintain during the life of this Agreement

the following insurance coverage:

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

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

(1) Additional Insured:

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

(2) Notice:

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

(3) Other Insurance:

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

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

21. PROOF OF INSURANCE.

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

22. LEGAL WORK DAY - PENALTIES FOR VIOLATION.

Eight (8) hours of labor shall constitute a legal day's work during any one (1) calendar day. CONTRACTOR shall forfeit to CITY the sum of Twenty-Five Dollars (\$25.00) for each workman employed in the execution of this Agreement by CONTRACTOR or by any subcontractor for each calendar day during which such workman is required or permitted to work more than eight (8) hours in any one calendar day and 40 hours in any one calendar week in violation of California Labor Code sections 1810 through 1815, inclusive.

23. PREVAILING WAGE SCALE.

CONTRACTOR shall comply in all respects with the Davis-Bacon Act (40 U.S.C. section 276a) and with California Labor Code sections 1770 et seq., including the keeping of all records required by the provisions of Labor Code section 1776.

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

24. COMPLIANCE WITH ALL LAWS.

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

25. DRUG-FREE WORKPLACE POLICY.

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

26. NON-DISCRIMINATION.

In performing this Agreement, CONTRACTOR will not engage in, nor permit its agents to engage in, discrimination in employment of persons because of their race, religion, color, national origin, ancestry, physical handicap, medical condition, marital status or sex, or sexual orientation, except as permitted pursuant to Section 12940 of the

Government Code. Violation of this provision may result in the imposition of penalties referred to in Section 1735 of the California Labor Code.

27. CONTRACT ASSURANCE.

The CONTRACTOR or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Agreement. The CONTRACTOR shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the CONTRACTOR to carry out these requirements is a material breach of this Agreement, which may result in the termination of this Agreement or such other remedy as recipient deems appropriate.

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

28. PROVISIONS CUMULATIVE.

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

29. NOTICES.

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

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

City of Costa Mesa
77 Fair Drive
Costa Mesa, CA 92626
Attn: Naz Mokarram

Notices required to be given to CONTRACTOR shall be addressed as follows:
Amtek Construction
946 N. Lemon Street
Orange, CA 92867
Attn: Alan Sayce

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

The Ohio Casualty Insurance Company
2710 Gateway Oaks Drive, Suite 150N
Sacramento, CA 95833
Attn: Melissa DeKoven

30. INDEPENDENT CONTRACTOR.

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

31. PERS ELIGIBILITY INDEMNIFICATION.

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

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

32. VALIDITY.

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

33. GOVERNING LAW.

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

34. NO THIRD PARTY BENEFICIARY RIGHTS.

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

35. ASSIGNABILITY.

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

36. WAIVER.

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

37. HEADINGS.

Section and subsection headings are not to be considered part of this Agreement, are included solely for convenience, and are not intended to modify or explain or to be a full or accurate description of the content thereof.

38. COUNTERPARTS.

This Agreement may be executed in one or more counterparts by the parties

hereto. All counterparts shall be construed together and shall constitute one Agreement.

39. CORPORATE AUTHORITY.

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

40. ADDITIONAL SERVICES.

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

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

[Signatures appear on following page.]

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

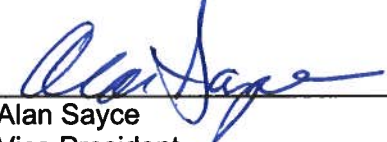
CITY OF COSTA MESA,
A municipal corporation



Lori Ann Farrell Harrison
City Manager

Date: 9/15/20

CONTRACTOR



Alan Sayce
Vice President

Date: 9/13/2020

ATTEST:



Brenda Green
City Clerk



Date: 9/16/2020

APPROVED AS TO FORM:



Kimberly Hall Barlow
City Attorney

Date: 9/14/20


APPROVED AS TO INSURANCE:



Ruth Wang
Risk Management

Date: 9/10/2020

APPROVED AS TO PURCHASING:



Carol Molina
Finance Director

Date: 9/9/20

DEPARTMENTAL APPROVAL:



Raja Sethuraman
Public Services Director

Date: 9/3/20



Naz Mokarram
Project Manager

Date: 9/3/20

EXHIBIT A
CONTRACTOR'S BID

AMTEK CONSTRUCTION

946 North Lemon Street, Orange, CA 92867 (562) 696-7111 · Fax (562) 696-7022

AMTEK CONSTRUCTION

Proposal

CITY OF COSTA MESA CITY HALL ELECTRIC VEHICLE (EV) CHARGING STATION

**BID DUE DATE
6-2-2020 10:00AM**

ORIGINAL

GENERAL ENGINEERING CONTRACTORS LICENSE 490382
CLASS A,B,C7,C8,C10,C12

www.amtekconstruction.com

e-mail: info@amtekconstruction.com

AMTEK CONSTRUCTION

**CITY OF COSTA MESA
ORANGE COUNTY, CALIFORNIA**

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

FOR

CITY HALL ELECTRIC VEHICLE (EV) CHARGING STATIONS

CITY PROJECT NO. 20-09

Prepared Under the Direction of



Copy No. _____

Checked by _____

AMTEK CONSTRUCTION

City of Costa Mesa

City Hall Electric Vehicle (EV) Charging Stations,
City Project 20-09

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

PROPOSAL SCHEDULE

Dear Council Members:

In compliance with the NOTICE INVITING BIDS FOR THE CITY HALL ELECTRIC VEHICLE (EV) CHARGING STATIONS, CITY PROJECT 20-09, a copy of 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 FOURTY-FIVE (45) 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 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:

Contractor's Lawful Name AMTEK CONSTRUCTION

Total Amount for Base Bid:

(in written words) \$ THREE HUNDRED THIRTY THREE THOUSAND ,
ONE DOLLAR AND FORTY CENTS

(in figures) \$ 333,001.40


Bidder's Initials

**PROPOSAL SCHEDULE
 (CONTINUED)**

BASE BID

<u>Item</u>	<u>Description</u>	<u>Approx. Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Total Amount</u>
1	Mobilization, Information Signs, Pothole, Construction Survey	1	LS	\$ 8,041.00	\$ 8,041.00
2	Traffic Control	1	LS	\$ 2,803.00	\$ 2,803.00
3	Stormwater Best Management Practices (BMPs)	1	LS	\$ 4,386.00	\$ 4,386.00
4	Clearing, Grubbing & Removals	1	LS	\$ 11,866.00	\$ 11,866.00
5	Unclassified Excavation	1	LS	\$ 9,937.00	\$ 9,937.00
6	Full Depth AC Pavement (Type III-C2-PG 64-10)	2.7	TON	\$ 412.00	\$ 1,112.00
7	Cold Mill (Grind) and Overlay	1,810	SF	\$ 6.00	\$ 10,860.00
8	Construct A1-6 Curb over 6" CMB Curb 4" Ht	93	LF	\$ 94.00	\$ 8,742.00
9	Construct 4" PCC Sidewalk over 4" CMB	295	SF	\$ 30.00	\$ 8,850.00
10	Furnish and Install Wheel Stop	5	EA	\$ 122.00	\$ 610.00
11	Furnish and Install Armor-Tile Cast-In-Place Truncated Warning Domes	1	EA	\$ 731.00	\$ 731.00
12	Furnish and Install Bollards	10	EA	\$ 1,219.00	\$ 12,190.00
13	Restore Existing Landscape and Irrigation	1	LS	\$ 6,725.00	\$ 6,725.00
14	Signing and Striping	1	LS	\$ 10,843.00	\$ 10,843.00
15	Furnish and Install Electric Vehicle Charging System and Infrastructure (**)	1	LS	200,305.00	200,305.00
16	Allowance for Additional Work Items as Directed By The City (***)	1	FA	\$ 35,000	\$ 35,000

TOTAL BASE BID: \$333,001.40


 Bidder's Initials

EXHIBIT B
BID PACKAGE

**PROPOSAL SCHEDULE
(CONTINUED)**

NOTE:

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. (***) Schedule of Values shall be submitted before 5:00PM on the 4th business day following the contract award. Price includes the indirect cost and markup.
4. (***) Allowance is for unforeseen work not included in the contract documents and to be included in the total bid amount as identified as follows. Use of the allowance will be at the sole discretion of the City and must be authorized in writing at the discretion of the City. This Bid item will cover unforeseen work that is not included in the contract documents. Any money used from the project allowance will be authorized via an Allowance Disbursement Form at the City's sole discretion. Any amount of money remaining in the Allowance line item upon completion of the Project will be deducted from the Contract by Deductive Change Order for the full amount(s) remaining therein. The Contractor has no beneficial interest in, and/or claim to, the Allowances and hereby disclaims any and all such interests.
5. (FA) designates force account. Payment shall be made on a time and materials basis, only if directed by the Engineer.
6. (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.


Bidder's Initial

City of Costa Mesa

AMTEK CONSTRUCTION
City Hall Electric Vehicle (EV) Charging Stations
City Project 20-09

PROPOSAL SCHEDULE

(CONTINUED)

(Please Type or Print)

Total Amount of Lump Sum Bid including Allowances:

(in written words) THREE HUNDRED THIRTY THREE THOUSAND, ONE DOLLARS & FORTY CENTS

(in figures) \$ 333,001.40

Contractor's Lawful Name: AMTEK CONSTRUCTION

Bidder's Name: AMTEK CONSTRUCTION Bidder's Initials: _____

Contractor's License No. 490382 Expiration: 4/30/2021

Contractor's PWC/DIR Registration Number: 1000009822

Contractor's Taxpayer I.D. Number: 90-0937001

Signature: _____ Date: 5/29/2020

Contractor's Address: 946 N LEMON STREET ORANGE, CA 92867

LINE NOT USED

Telephone Number: (562) 696-7111 Mobile No.: (562) 217-2887

Fax Number: (562) 696-7022 E-mail 1: ALAN@AMTEKCONSTRUCTION.COM

24-Hour Emergency Contacts: E-mail 2: DEENA@AMTEKCONSTRUCTION.COM

ALAN SAYCE Name Tel. Number: (562) 696-7111

Mobile No.: (562) 217-2887

MIKE PETTY Name Tel. No.: (562) 696-7111

Mobile No.: (626) 833-5551

STEVEN SAYCE Name Tel No.: (562) 696-7111

Mobile No.: (562) 900-6400

AS
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 10% OF THE TOTAL BID AMOUNT (\$ 10%) equal to at least ten (10%) percent of the total bid price, payable to the City of Costa Mesa, to guarantee that within fourteen (14) days after written notice is deposited in the mail, or the bidder has received notice by telephone, the bidder will furnish proper Certificates of Insurance, and required bonds satisfactory to the City and execute a contract in accordance with the proposal and in the manner and form required by the contract documents.

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

Bidder's Initials

AMTEK CONSTRUCTION

City Hall Electric Vehicle (EV) Charging Stations
City Project 20-09

City of Costa Mesa

Respectfully submitted,

AMTEK CONSTRUCTION

Contractor's Business Name
946 N LEMON STREET

Business Address: Street
ORANGE, CA 92867

City State Zip
562-696-7111

Business Phone Number
ALAN SAYCE, VICE PRESIDENT

Name Title
ORANGE, CA 92867

City State Zip

AMTEK CONSTRUCTION
ALAN SAYCE, VICE PRESIDENT

Contractor Title
Alan Sayce VICE PRESIDENT

By Title
#490382 A,B,C7,C8,C10,C12

Contractor's License No. and Classification
5/22/2020

Date
77 SAND PIPER IRVINE, CA 92618

Residence: Street
562-217-2887

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: 90-0937001

Name	Can Sign	Must Sign
Name <u>ALAN SAYCE, VICE PRESIDENT</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Name <u>STEVEN SAYCE, PRESIDENT</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Name <u>LORETTA SAYCE, SECRETARY/TREASURER</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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: N/A

Name N/A

Address N/A

Name N/A

Address N/A

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.

STEVEN SAYCE

ALAN SAYCE

LORETTA SAYCE

LINE NOT USED

PRESIDENT

VICE PRESIDENT

SECRETARY/TREASURER

LINE NOT USED

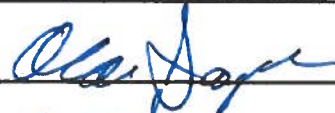





AS
Bidder's Initials

AMTEK CONSTRUCTION

City of Costa Mesa

City Hall Electric Vehicle (EV) Charging Stations
City Project 20-09

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

<u>Addendum No.</u>	<u>Date Received</u>	<u>Bidder's Signature</u>
1	4/29/2020	
2	5/6/2020	
3	5/8/2020	
4	5/18/2020	
5	5/21/2020	
		 Bidder's Initials

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.

<u>Date Project Awarded</u>	<u>Awarding Agency</u>	<u>Agency's Contract Administrator</u>
2/2020	City of Corona Garretson Blend Station Electrical Upgrades	Vernon Weiss (951) 739-4912
10/2019	CTE-LA Port Fenix Marine EV Chargers	Jason Hanlin (404) 808-6485
11/2019	GAHR High School Electrical Lighting Upgrades	Robert Kay (562) 254-5039
7/2019	Oceanvie Unified School District Farm Restoration Project	Jim Choate ((714) 847-7083
5/2018	SOCCCD Saddleback ADA Ramp Upgrades	Marc Schoeppner (949) 348-6126
5/2018	SOCCCD Irvine Valley College Horizontal Drilling	Anna Petrossian (949) 451-5708
9/2018	Antelope Valley Transportation Authority EV Charger	Lyle Block (661) 729-2288
5/2018	Coachella Valley Water Water District Electrical Upgrades	Luis De Arco (760) 398-2661
3/2018	Univesity of California Irvine Bus Yard EV Charging Pad	Craig Denney (949)824-5853
2/2018	SOCCCD Irvien Valley College Electrical Upgrades	Anna Petrossian (949) 451-5708
12/2017	SAMOHI - santa Monica Malibu Unified School District	Alan Braatvedt (310) 450-8338
Line Not Used		


Bidder's Initials

DESIGNATION OF SUBCONTRACTORS

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

PORTION OF WORK	BID ITEM NUMBER	SUBCONTRACTOR'S NAME AND FULL ADDRESS	STATE LICENSE NUMBER AND CLASSIFICATION
Demo, Excavation, Asphalt, Stripe Seal, Landscaping	4, 5, 6, 7, 10, 13, 14	B L HAYES 10502 PRISCELLA ST NORWALK, CA 90650	704318- A,B,C21
N/A			
N/A			
N/A			
N/A			
N/A			
N/A			
N/A			
N/A			
N/A			
N/A			
N/A			
N/A			
N/A			
N/A			


Bidder's Initials

AMTEK CONSTRUCTION

City of Costa Mesa

City Hall Electric Vehicle (EV) Charging Stations
City Project 20-09

CITY OF COSTA MESA BIDDERS LIST

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

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

Firm Name: B L HAYES Phone: 562-466-6100

Address: 10502 PRISCELLA STREET Fax: 562-696-7022
NORWALK, CALIFORNIA 90650

Contact Person: MIKE HAYES OR SUSAN HAYES No. of years in business: 25 YEARS

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

Type of work/services/materials provided by firm? DEMO. EXCAVATION, ASPHALT, SEAL , STRIPE LANDSCAPING

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

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

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


Bidder's Initials

BIDDER'S BOND TO ACCOMPANY PROPOSAL

Bond No. CSBA-13985

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

KNOW ALL PEOPLE BY THESE PRESENTS:

That we, Amtek Construction as principals, and The Ohio Casualty Insurance Company as surety, are held and firmly bound unto the City of Costa Mesa, a municipal corporation, organized under the laws of the State of California and situated in Orange County in the sum of Ten Percent Of The Amount Bid (\$ 10%) to be paid to the City, its successors and assigns, for which payment well and truly to be made, we bind ourselves, our heirs, executors, and administrators, successors or assigns, jointly and severally firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH,


That is the certain proposal of the above bounden, Amtek Construction, if accepted by the City of Costa Mesa, and if the above bounden, Amtek Construction, 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, Amtek Construction, 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 22nd day of May, 2020.

Amtek Construction

The Ohio Casualty Insurance Company


ALAN SAYCE, VICE PRESIDENT


Dwight Reilly, Attorney-In-Fact

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 is to pay to such bidder or public officer any sum of money, or has given or is to give to such other bidder or public officer anything of value whatever, or such affiant or affiants or either of them has not directly or indirectly, entered into any arrangement or agreement with any other bidder or bidders, which tends to or does lessen or destroy free competition in the letting of the contract sought for on the attached bids; that no bid has been accepted from any subcontractor or supplier through any bid depository, the By-Laws, Rules, or Regulations of which prohibit or prevent the Contractor from considering any bid from any subcontractor or supplier which is not processed through said bid depository, or which prevent any subcontractor or supplier from bidding to any Contractor who does not use the facilities or accept bids from or through such bid depository; that bidder has not bid as subcontractor to other bidders; that no inducement of any form or character other than that which appears upon the face of the bid will be suggested, offered, paid or delivered to any person of the contract, nor has this bidder any agreement or understanding of any kind whatsoever, with any person whomsoever to pay, deliver to, or share with any other person in any way or manner, any of the proceeds of the contracts sought by this bid.

AMTEK CONSTRUCTION

Contractor Firm Name
ALAN SAYCE

Name of Principal
VICE PRESIDENT

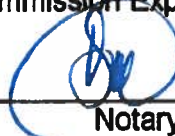
Title


Signature

Subscribed and sworn to before me by:
DEENA MOORE

This 22 day of MAY, 2020.

My Commission Expires: 9/1/2022



Notary Public



Bidder's Initials

City of Costa Mesa

City Hall Electric Vehicle (EV) Charging Stations
City Project 20-09

**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: 5/22/2020

CONTRACTOR



ALAN SAYCE, VICE PRESIDENT
AMTEK CONSTRUCTION

Company Name

PROJECT:

City of Costa Mesa
77 Fair Drive
Costa Mesa, CA 92626



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 Attachment No. 1 in the Project Specifications.


Bidder's Initials

AMTEK CONSTRUCTION

City of Costa Mesa

City Hall Electric Vehicle (EV) Charging Stations
City Project 20-09

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
N/A	N/A	N/A	N/A	N/A

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
 AMTEK CONSTRUCTION, ALAN SAYCE, VICE PRESIDENT

5/22/2020
 Date

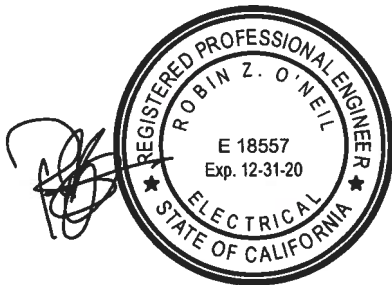

 Bidder's Initials

**CITY OF COSTA MESA
ORANGE COUNTY, CALIFORNIA**

**NOTICE TO BIDDERS, PROPOSAL, CONTRACT AND SPECIAL
PROVISIONS
FOR
CITY HALL ELECTRIC VEHICLE (EV) CHARGING STATIONS**

CITY PROJECT NO. 20-09

Prepared Under the Direction of



Copy No. _____

Checked by _____

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8	DEBARMENT STATEMENT	1 PAGE

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

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

**CITY HALL ELECTRIC VEHICLE (EV) CHARGING STATIONS,
CITY PROJECT NO. 20-09**

1. **BID OPENING**: Sealed bids will be received by the City of Costa Mesa (City) at the Office of the City Clerk, 77 Fair Drive, Costa Mesa, California, before a submittal deadline of **10:00 A.M., Tuesday, May 26, 2020**. Sealed proposals shall bear the title of the work and name of the bidder but no other distinguishing marks. Any bid received after the scheduled closing time for the receipt of bids shall be returned to bidder unopened. It shall be the sole responsibility of the Bidder to see that its bid is received in proper time.

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

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

The bid opening will be conducted at **10:00 A.M., Thursday, May 28, 2020** by the City Clerk. NO public viewing of the bid opening will be allowed due to precautions related to COVID-19. Upon opening all the valid submitted bids, and verifying their contents, the City Clerk's office will contact each bidder via email and distribute the results and summary of the bid opening.

2. **BID CONTENTS**: All bids must be submitted on the proposal form included in the bid packet. No bid will be considered unless it is made on the proposal form furnished by the City and made in accordance with the provisions of the bid requirements. Each bid must be submitted in a sealed envelope addressed to the City Clerk with the Project Name, Project Number, and name of the bidder typed or clearly printed on the envelope. The sealed envelope shall not contain other distinguishing marks.
3. **BID DOCUMENTS**: **Complete bid packets will be available electronically, at no cost, via CIPLIST.com (a third-party website) at <http://ciplist.com/plans/?CostaMesa/city/11556>. Hard copies will NOT be available for purchase from the City.**

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

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

4. **BID SECURITY**: Each bid must be submitted with a certified check, cashier's check, or a bid bond, made payable to or in favor of the City of Costa Mesa, in an amount equal to at least ten percent (10%) of the total amount of the bid. No bid will be considered unless accompanied by such certified check, cashier's check, or bid bond.
5. **CONTRACTOR'S LICENSE**: A valid **California Contractor's License Class "B" (General Building Contractor) or Class "C-10" (Electrical 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.
6. **REGISTRATION WITH THE DEPARTMENT OF INDUSTRIAL RELATIONS**: Pursuant to California Labor Code Sections 1725.5 and 1771.1, no contractor or subcontractor shall be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work unless registered and qualified pursuant to Section 1725.5.
7. **PREVAILING WAGES**: This Project is a "public work" subject to prevailing wage requirements. Pursuant to provisions of Sections 1770 et seq. of the California Labor Code, all workers employed on the Project shall be paid not less than the general prevailing rate of per diem wages, as determined by the Director of the Department of Industrial Relations for work of a similar character in the locality in which the work is performed, and not less than the general prevailing rate of per diem wages for holiday and overtime work. Copies of the prevailing rate of per diem wages are on file with the Public Services Department of the City of Costa Mesa and are available to any interested party upon request. The applicable State prevailing wages are also set forth on the Department of Industrial Relations' website at <https://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>; these rates are subject to predetermined increases. The prime contractor shall post a copy of the Director's determination of the prevailing rate of per diem wages at each job site. This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.
8. **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.
9. **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.
10. **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.
11. **RETENTION**: In accordance with the Contract, five percent (5%) of any progress payment will be withheld as a retention. Pursuant to Section 22300 of the Public Contract Code, at the request and expense of the Contractor, approved securities equivalent to the amount withheld may be deposited with the City or with a state or federally chartered bank as the escrow agent, and City shall then pay such moneys to the Contractor. Refer to the Sample Contract for further clarification.

12. **ADDITIONAL REQUIREMENTS:** This Project is subject to local, State, and Federal regulations and requirements, as detailed in the bid packet and contract documents.

NOTE: A PRE-BID JOB WALK WILL BE RECORDED ON VIDEO FOR DISTRIBUTION TO BIDDERS THAT DOWNLOAD THE BID DOCUMENTS AND REGISTER AT [HTTP://CIPLIST.COM](http://CIPLIST.COM)

For further information regarding this Project, please contact Bobby Fouladi at Bobby.Fouladi@costamesaca.gov

Published April 22, 2020

Brenda Green, City Clerk, City of Costa Mesa

INFORMATION FOR BIDDERS

1. **PREPARATION OF BID FORM:** The City requires that bids be submitted on the proposal form attached at such time and place as is stated in the Notice Inviting Bids. All blanks in the bid form must be appropriately filled in. All bids shall be submitted in sealed envelopes bearing on the outside the name of the bidder, his address, and the name of the project for which the bid is submitted. It is the sole responsibility of the bidder to see that his bid is received in proper time. Any bid received after the scheduled closing time for receipt of bids will be returned to the bidder unopened. Each Bidder is responsible for acknowledging addenda.
2. **QUALIFICATION OF BIDDERS:** Only Licensed Contractors, authorized to do business under the laws of the State of California and that are able to meet the following criteria will be eligible to submit a bid:
 - A. Contractors bidding to the City shall have a minimum five (5) years continuous experience as prime on projects of comparable quality, size, complexity and type.
 - B. Contractors bidding to the City shall have completed as the prime three (3) projects of comparable quality, size, complexity and type.
 - C. Subcontractors shall meet the above two requirements as it pertains to their Work.
 - D. Within three (3) calendar days of request by City, Contractor shall submit evidence of compliance to the above qualifications and a list of all work performed, both complete and incomplete, within the previous five (5) years including the names and phone numbers of the City and Architects.
 - E. Before a contract is awarded, the City may, at its sole discretion, require from the proposed contractor evidence of their ability to faithfully, capably, and reasonably perform such proposed contract within the Contract Time and for the Contract Amount, and may consider such evidence before making a decision on the award of such proposed contract.
3. **BID SECURITY:** Each bid shall be accompanied by either cash, cashier's check made payable to the City, a certified check made payable to the City, or a bidder's bond executed by an admitted surety insurer, made payable to the City, in an amount not less than 10% of the maximum amount of the bid. The Bidder's Bond shall be signed by both, the bidder and the Surety; and both signatures shall be notarized. The bid security shall be given as a guarantee that the bidder shall execute the contract if it be awarded to him in conformity with the Contract Documents and shall provide the surety bond or bonds as specified therein within fourteen (14) days after a written Notice of Intent to Award Contract is deposited in the mail.
4. **NONCOLLUSION AFFIDAVIT:** Each bid shall be accompanied by a notarized Noncollusion Affidavit on a form which is included in the Contract Documents.

5. **SIGNATURE:** The bid must be signed in the name of the bidder and must bear the signature in longhand of the person or persons duly authorized to sign the bid on behalf of the bidder.
6. **ERASURES:** The bid submitted **must not** contain any erasures, interlineations, or other corrections unless each such correction is suitably authenticated by affixing in the margin immediately opposite the correction, in ink, the initials, and/or surname or surnames of the person or persons signing the bid.
7. **DELIVERY OF PROPOSAL:** Proposals shall be enclosed in a sealed envelope plainly marked on the outside:

“SEALED BID”

**CITY HALL EV CHARGING STATIONS, CITY PROJECT 20-09
IN THE CITY OF COSTA MESA – DO NOT OPEN WITH REGULAR MAIL**

8. **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.

A pre-bid job walk will be recorded on video and shall be released as a bid addendum.

9. **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.
10. **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.
11. **INTERPRETATION OF PLANS AND DOCUMENTS:** If any person 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, he may submit to the Engineer a written request for an interpretation or correction thereof. The bidder submitting the

Request for Interpretation (RFI) shall utilize the form included within this Information for Bidder (Page B-6) and shall be responsible for its prompt delivery. 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. Work not particularly specified in the specification or detailed on the contract drawings but involved in carrying out their intent, or in the complete and proper execution of the Work, is required and shall be performed by the Contractor.

Should it appear that there is a real or apparent discrepancy between different sections of specifications concerning nature, quality or extent of Work to be furnished, it shall be assumed that Contractor has based his bid on the more expensive manner. Final decision shall rest with the City.

12. **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.
13. **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, his construction experience, and his organization and plant facilities available for the performance of the contract.
14. **BID DEPOSIT RETURN:** Deposits of three of more low bidders, the number being at the discretion of the City, will be held for (60) sixty 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.
15. **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 responsible bidder, or may call for new bids.
16. **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.

17. **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.
18. **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.
19. **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.
20. **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. It will be the responsibility of the bidder to contact the City prior to submitting a bid to ascertain if any addenda have been issued, to obtain all such addenda, and return executed addenda or acknowledgment thereof with the bid.
21. **QUESTIONS TO THE ENGINEER:** *Pre-bid Request for Interpretations (RFIs) shall be submitted by May 15, 2020 at 10:00 am. RFIs requests submitted after the advised date may not receive a response. Substitution proposals will only be considered during the bidding phase.*
22. **EQUIVALENT MATERIALS:** *Requests for the use of equivalents to those specified, must be submitted to the City. Substitution proposals will only be considered during the bidding phase. All substitution proposal requests shall be submitted to the City for review no later than May 15, 2020 at 10:00 am. It is the sole responsibility of the successful bidder to prove to the City that such a material is truly an equivalent*

23. **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
24. **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.
25. **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 will 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 INTERPREPARATION OF CONTRACT DOCUMENTS

Date: _____

Time: _____

Company: _____

Contact Person: _____

Address:

Telephone: _____

FAX: _____

Plan Sheet: _____

Specification Section:

INTERPRETATION REQUESTED:

REPLY:

TO A/E: _____

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

PROPOSAL SCHEDULE

Dear Council Members:

In compliance with the NOTICE INVITING BIDS FOR THE **CITY HALL ELECTRIC VEHICLE (EV) CHARGING STATIONS, CITY PROJECT 20-09**, a copy of 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 FOURTY-FIVE (45) 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 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:

Contractor's Lawful Name _____

Total Amount for Base Bid:

(in written words) \$ _____

(in figures) \$ _____

Bidder's Initials

**PROPOSAL SCHEDULE
(CONTINUED)**

BASE BID

<u>Item</u>	<u>Description</u>	<u>Approx. Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Total Amount</u>
1	Mobilization, Information Signs, Pothole, Construction Survey	1	LS	\$ _____	\$ _____
2	Traffic Control	1	LS	\$ _____	\$ _____
3	Stormwater Best Management Practices (BMPs)	1	LS	\$ _____	\$ _____
4	Clearing, Grubbing & Removals	1	LS	\$ _____	\$ _____
5	Unclassified Excavation	1	LS	\$ _____	\$ _____
6	Full Depth AC Pavement (Type III-C2-PG 64-10)	2.7	TON	\$ _____	\$ _____
7	Cold Mill (Grind) and Overlay	1,810	SF	\$ _____	\$ _____
8	Construct A1-6 Curb over 6" CMB Curb 4" Ht	93	LF	\$ _____	\$ _____
9	Construct 4" PCC Sidewalk over 4" CMB	295	SF	\$ _____	\$ _____
10	Furnish and Install Wheel Stop	5	EA	\$ _____	\$ _____
11	Furnish and Install Armor-Tile Cast-In-Place Truncated Warning Domes	1	EA	\$ _____	\$ _____
12	Furnish and Install Bollards	10	EA	\$ _____	\$ _____
13	Restore Existing Landscape and Irrigation	1	LS	\$ _____	\$ _____
14	Signing and Striping	1	LS	\$ _____	\$ _____
15	Furnish and Install Electric Vehicle Charging System and Infrastructure (**)	1	LS	\$ _____	\$ _____
16	Allowance for Additional Work Items as Directed By The City (***)	1	FA	\$35,000	\$35,000

TOTAL BASE BID: _____

Bidder's Initials

**PROPOSAL SCHEDULE
(CONTINUED)****NOTE:**

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. (***) Schedule of Values shall be submitted before 5:00PM on the 4th business day following the contract award. Price includes the indirect cost and markup.
4. (***) Allowance is for unforeseen work not included in the contract documents and to be included in the total bid amount as identified as follows. Use of the allowance will be at the sole discretion of the City and must be authorized in writing at the discretion of the City. This Bid item will cover unforeseen work that is not included in the contract documents. Any money used from the project allowance will be authorized via an Allowance Disbursement Form at the City's sole discretion. Any amount of money remaining in the Allowance line item upon completion of the Project will be deducted from the Contract by Deductive Change Order for the full amount(s) remaining therein. The Contractor has no beneficial interest in, and/or claim to, the Allowances and hereby disclaims any and all such interests.
5. (FA) designates force account. Payment shall be made on a time and materials basis, only if directed by the Engineer.
6. (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.

Bidder's Initial

PROPOSAL SCHEDULE

(CONTINUED)

(Please Type or Print)

Total Amount of Lump Sum Bid including Allowances:

(in written words) _____

(in figures) \$ _____

Contractor's Lawful Name: _____

Bidder's Name: _____ Bidder's Initials: _____

Contractor's License No. _____ Expiration: _____

Contractor's PWC/DIR Registration Number: _____

Contractor's Taxpayer I.D. Number: _____

Signature: _____ Date: _____

Contractor's Address: _____

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

Fax Number: () _____ E-mail 1: _____

24-Hour Emergency Contacts: E-mail 2: _____

_____ Name Tel. Number: () _____

Mobile No.: () _____

_____ Name Tel. No.: () _____

Mobile No.: () _____

_____ Name Tel No.: () _____

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		

Business Address: Street		

City	State	Zip

Business Phone Number		

Name		Title

City	State	Zip

Contractor	Title

By	Title

Contractor's License No. and Classification	

Date	

Residence: Street	

Residence phone Number	

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

Corporation

Taxpayer I.D. Number: _____

Name _____
Name _____
Name _____

Can Sign

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Must Sign

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

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:

<u>Addendum No.</u>	<u>Date Received</u>	<u>Bidder's Signature</u>

Bidder's Initials

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.

<u>Date Project Awarded</u>	<u>Awarding Agency</u>	<u>Agency's Contract Administrator</u>

Bidder's Initials

DESIGNATION OF SUBCONTRACTORS

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

PORTION OF WORK	BID ITEM NUMBER	SUBCONTRACTOR'S NAME AND FULL ADDRESS	STATE LICENSE NUMBER AND CLASSIFICATION

Bidder's Initials

CITY OF COSTA MESA BIDDERS LIST

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

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

Firm Name: _____ Phone: _____

Address: _____ Fax: _____

Contact Person: _____ No. of years in business: _____

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

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

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

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

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

Bidder's Initials

BIDDER'S BOND TO ACCOMPANY PROPOSAL

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

KNOW ALL PEOPLE BY THESE PRESENTS:

That we, _____ as principals, and _____ as surety, are held and firmly bound unto the City of Costa Mesa, a municipal corporation, organized under the laws of the State of California and situated in Orange County in the sum of _____ (\$_____) to be paid to the City, its successors and assigns, for which payment well and truly to be made, we bind ourselves, our heirs, executors, and administrators, successors or assigns, jointly and severally firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH,

That is the certain proposal of the above bounden, _____, if accepted by the City of Costa Mesa, and if the above bounden, _____, his heirs, executors, administrators, successors and assigns, shall duly enter into and execute a contract for such construction, and shall execute and deliver the CERTIFICATE OF INSURANCE and the LABOR AND MATERIAL and the FAITHFUL PERFORMANCE BONDS described within fourteen (14) days from the date of the mailing of a notice of the above bounden, _____, by and from the City, that said contract is ready for execution, then this obligation shall become null and void; otherwise it shall be and remain in full force and virtue.

IN WITNESS WHEREOF:

We hereunto set our hands and seals this ____ day of _____, 20__.

Contractor/ Principal
(Notary Acknowledgement to be attached)

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

Bidder's Initials

CONTRACT ASSURANCE

The CONTRACTOR or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The CONTRACTOR shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the CONTRACTOR to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as recipient deems appropriate.

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

Bidder's Initials

NONCOLLUSION AFFIDAVIT

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

Contractor Firm Name

Name of Principal

Title

Signature

Subscribed and sworn to before me by:

This ____ day of _____, 20__.
My Commission Expires: _____

Notary Public

Bidder's Initials

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

I am aware of the provisions of Section 3700 of the California Labor Code which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this contract.

Dated: _____

CONTRACTOR

Company Name

PROJECT:

City of Costa Mesa
77 Fair Drive
Costa Mesa, CA 92626

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 Attachment No. 1 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

**Part 1
CITY PROVISIONS**

A: STANDARD SPECIFICATIONS

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.

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.

B: GENERAL PROVISIONS

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 first precedence.

1-2 DEFINITIONS

- | | |
|------------------------|--|
| (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-9a, 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

2-1.1 AWARD OF CONTRACT

The award of contract, if awarded, will be to the lowest responsible bidder whose proposal complies with all requirements of the Notice Inviting Bids and Section 2-1.2 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 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.

2-1.2 PROCEDURE FOR PROPOSAL SUBMITTAL

Proposal shall be made and submitted on proposal forms P-1 through P-19 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 subproposal to a BIDDER or who has quoted prices on materials to a BIDDER is not thereby disqualified from submitting a subproposal 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. 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.

2-1.3 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, he may make a request to the ENGINEER, in writing, for an interpretation or correction thereof. The person submitting such a request shall be responsible for its prompt delivery. All such interpretations of the contract documents will be made only by addenda duly issued, and a copy of each such addendum will be mailed or delivered to each person receiving a set of contract documents at his last address of record. The CITY will not be responsible for any other explanations or interpretations of the contract documents.

2-1.4 RETURN OF BID SECURITY

Any BIDDER may withdraw his bid, either personally, or by telegraphic or written request, at any time prior to the scheduled closing time for the receipt of bids. It is the sole responsibility of the BIDDER to see that any such telegraphic or written request is delivered

to the City Clerk prior to said closing time. Bid security of such BIDDERS will be returned promptly to the BIDDER.

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.

2-1.5 EXECUTION OF AGREEMENT

The agreement shall be signed by the successful BIDDER and returned to the CITY prior to the award of the contract. Failure to comply with insurance and bonding requirements as specified in the agreement and in Section 2-1.1 of the 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.

2-2.1 ASSIGNMENT

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

2-3.1 SUBCONTRACTS: GENERAL

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.

2-4 CONTRACT BONDS

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.

2-5.1 PLANS AND SPECIFICATIONS

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.

BIDDER shall, at his 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.

2-6.1 REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORK

All work which is defective in its construction or does not meet all of the requirements of the plans and/or specifications shall be remedied, or removed and replaced by the Contractor in an acceptable manner, and no compensation will be allowed for such correction.

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

Upon failure on the part of the Contractor to comply forthwith with any order of the ENGINEER made under the provisions of this article, the ENGINEER shall have authority to cause defective work to be remedied, or removed and replaced, and unauthorized work to be removed, and to deduct the costs and thereof from any monies due or to come due the Contractor.

Payment will not be made for materials wasted or disposed of in a manner not called for under the contract. This includes rejected material not unloaded from vehicles, material rejected after it has been placed and material placed outside the limits of the project. No compensation will be allowed for disposing of rejected or excess material.

2-7.1 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.

2-9.1 PERMANENT SURVEY MARKERS

Unless otherwise provided in the Special Provisions, the Contractor shall be responsible for protecting all existing horizontal and vertical survey controls, monuments, ties and bench marks located within the limits of the project. If any of the above 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, establish sufficient temporary ties and bench marks to enable the points to be reset after completion of construction.

Any ties, monuments and bench marks disturbed during construction shall be reset per City standards after construction and the tie notes submitted to the City on 8½" x 11" loose leaf paper. The Contractor and his sureties shall be liable, at Contractor's expense, for any resurvey required due to his negligence in protecting existing ties, monuments, bench marks or any such horizontal and vertical controls.

Unless a separate bid item is provided, full compensation for conforming to the requirements of this subsection shall be considered as included in the contract bid price paid for various other items of work, and no additional compensation will be allowed.

2-9.3 SURVEY SERVICE

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.

2-10 AUTHORITY OF BOARD AND ENGINEER

Authority of BOARD and ENGINEER shall conform to Section 2.10 of Standard Specifications and 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.

2-11.1 INSPECTION COSTS

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.

2-12 SPECIAL NOTICES

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 shall be effective on the date of the receipt of the delivery confirm issued by FedEx or UPS.

3-1.1 CHANGES IN WORK: GENERAL

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

3-3.1 EXTRA WORK: GENERAL

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.

3-4 CHANGED CONDITIONS

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.

4-1.4 TEST OF MATERIALS

All tests of materials furnished by the Contractor shall be made in accordance with commonly recognized standards of national organizations and such special methods and tests as are prescribed in these specifications. No materials shall be used until they have been approved by the ENGINEER.

The Contractor shall at his expense furnish the CITY, in triplicate, certified copies of all required factory and mill test reports. Any materials shipped by the Contractor from a factory or mill prior to having satisfactorily passed such testing and inspection by a representative of the CITY shall not be incorporated in the work, unless the ENGINEER shall have notified the Contractor, in writing, that such testing and inspection will not be required.

At the option of the ENGINEER, the source of supply of each of the materials shall be approved by the ENGINEER before delivery is started and before such material is used in the work.

Unless otherwise provided in the Special Provisions, the CITY will pay for the initial soil and material tests. Any subsequent soil and material tests deemed necessary due to the failure of initial tests will be at the Contractor's expense.

5-1 UTILITIES: LOCATION

Locations of utilities shown on plans are approximate only and are based on a search of available records. Prior to commencing any other work, Contractor shall carefully excavate and determine precise locations and depths of all utilities, including service connections, shown on the plans and marked in the field, which may affect or be affected by Contractor's operations. This work shall be done in accordance with Section 5-1 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 plan.

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.

5-2 UTILITIES: PROTECTION

The Contractor shall be responsible for protecting and supporting all existing utilities and maintaining the location of and access to all gate valves during construction. When damage to existing utilities is caused by the Contractor's operations, the Contractor shall, at his expense, repair or replace damaged facilities promptly, in accordance with Sections 5 and 306 of the Standard Specifications and the standards of each affected utility. Should the Contractor fail to perform the required repairs or replacements, the cost of performing such repairs or replacement by others shall be deducted from any monies due or to become due the Contractor.

5-4 UTILITIES: RELOCATION AND ABANDONMENT

Any miscellaneous utilities to be relocated by the Contractor, as indicated on the plans, shall be relocated in a workmanlike manner, and all such work shall be done only at such times which are acceptable to the utility owner. The Contractor shall schedule his relocation work in cooperation with the utility owner and shall be responsible for any costs resulting from the Contractor's failure to do the work at times which are acceptable to the owner. The Contractor shall notify owners of the following 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

AT&T

Rhonda Clary-Byers (engineer for Costa Mesa) or
Doug DiPaolo
3939 E Coronado
Anaheim, CA 92807
(o) 714-618-9116 or (o) 714-618-9125
Email: rc1315@att.com
Email: dd2634@att.com

Mesa Water District

Phil Lauri
1965 Placentia Ave (inter-office mail okay)
Costa Mesa, CA 92627
(o) 949-207-5449
(c) 949-631-1200 (24-hour)
(f) 949-574-1035
Email: phill@mesawater.org

Mpower Communications, Inc.

Mark Denning
2698 White Rd
Irvine, CA 92614
(o) 949-864-0296
(c) 949-547-6455
(f) 949-864-0286
Email: mdenning@telepacific.com

Orange County Sanitation District (OCSD)

Daniel Lee, PE.
PO Box 8127
Fountain Valley, CA 92728
(o) 714-593-7176
(c) 714-593-3301 (24-hour)
(f) 714-962-5018
Email: Dlee@ocsd.com

Costa Mesa Sanitary District (CMSD)

Michael Benesh, PE, PLS
Robin B. Hamers & Associates, Inc.
Costa Mesa, CA 92626
(o) 949-548-1192
(f) 949-548-6516
Email: mlbenesh@robhamers.com

Costa Mesa Sanitation District

Javier Ochiqui
Management Analyst
(949) 645-8400
jochiqui@cmsdca.gov

Costa Mesa Sanitation District

Nabila Guzman
Construction Notices
949-645-8400 x230
Email: nguzman@cmsdca.gov

Orange County Water District (OCWD)

Chris Olsen
PO Box 8300
Fountain Valley, CA 92728
(o) 714-378-3200
(c) 714-378-3240 (24-hour)
(f) 7814-378-3373
Email: colsen@ocwd.com
utilityrequest@ocwd.com

CA Regional Water Quality – Santa Ana Region

Mark Smythe
3737 Main St, Ste 500
Riverside, CA 92501
(o) 951-782-4130
(c) 951-543-8523
(f) 951-781-6288
Email: msmythe@waterboards.ca.gov

Irvine Regional Water District

Kelly Lew
15600 Sand Canyon Ave
Irvine, CA 92618
(o) 949-453-5586
(p) 949-729-7300 (24-hour)
(f) 888-496-1244
Email: lew@irwd.com

Irvine Ranch Water Dist-Development Services*

Christian Kessler, PE
15600 Sand Canyon Ave
Irvine, CA 92618
(o) 949-453-5300
(p) 949-453-5441
(f) 888-496-1244
Email: KESSLER@irwd.com
*utility requests

Irvine Regional Water District

Brad Jackson (Area Construction Inspector)
15600 Sand Canyon Ave
Irvine, CA 92618
(o) 949-632-0627
(p) 949-729-7300 (24-hour)
(f) 888-496-1244
Email: jackson@irwd.com

Metro Water District of So Cal

Civil Engineering Substructures Section
Shoreh Zareh
PO Box 54153
Los Angeles, CA 90054
(o) 213-217-7474
(c) 626-844-5610 (24-hour)
(f) 213-217-7457
Email: szareh@mwdh2o.com (revised)
Civil Engineering Substructures Section

Metro Water District of So Cal

Civil Engineering Substructures Section
Kieran Callanan
PO Box 54153
Los Angeles, CA 90054
(o) 213-217-7474
(c) 626-844-5610 (24-hour)
Email: kcallanan@mwdh2o.com

SCE (utility notice requests)

Kasey Chapman
7333 Bolsa Ave
Westminster, CA 92683
(o) 714-895-0109
(c) 800-611-1911 (24-hour)
(f) 714-934-0892
Email: Kasey.chapman@sce.com*

SCE (Base Maps)

Kimberlie Gurule
1444 E McFadden Ave, Bldg D
Santa Ana, CA 92705
(o) 714-796-9932
(f) 714-973-5735
Email: maprequests@sce.com*
*No pre-construction meeting notices to this address – map requests ONLY.

SCE (Senior Compliance)

Susan Morgan
(o) 909-835-7527
(c) 909-835-7527
Email: susan.morgan@sce.com
*No pre-construction meeting notices BUT Susan Morgan and Monica Balderas would like to attend all UTILITY MEETINGS and be made aware of any fee schedule changes.

*******Reminder*******

After facilities are identified on the plans, send the plans to Gail Gardner and she will forward to SCE's planning department.
Send to: gail.gardner@sce.com

SCE (Service Planner – Orange Coast S/C)

Nick Mukanos
7333 Bolsa Ave.
Westminster, CA 92683
(o) 714-895-0210
Email: nick.mukanos@sce.com

SCE (Service Planner – Orange Coast S/C)

Monica Balderas
7333 Bolsa Ave
Westminster, CA 92683
(o) 714-329-2778
(f) 714-895-5453
Email: monica.balderas@sce.com*

So Cal Gas Co.

Wilson Baldelomar
PO Box 3334, SC8321
Anaheim, CA 92803
(o) 714-634-5091
(c) 800-603-7060 (24 hour)
(f) 714-634-3101
Email: wbaldelormar@semprautilities.com

So Cal Gas (Transmission)

P. O. Box 2300
Chatsworth, CA 91313-2300
(o) 818-701-4546
(f) 818-701-2549
Email:
SoCalGasTransmissionUtilityRequest@semprautilities.com

So Cal Gas Co

Richard Clendineng
PO Box 3334, SC8321
Anaheim, CA 92803
(o) 714-634-3262
(f) 714-634-3101
Email: rclendineng@semprautilities.com

So Cal Gas Co.

Peter Serrano
PO Box 3334, SC8321
Anaheim, CA 92803
(o) 714-634-5067
(f) 714-634-3101
Email: pserrano@semprautilities.com

Spectrum Time Warner Cable

Jose Roman
12051 Industry Avenue
Garden Grove, CA
(o) 714-591-4846
(c) 657-263-3641
Email: Jose.Roman@charter.com

Spectrum Time Warner Cable

Main Number
7142 Chapman Ave
Garden Grove, CA
(o) 714-903-8337 (disconnected)
(c) 714-709-3390
(f) 714-903-8260

Spectrum Time Warner Cable

Jeff Cox
Email: jeff.cox@twcable.com

Spectrum Time Warner Cable *utility requests*

Email: west-engineering-relo@twcable.com*

Spectrum Time Warner Cable

Angel Vega
(o) 714-591-4889
Email: Angel.Vega1@charter.com

Spectrum Time Warner Cable

Max Sandoval, Construction Coordinator
714-719-9629

Verizon Business Investigations

2400 N Glenville Dr
Richardson, TX 75082
(o) 972-729-6016
(o) 469-886-4238
(f) 972-729-6240
Email: investigations@verizon.com
*2nd email: chuck.czumak@verizon.com
Contact Verizon Business for issues involving:
Brooks Fiber Properties, Inc
MCImetro Access Transmission Srvcs
MCI Telecommunication Srvcs
MFS Telecom, Inc
SouthernNet, Inc / WorldCom Network Srvc
Intermedia Communications, Inc
XO Communications

Charter Communications

Don Simons
Construction Manager - Zone 8
7142 Chapman Ave
Garden Grove, CA 92841
714-591-4871
don.simons@charter.com

Charter Communications

Utility Research Requests
DL-SOCAL-CHARTER-
ENGINEERING@CHARTER.COM

XO Communications (Verizon)

Matt Bergine
Engineer IV
Specialist-Network Engineering & Operations
T: 949 417-7841
C: 714 822-6207
matt.bergine@verizon.com

XO Communications

Swichboard
703-547-2000

OCTA – Stops & Zones

Kyle Poff
550 S Main St
Orange, CA 92863
(o) 714-560-5883
(f) 714-560-5880
Email: kpoff@octa.net

OCTA (Detour Coordination)

Dispatch: 714-265-4330

Newport-Mesa Unified School District

Victor Garza
(o) 714-424-5080
Email: vgarza@nmusd.us

Newport-Mesa Unified School District

Tim Marsh, Administrative Director, Facilities
Support Services
(o) 714- 424-7527
Email: tmarsh@nmusd.us

Newport-Mesa Unified School District

Mary Gray
Email: mgray@nmusd.us

OC Fair & Event Center

Jerry Eldridge, Director of Facilities
(o) 714-474-5983
Email: JEldridge@ocfair.com

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.

6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF WORK

Prior to the commencement of construction, arrangements will be made for a meeting between the Contractor and the ENGINEER. The purpose of this meeting is to organize the activities of the Contractor within the limits of this contract, review scheduling, discuss construction methods and clarify inspection procedures. At this meeting the Contractor will be required to submit, for approval by the ENGINEER, a complete work schedule showing the number of working days required to complete the entire project.

6-1.1 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.

6-4.3 NOTICE OF TERMINATION FOR DEFAULT

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 will take action as allowed by the contract documents.

6-4.4 RESPONSIBILITIES OF SURETY

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.

6-8.3 WARRANTY

The warranty period shall start on the date the work was accepted by the Board.

6-9 LIQUIDATED DAMAGES

The amount of liquidated damages shall be as delineated in the Special Provisions and contract agreement.

6-10 OCCUPANCY

Should it become necessary, due to developed conditions, to occupy any portion of the work before contract is fully completed, such occupancy shall not constitute acceptance by the CITY of work by Contractor.

7-2.3 PREVAILING WAGE RATES

Contractor shall comply with the provisions of Division 2, Part 7, Chapter 1, Article 2 commencing with Section 1770 of the California Labor Code and shall forfeit the sums prescribed therein for noncompliance with those provisions.

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.

Contractor shall also comply with Section 3700 of the California Labor Code which requires every employer to carry workers' compensation insurance or to undertake self-insurance in accordance with the provisions of that code.

7-2.4 APPRENTICES

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 him. The Contractor and any subcontractor under him 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.

7-3 LIABILITY INSURANCE

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 7.3 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.

7-5 PERMITS, LICENSES and COMPLIANCE with SOLID WASTE HAULING

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 will be responsible for complying with the City of Costa Mesa Municipal Code Section 8-77 requiring the use of a City-permitted hauler for all work performed under this project. Non-compliance with this requirement shall be subject to an administrative penalty of \$1,000 or 3% of the total project cost, whichever is greater. A Construction Project Debris/Solid Waste Hauling Compliance Agreement must be submitted by the Contractor to the CITY on a CITY-approved form prior to the release of retention monies.

7-6 THE CONTRACTOR'S REPRESENTATIVE

Contractor shall also file with the ENGINEER the addresses and telephone numbers where he or his designated representative may be reached during hours when the work is not in progress.

Instructions and information given by the ENGINEER to the Contractor's authorized representative or at the address or telephone numbers filed in accordance with this section shall be considered as having been given to the Contractor.

The Contractor shall have on the work site at all times a competent English-speaking superintendent, as his agent, capable of reading and thoroughly understanding the plans and specifications and other related documents.

7-8.1 CLEAN-UP AND DUST CONTROL

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.

Unless the construction dictates otherwise, and unless otherwise approved by the ENGINEER, Contractor shall furnish and operate a self-loading motor sweeper with spray nozzles at least once each working day to keep paved areas acceptably clean whenever construction, including restoration, is incomplete.

Failure of the Contractor to comply with the ENGINEER'S dust control orders may result in an order to suspend work until the condition is corrected and, after giving notice to the Contractor, the ENGINEER may order the condition corrected by others. All costs thus incurred shall be deducted from the amount to be paid to Contractor. No additional compensation will be allowed as a result of such suspension.

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.

7-8.5 TEMPORARY LIGHT, POWER AND WATER

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

7-8.7.1 DRAINAGE CONTROL: RESPONSIBILITIES

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.

7-8.7.2 DRAINAGE CONTROL: EXCAVATION DEWATERING REQUIREMENTS

Unless otherwise directed in these specifications, the Contractor shall provide and maintain ample means and devices with which to promptly remove and properly dispose of water entering the excavations or other parts of the work at all times during construction. Dewatering shall be accomplished by methods which will ensure a dry excavation and preservation of the final lines and grades of the bottoms of excavations. The methods may include sump pumps, deep wells, well points, suitable rock or gravel placed below the required bedding for draining and pumping purposes, temporary pipelines, and other means.

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.

7-10 PUBLIC CONVENIENCE AND SAFETY

Material or other obstructions shall not be placed within fifteen feet (15') of fire hydrants. Fire hydrants shall be made readily accessible to the Fire Department at all times. Traffic control shall also conform with the provision of the latest edition of Work Area Traffic Control Handbook (WATCH) published by Building News, Inc.

7-10.1 TRAFFIC AND ACCESS

Prior to restricting normal access from public streets to adjacent properties, the Contractor shall notify each property owner or owner's agent, informing them of the nature of the access restriction and the approximate duration of the restriction. The Contractor shall make every effort possible to minimize such restrictions.

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

A minimum of one four (4) foot wide pedestrian walkway shall be maintained and safely delineated along each public street at all times during construction.

7-10.3 HAUL ROUTES

The Contractor shall submit to the Engineer for approval the proposed haul routes for the project at least 5 working days to performing the work

7-10.5.3 STEEL PLATE COVERS

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 will be utilized for the driving or walking surface.

7-13 LAWS TO BE OBSERVED

The Contractor shall protect and indemnify the CITY, the BOARD, the ENGINEER, and all of its or their officers, agents and servants against any claim or liability arising from or based on the violation of any existing or future State, Federal and local laws, ordinances, regulations, orders or decrees, whether by himself or his employees. If any discrepancy or inconsistency is discovered in the plans, drawings, specifications or contract for the work in relation to any such law, ordinance, regulation, order or decree, the Contractor shall forthwith report the same to the ENGINEER in writing.

9-3.1.1 PAYMENT GENERAL

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.

9-3.2 PARTIAL AND FINAL PAYMENT

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

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.

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 agency. The monies withheld for stop notice and other withholdings shall be in addition to the 5% withheld for retention.

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.

9-3.2.1 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 cause applies to both DBE and non-DBE prime contractors and subcontractors.

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

9-3.2.2 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.

9-3.3 DELIVERED MATERIALS

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

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.

Part 2 SPECIAL PROVISIONS

Additions/Modifications to Standard Specifications

The following additions are made to the latest edition of the Caltrans specifications, "Standard Specifications for Public Works Construction", and the General Provisions stated within the "Standard Specifications" of this project. Should there be a conflict between any of these provisions; the Special Provisions shall have precedence.

All work shall be performed in conformance with the latest edition of Uniform Building Code as adopted by the City of Costa Mesa. The electrical, plumbing, and fire codes, and other regulations as adopted by the City of Costa Mesa Building Official shall apply to this project.

Where referenced in these specifications, the latest edition of the "City of Costa Mesa Standard Drawings" and the "Work Area Traffic Control Handbook (WATCH)" published by Building News, Inc., shall also apply.

Payment for compliance with the following provisions shall be included in the various bid items of work unless otherwise modified in the special provisions section. No additional compensation will be allowed.

Payment for the various items listed on the Bid Proposal, as further specified herein, shall constitute full compensation to the Contractor for furnishing all material, tools, equipment, supplies, and manufactured articles, and for all labor, operations, and incidentals appurtenant to the items of work and as specified and as shown on the Drawings and in the contract documents, including all costs for compliance with the regulations of public agencies having jurisdiction, including Safety and Health Requirements of the California Division of Industrial Safety and the Occupational Safety and Health Administration (OSHA) of the U. S. Department of Labor.

No separate payments will be made for any items that are not specifically set forth in the Bid Proposal. Payments for any such items are included in various bid items of work.

Costs arising from violations of regulations will be paid by the offending party to the extent that there will be no additional cost to the City.

Section 2-6 Work to be done

The work to be performed consists of: construction of curb and gutter, curb inlet, RCP installation, block slough wall construction, curb ramp, and construction of new sidewalk; traffic control; traffic signal modification; signing and striping modification; tree removal; landscape restoration; notifications, mobilization; and all other work as required. The contractor shall furnish all 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.

Section 3-3.2.2 (a) Labor Surcharge

The compensation for employer’s payments of payroll taxes; workers compensation insurance; liability insurance; health and welfare; pension; vacation; apprenticeship funds; other direct costs resulting from Federal, State, or local laws; and for assessments or benefits required by lawful collective bargaining agreements to be applied to the actual cost for wages shall be 23 percent for regular time and overtime.

Section 3-3.2.3 Markup

- a. **Work by Contractor.** The allowance for overhead and profit to be added to the Subcontractor’s costs shall be as follows:

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.

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

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

The Provisions of Public Contract Code (PCC) § 9204 will apply to all contract work, a reference to this PCC is provided on **page 20** of General Provisions.

Section 5-1 Utility Location

Attention is directed to the possibility of utility mains or laterals within the project limits. The Contractor shall have the locations of the various utility facilities within reconstruction areas marked on the surface prior to construction and protect them during the removal and reconstruction procedures. The Contractor shall contact the City Transportation Services Department to locate traffic signal conduit within the reconstruction areas.

Prior to commencing any work, the Contractor shall carefully excavate and determine precise locations and depths of all utility service lines, utility mainlines, irrigation systems and electrical systems, within the project site which may affect or be affected by the Contractor's operations. The Contractor shall not be compensated for any delays or extra work brought about by his failure to perform the above-mentioned work. The Contractor shall remove any abandoned underground utility lines encountered during construction. The Contractor shall be responsible for any damage to existing utilities.

Section 6-1 Construction Schedule and Commencement of Work

The Contractor shall prepare and submit to the Engineer a written schedule of his work operations for the proposed project. The schedule shall be submitted for approval at the pre-construction conference. The Contractor's designated project superintendent shall be present at the pre-construction meeting.

Section 6-7 - Time of Completion

The Contractor shall begin work on the project within ten (10) working days after the contract has been issued by the City. Said work shall be diligently prosecuted to completion before the expiration of **One Hundred and Twenty (120) working days** beginning on the 10th working day after the award of the contract or the first day of commencement of the work, whichever occurs first.

Section 6-9 – Liquidated Damages

The Contractor shall pay to the City of Costa Mesa the sum of \$1300.00 per day, for each and every calendar day's delay in finishing the work in excess of the number of calendar days prescribed above.

Section 7-8 – Water Pollution Control

Stormwater Best Management Practices (BMPs)

All work, submittals, materials, calculations, analysis, plans and all other items as necessary to develop and implement Best Management Practices and Water Pollution Control in accordance with the approved City plan and as required by law, and shall comply with all requirements of the Water Quality Act, including requirements established and enforced by the state and local Regional Water Quality Control Board, and the City stormwater quality permit requirements. Contractor shall not discharge or permit to be discharged to any street, channel, river, storm drain, or any appurtenances thereof, any non-rain water or other liquid from the project site or from operations pertaining to the project site without first obtaining a valid National Pollution Prevention Discharge Elimination System (NPDES) permit unless the discharge is specifically exempt or conditionally exempt. Contractor shall implement all necessary Best Management Practices (BMP's) to ensure that any conditionally exempt discharge meets all current requirements of Water Quality Control Board and the City.

Erosion and Sediment Control Plans

Erosion and Sediment Control Plans shall be prepared by the Contractor that identify adequate controls to prevent erosion and discharge of sediment off-site. Payment for the Erosion and Sediment Control Plans shall be included and paid as part of Mobilization.

General Construction Activity Permit

Discharge of storm water from construction sites that disturb land equal to or greater than one (1) acre must be in compliance with the state General Construction Activity Permit (Construction Permit). The latest permit provisions of the Construction Permit shall apply. The Contractor is required to contact the Santa Ana Regional Water Quality Control Board (Regional Board) for all information contained in the Construction Permit. In the event project construction occurs during the transition of revised Construction Permits, the Contractor shall incorporate the necessary modifications specified by the revised Construction Permit within the time period specified in the new Construction Permit.

Construction activity subject to the Construction Permit includes clearing, grading, and 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 or their representative shall have an account with the State Waterboard's webportal the SMARTS (Storm Water Multiple Application and Report Tracking System). The Contractor or their representative shall contact the City with their userID so that the City may grant the Contractor or their representative access as a Data Submitter.

The Contractor shall complete the NOI within SMARTS website:

<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 website 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.

Stormwater Water Prevention Plan (SWPPP)

The Contractor is responsible for the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) as required by the Construction Permit. The Contractor is responsible for completing all parts of the SWPPP including,

Special Provisions

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.

Section 7-13 Laws to be observed

The Contractor shall comply with and meet all applicable SCAQMD, OSHA, NPDES and EPA requirements as specified. The Contractor shall be responsible to obtain those necessary manuals and publications.

Section 9-1.2.1 Weight Ticket Requirements for Payment

The Contractor shall submit all weight tickets or volumes of all materials used in the construction to the Engineer for checking and verification prior to any payment. Failure to do so will postpone the payment to the Contractor, until the matter is resolved satisfactorily.

The weight or volume from submitted tickets must correspond to the work done in the field; if not, the City shall reject the work without compensation to the Contractor, and/or the Contractor shall be directed to replace that work at no additional costs to the City.

Section 9-3.3 Delivered Materials

The cost of materials and equipment delivered, but not incorporated in said work, will not be included in the progress payment estimate unless otherwise provided in these specifications. All materials shall be nontoxic and shall not contain asbestos and hazardous substances as established by applicable laws.

Section 9-3-2.1 Record Documents: Requirements for Partial and Final Payment

The Contractor shall record, on the set of contract documents maintained at the job site, deviations which have been made from the Contract Documents or

Special Provisions

approved shop drawings – including buried or concealed construction and utility features which are revealed during the course of construction. Special attention shall be given to recording the horizontal and vertical location of all buried utilities that differ from the locations indicated, or which were not indicated on the Contract Documents. Said record documents shall be supplemented by detailed sketches as necessary or directed, to indicate fully the work as actually constructed.

Requests for partial payments shall not be approved until the record documents are brought up to date. Also, request for final compensation shall not be approved until all the variations between the work as constructed and as originally shown in the Contract Documents have been properly recorded and delivered to the City, after approved by the Engineer.

Section 9-3.4.1 Hauling Of Materials

In order to protect the City streets from deterioration due to hauling of materials, the Contractor shall submit (at the pre-construction meeting) for approval, a proposed route for the hauling of materials for disposal. Upon approval, the Contractor shall strictly adhere to that route only, unless written permission from the Engineer is obtained to change the route.

The Contractor shall comply with the solid waste hauling provisions set forth in the City of Costa Mesa Municipal Code Section 8-77. Failure to comply will result in an administrative penalty of \$1,000 or 3% of the total project cost, whichever is greater.

Section 9-3.4.2 Water Supply

If water is needed during construction, Contractor shall contact Mesa Consolidated Water District or the Irvine Ranch Water District to obtain necessary permits, instructions, and meters prior to commencing work. The Contractor is required to make any and all necessary installations and connections. All water shall be metered. The Contractor shall pay for all deposits and fees involved.

Section 9-3.4.3 Equipment Requirement

The Contractor shall only use the proper construction equipment to protect the City streets from breaking up and deterioration. Haul trucks shall be limited to a gross vehicle weight of 10 tons or less.

Section 300-1.3 Removal and Disposal of Materials

No burning will be permitted.

**PART 3
TECHNICAL SPECIAL PROVISIONS/ BID ITEMS**

**THE INSTALLATION OF (4) LEVEL-2 AND (1) LEVEL-3 ELECTRICAL
VEHICLE CHARGERS (EVCS)**

City Project No. 20-09

Work, material and equipment shall comply with the current edition of Standard Specifications for Public Works Construction (Green Book), its supplements, and any other publications as specified. If a conflict exists between these Special Provisions and either set of Standard Specifications, these Special Provisions shall take precedence.

In compliance with the NOTICE INVITING BIDS FOR THE;
**CITY HALL ELECTRIC VEHICLE (EV) CHARGING STATIONS,
CITY PROJECT 20-09**

, 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, and commence said work within Ten (10) DAYS after the date of contract, and complete said work within **NUMBER OF DAYS (45) WORKING DAYS** from the first day of commencement of such work unless a 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 therefore, in the manner and time herein prescribed.

PROJECT DESCRIPTION

ELECTRICAL:

Electrical Vehicle Charging System (EVCS) including:

- * (4) level 2 dual port chargers
- * (1) level 3 fast dc charger
- * EV Chargers to be fed from the existing switchgear in the basement of city hall. The EVCS includes the electrical infrastructure improvements to the existing switchgear and the components after the existing switch gear that provide a completely operational and fully functioning EVCS.

CIVIL:

Site improvement for the electrical vehicle charging stations mentioned above, including revisions to existing parking stalls, drive aisles and adjacent landscape areas.

BID ITEM NO. 1: MOBILIZATION, INFORMATION SIGN, POTHOLES, CONSTRUCTION SURVEYS

Mobilization shall consist of preparatory work and operations including, but not be limited to, the movement of personnel, equipment, complying with Federal and State Water Quality Requirements; construction surveying & staking, and restoration of survey monuments where needed or required by the Engineer, materials and incidentals to the project site necessary for work on the project.

Mobilization shall include all other work and operations which must be performed and not covered under a bid item. This includes, but is not limited to obtaining bonds, insurance and financing for entire project prior to beginning work, and obtaining all business licenses and permits, as required for the entire project, from all related agencies including but not limited to City of Santa Ana, utility companies, private and public agencies.

Mobilization shall also include the time, materials and labor to move the necessary construction equipment to and from the job site, and include project administration costs during the entire contract period. Work, once begun, shall continue to completion without down time. These requirements shall also apply to all non-working days during construction period.

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, trees, fences, walls, landscaping and other facilities.

Mobilization shall also include all related "De-mobilization" costs, including the removal of any remaining USA utility markings or other construction paint markings, by means of wet sand blasting or other pre-approved method on sidewalk, curb/gutter and pavement.

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 the 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.

Materials shown on the plans or designated in the Special Provisions to be used in constructed work and damaged or destroyed as a result of the Contractor's operations shall be repaired or replaced by the Contractor at the Contractor's sole expense.

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 related documents.

WATER SUPPLY

If water is needed during construction, Contractor shall contact Mesa 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.

PUBLIC NOTIFICATIONS

One (1) week prior to start of any driveway re-construction, the Contractor shall deliver to each affected business/business owner a written notification regarding the construction project. The written notification shall include the start and ending dates of construction, a general description of work to be performed and the Contractor's contact name and phone number. The draft notice shall be submitted to the Engineer for review and approval one (1) week prior to public release, and any changes provided by the Engineer shall be incorporated in the final public notification. See "Traffic

Control" section below on notifications for bus service, trash pick-up and temporary parking closures.

EXISTING PROJECT SITE CONDITIONS

The contractor shall visit project site location prior to bid and coordinate all construction activities with any and all adjacent construction.

POTHOLES & UTILITY IDENTIFICATION

At the commencement of construction, the contractor shall pothole all areas where signal poles or other improvements are proposed to identify exact utility locations and depths, by hand digging if necessary. Excavation for improvements shall only occur after the contractor has established the exact location and depth of all utilities within the proposed improvement areas. The contractor shall notify the engineer of the precise vertical and horizontal location of all utilities in proximity to excavation work. For estimating purposes, the Contractor shall be responsible for performing up to 10 potholes within this bid item.

The Contractor shall coordinate with each respective utility company to request their assistance to pothole for the necessary substructure information. However, it shall be the contractor's ultimate responsibility to establish the exact location of utilities by potholing, where information is insufficient from any utility company. The contractor shall fill holes, furnish the necessary materials including CMB, AC, PCC, fully compact areas and repair holes as conforming to City standards and policy.

Utilities, underground and above-ground, shall include but not be limited to: gas, telephone, electric, steam, water, sanitary and storm drain, sewer, fiber optic, traffic signal, and other conduits, (including empty ducts), all abandoned utilities, etc., and their accessories, appurtenances and service connections. The type and location of all known above-ground and underground utilities have been shown on the drawings, however, no guarantee is made as to the exact type or location of such utilities. The inclusion or omission of existing or abandoned utilities on the drawings is not to be considered as the precise location or nonexistence of said utilities. Establishing utility locations for new improvements shall be included in this lump sum bid item.

CONSTRUCTION SURVEYING AND STAKING

The Contractor, at his own expense, shall employ a qualified surveyor to perform all survey work required throughout the duration of the project as required to adequately construct per the plans and specifications; comply with requirements of Section 8771 of the Land surveyors Act as amended; and submit documentation from the County Surveyor as proof compliance to the City of Costa Mesa.

The Contractor shall be responsible for the protection and preservation of the existing permanent survey monuments and benchmarks during construction. Damaged or lost monuments and benchmarks shall be restored to existing condition. All work shall be performed by, or under direct supervision of, and all the documents shall be signed and sealed by either a Civil Engineer Licensed Prior to 01/01/82 or a Land Surveyor registered with the State of California.

RESET EXISTING SURVEY MONUMENTS WITH TIES

This item of work shall conform to Section 400 of the Green Book, the City of Costa Mesa Standard Drawing No. 613 or 615, and as directed by Engineer. All work performed shall be done by or under supervision of a civil engineer or land surveyor registered by the State of California.

Reset monument shall be set with a 0.20' (minimum) P.K. nail or equal, washer and R.C.E. or L.S. tag on new pavement surface. Any existing monument shall be removed prior to resetting monument. New monument shall have at least four (4) control lead and tack swing ties on top of curb.

If the Contractor fails to reset ties, monuments and 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 survey ties and monuments to be protected in place. These documents must be signed and sealed by either the professional licensed land surveyors or civil engineers registered in California.

RECORD DRAWINGS

The Contractor shall maintain a neatly and accurately marked set of record drawings showing the final location and layout of all improvements constructed, modified and adjusted. This shall include, but not be limited to, all civil, mechanical, electrical, instrumentation, conduit, structures and other facilities.

Drawings shall be kept current daily, showing all work instructions, field modifications and change orders. Drawings shall be subject to the inspection of the Engineer at all times. Progress payments, or portions thereof, may be withheld if drawings are not accurate and current. Prior to acceptance of the work, the Contractor shall deliver to the Engineer two (2) sets of neatly marked record drawings accurately showing the information required above.

UTILITY COORDINATION

Within one week following contract award, the Contractor shall contract each utility in writing and coordinate scheduling of all utility construction work. All utility work shall be coordinated during or prior to project construction. Final utility work schedules, utility correspondence and records of discussion shall be forwarded to the Engineer. No contract delays or extensions shall be granted for coordinating with any utility company.

The Contractor shall be responsible for repair of any damage to the utilities caused by the Contractor. The City will not honor any claims for damages caused to utilities as a result of Contractor activities. The Contractor, when performing work in vicinity of any utility, shall conform to the rules, regulations and procedures of the utility concerned.

The Contractor shall be fully liable for any and all expenses incurred as a result of his failure to obtain required clearances or location of utilities, or resulting from performance of work which does not, in the opinion of the Engineer, meet applicable utility standards.

GUARANTEE

Guarantee shall conform to the provisions in "Warranties, Guarantees, and Instructions Sheets," of the Standard Specifications and these Special Provisions:

The Contractor shall guarantee the entire work constructed under this contract and will fully meet all requirements as to quality of workmanship and materials furnished for one full year following City acceptance. The Contractor shall make, at his own expense, any repairs or replacements made necessary by defects in workmanship or materials that become evident within twelve months after filing of the Notice of Completion of the work and restore to full compliance with the requirements of these Specifications, any part of the work which during the twelve-month period is found to be deficient with respect to any provision of the project. The contractor shall make all repairs and replacements promptly upon receipt of written work orders from the Engineer. If the Contractor fails to make repairs and replacements promptly, the City may do the work and the Contractor shall be liable to the City for the cost of said repairs.

PAYMENT

Full compensation for the preceding including water supply, notifications, information signs, potholing, and surveying shall be at the Lump Sum price bid for Mobilization, Information Signs, Potholes, Construction Survey. The compensation shall include the compliance with these requirements and any fees specified in any licenses and/or permits; and incidentals necessary to perform all related items of work. The payment shall be considered full compensation for mobilization work and shall be based on the percentage of work completed. No additional compensation will be allowed.

BID ITEM NO. 2: TRAFFIC CONTROL

The Contractor shall provide traffic control and access in accordance with Section 12 of the Caltrans Standard Specifications; the California MUTCD (latest edition); and the standards contained in the "Work Area Traffic Control Handbook" (WATCH) published by Building News, Inc.; (latest edition) and these special provisions.

STAGING PLAN

At the pre-construction meeting the Contractor shall submit a Staging Plan that is subject to City review and approval prior to the start of construction.

WORKING HOURS

Construction work operations shall be performed between the hours of 7:00 a.m. to 3:30 p.m., Monday through Friday, except City observed holidays. The Contractor shall maintain a minimum of 1 lane in each direction during work hours. During weekends, The Contractor shall maintain the parking lot in a safe drivable condition for local access, unless otherwise approved.

Work on the weekend may be requested by the Contractor and may be approved at the sole discretion of the City. Any additional cost associated with weekend work will be at the sole expense of the Contractor.

Designated City holidays are: January 1, New Year's Day; Martin Luther King's birthday, third Monday in February, President's Day; last Monday in May, Memorial Day observance; July 4, Independence Day; first Monday in September, Labor Day; November 11, Veteran's Day observance; fourth Thursday in November, Thanksgiving; the Friday immediately following Thanksgiving; and December 25, Christmas Day. The duration between Thanksgiving and New Year's is a designated City Holiday moratorium period, no work shall occur during this period without prior authorization by the Engineer. In the event any of the above holidays fall on Saturday, the preceding Friday will be observed. In the event any of the above holidays fall on Sunday, the following Monday will be observed.

The minimum width for parking shall be 8 feet. The contractor shall maintain a minimum of five (5) foot clearance from open excavations and two foot clearance from other obstructions.

Any locations that are not considered drivable and/or safe by the Engineer will be corrected at the direction of the Engineer. The Contractor shall use temporary asphalt surfacing at his own expense as required to maintain traffic in a safe and non-disruptive manner. The Contractor will not be paid for such corrective action and shall be charged for any costs incurred by the City to implement corrective action.

The City will only provide inspection during the designated construction hours Monday through Friday, except City observed holidays. Any work done without inspection is at the Contractor's risk and subject to rejection. The replacement costs for rejected work, or as required due to various construction operations, will be borne by the Contractor at no additional expense.

Prior to the start of each workday, the Contractor shall perform all necessary work incidental to and commensurate with the proper signing, detouring, barricading, etc., heretofore and hereinafter specified that is required for that particular day's schedule of operations. No construction shall be permitted until such signing and detouring operations have been completed.

Night work is not permissible without the authorization by the City. With authorization to work at night from the City, all working areas utilized by the Contractor to perform work during the hours of darkness shall be lighted to conform to the minimum illumination intensities established by the California Division of Occupational Safety and Health Construction Safety Orders. All lighting fixtures shall be mounted and directed in a manner preventing glare to approaching traffic.

SCHEDULING

At least ten (10) working days prior to commencing work, the Contractor shall submit his construction schedule to the City for review and acceptance. This schedule shall be updated every two weeks. Requests for changes in the schedule shall be submitted by the Contractor to the City for approval at least (3) working days prior to the scheduled construction operations.

Notification shall be provided to the Engineer five (5) working days before commencing any concrete work detailed in the schedule.

PEDESTRIAN ACCESS

Where construction prohibits pedestrian access, alternate crossing areas shall be established with appropriate signing and other devices as required by the Engineer. Pedestrian access facilities shall be provided through construction area within the right-of-way. Pedestrian walkways shall be provided with adequate surfacing as required to maintain safe and accessible pathways. Surface shall be skid resistant and free of irregularities.

The Contractor shall keep the areas adjacent to the project site clear of any objects that may be hazardous to pedestrians and motorists. Provisions to reroute pedestrians, including the disabled, around the work area must be clearly delineated and maintained. If the Contractor's operations require the closure of a walkway, then another walkway shall be provided nearby, off the traveled roadway, along the general path of travel.

TRAFFIC CONTROL GENERAL

Any location considered not in compliance with approved staging plans and/or not appropriately accessible by pedestrians or motorists as determined by the Engineer will be resolved at the direction of the Engineer. The Contractor will not be paid for such corrective action and shall be charged for any costs incurred by the City for corrective action.

In addition to the above and in compliance with Section 12, the Contractor shall provide:

- a. Protect and preserve all the existing pavement outside construction limits in the same condition as existing. Contractor shall replace and/or repair any area damaged by the Contractor to the satisfaction of the Engineer at no cost to the City.
- b. Provide emergency access for the fire trucks and other emergency vehicles at all times. Notify the Police and Fire Departments in writing two (2) working days prior to construction.
- c. Keep the areas adjacent to the construction site clear of any objects that may be hazardous to pedestrians. The Contractor shall be responsible for the project safety on a 24-hour basis each calendar day for the entire duration of the project.
- d. The Contractor shall provide access as required to accommodate special circumstance at any residence including access for disabled, impaired, special medical needs, etc.
- e. Be responsible for identifying the location and for the protection of all electrical facilities including signal conduit and interconnect. Where damage is caused by the Contractor's operation, the Contractor shall replace damaged facility at no extra cost to the City of Costa

Mesa. Where construction signing conflicts with existing signing, the Contractor shall cover existing signs in a manner approved by the Engineer.

- f. Notify the trash pickup company "Costa Mesa Disposal" of the schedule of work and the limitation of access. Contact City at (714) 754-5307 for Costa Mesa Disposal's address.
- g. Furnish, install and maintain in-place "No Parking - Tow Away" signs (even if streets have posted "No Parking" signs) which shall be posted at least two (2) working days prior to commencement of roadwork. On the "No Parking" sign Contractor shall print the hours, day(s) and date of closure in two-inch high letters and numbers.
- h. If construction is postponed and no parking signs have already been posted, the signs shall be removed, and notification of the cancelation shall be distributed to the properties and residents adjacent to construction. Once construction is re-scheduled, new notifications shall be distributed 72 hours prior to construction and new "No Parking" signs with the specific dates of construction shall be posted.
- i. The top of no parking signs shall be set at a minimum height of 42" above the ground on traffic delineators or approved alternate.
- j. A sample of the no parking signs shall be approved by the Engineer prior to posting and all posted "No Parking" signs shall be in good "like new" condition. Old signs that are not in good "like new" condition will be replaced at the expense of the contractor.
- k. 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 the beginning of the weekend or holiday.
- l. Provide any temporary delineation, as required, and as directed by the Engineer.
- m. Excavations shall be backfilled and hot mix asphalt concrete or temporary asphalt concrete surface shall be placed to the level of the existing pavement at the end of each work period as necessary to provide the required number of travel lanes and access to intersecting streets and/or driveways.
- n. The contractor shall provide temporary barriers and temporary crash cushions as necessary to protect traffic from excavation areas.
- o. All pre-existing permanent traffic control signs and devices shall remain in operation unless a substitute operation is arranged for and approved by the Engineer.
- p. The Contractor shall use illuminated or reflective warning construction signs at appropriate locations for the project and/or as directed by the Engineer.
- q. The Contractor shall employ sufficient traffic barriers to prevent traffic from entering the construction areas.
- r. The Contractor shall provide flagmen to direct the traffic where detours require such.
- s. The contractor shall visit project site location prior to bid and coordinate all construction activities with any and all adjacent construction.

The Contractor shall maintain a 24-hour emergency service to remove, install, relocate, and maintain warning devices and shall furnish the Engineer with names and telephone numbers of at least three people responsible for emergency service response. In the event these people do not promptly respond when notified, or it becomes necessary to call other forces to accomplish emergency service, the Contractor will be held liable for any costs incurred. A \$400/hour at 4 hours minimum fee will be charged to the Contractor.

Any deviation from these requirements is absolutely not permitted. No further payment will be made to the Contractor until problems are resolved to the satisfaction of the Engineer.

PAYMENT

Payment for the preceding shall be at the lump sum price bid for Traffic Control and shall be considered full compensation for providing all labor, materials, equipment, and related work as required. Payment for the traffic control shall be based on the completion percentage of the entire project. Additional compensation shall not be allowed.

BID ITEM NO. 3: STORMWATER BEST MANAGEMENT PRACTICES (BMPS)

This bid item shall include all work, submittals, materials, calculations, analysis, plans and all other items as necessary to develop and implement Best Management Practices and Water Pollution Control in accordance with the approved City plan and as required by law, and shall comply with all requirements of the Water Quality Act, including requirements established and enforced by the state and local Regional Water Quality Control Board, and the City stormwater quality permit requirements. Contractor shall not discharge or permit to be discharged to any street, channel, river, storm drain, or any appurtenances thereof, any non-rain water or other liquid from the project site or from operations pertaining to the project site without first obtaining a valid National Pollution Prevention Discharge Elimination System (NPDES) permit unless the discharge is specifically exempt or conditionally exempt. Contractor shall implement all necessary Best Management Practices (BMP's) to ensure that any conditionally exempt discharge meets all current requirements of Water Quality Control Board and the City.

Best Management Practices (BMP's) shall include all labor, work and materials necessary to plan and implement BMP's into the project. BMP's shall include methods and materials to provide safety and protection throughout construction, and shall specifically include elements to protect on-site soils and storm drainage facilities from hazardous material or construction material contamination; erosion control to protect on-site soils from erosion; and other items as the Engineer may deem appropriate for the situation. BMP's shall be established and approved prior to beginning construction. The Contractor shall implement and continue all requirements throughout construction and in accordance with law.

PAYMENT

Payment for STORMWATER BEST MANAGEMENT PRACTICES (BMPs) shall be made at the contract price bid per lump sum and shall include all labor, tools, equipment, and materials required to perform the work. No additional compensation will be allowed.

BID ITEM NO. 4: CLEARING, GRUBBING AND REMOVALS

Clearing and grubbing shall conform to Subsection 300-1 of the Standard Specifications. In addition, the following items of work are included under Clearing and Grubbing and Removals.

The Contractor shall cut and remove any tree roots encountered within construction limit to at least six (6) inches below the subgrade.

Excavated and removed materials shall be removed from the job site the same day as excavated. No excavated or demolition materials will be left in the public right-of-way overnight

The contractor will maintain dust control at all times by watering; including developing a water supply and furnishing and placing all water required for work done in the contract, including water used for extra work.

The contractor will provide protection of utilities, fences, gates, walls, trees and landscaping and other facilities within the construction zone, except those shown on the plans and those specifically directed by the Engineer to be removed or relocated. Clearing and Grubbing shall be limited to the areas within excavation and parkway construction limits and within two (2) feet of ditches, structures, or other items to be constructed. All other vegetation outside clear and grub areas shall be protected in place from damage resulting from the Contractor's operation. Any item outside the grading limits that is damaged or destroyed by the Contractor shall be replaced or restored to its original condition prior to acceptance of the improvements or the Contractor shall compensate the City for its replacement

PAYMENT

Payment for Clearing, Grubbing and Removals shall be made at the contract unit price bid per lump sum and include removal and disposal of trees, roots, limbs, shrubs, sod, debris, and all other deleterious and miscellaneous materials as necessary to construct the work. No further compensation shall be allowed.

BID ITEM NO. 5: UNCLASSIFIED EXCAVATION

Unclassified excavation shall conform to all applicable sections of the GREENBOOK and shall consist of all excavation and subgrade preparation required to construct the new improvements in conformance with the line and grades set forth on the plans.

Unclassified excavation shall include the removal of the existing interfering improvements to the required subgrade depth, including removal of asphalt concrete, aggregate base, Portland Cement Concrete; cement/lime treated material; existing/abandoned storm drain pipe, existing/abandoned storm facilities, existing/abandoned foundations, existing/abandoned utilities, subgrade soils, and all other materials which may be encountered within the proposed structural street section, curb ramp, curb and gutter, sidewalk, and parkway.

All existing pavement joining new construction shall be saw-cut in a straight line. Contractor shall exercise due caution to avoid any damage to the existing utilities and improvements to be protected in-place. Any damage caused by Contractor and/or his equipment shall be repaired or replaced as called out in Section 400 of the Standard Specifications at Contractor's expense.

Removal of existing pavement and roadway sections and parkway areas shall be to the depth required for construction of the replacement sections as shown on the plans and/or as directed in the field by the inspector. It is the Contractor's responsibility to do whatever subsurface exploration required to submit a complete bid covering the cost of removal to the grades required. All removed material becomes the property of the Contractor and shall be hauled and properly disposed of outside of the project limits.

Existing pole foundations shall be removed completely.

Excavated and removed materials shall be removed from the job site the same day as excavated. No excavated or demolition materials will be left in the public right-of-way overnight.

Once work is started, and subgrade is exposed as part of unclassified excavation operations, the Contractor has (10) working days to perform and complete all PCC hardscape work and landscaping soft scape work at each location.

It is the Contractor's responsibility to cover all subsurface exploration as required and submit a complete bid covering the cost for exploration and removals to the grades required.

The Contractor shall protect and support existing improvements not designated to be removed adjoining and adjacent new improvements including walls, fences, brick work, PCC, drainage pipes, structures and other improvements.

PAYMENT

Payment for Unclassified Excavation shall be made at the contract unit price bid per lump sum and includes all saw-cutting, excavation, hauling, subgrade preparation, and associated work, materials and equipment to complete the work. No further compensation shall be allowed.

BID ITEM NO. 6:**ASPHALT CONCRETE PAVEMENT**

Asphalt concrete shall conform to Sections 302-5 and 400 of the Standard Specifications. Finished surface of the new pavement at the edge of gutter shall be flush with the edge of the gutter.

Prior to placing asphalt concrete, all existing surfaces shall be cleaned by the use of air-blower, water, by hand broom and dust sucker. The surface shall be free of water, dust, or foreign material before tack coat is applied. The Contractor shall be responsible for maintaining location of, and access to, all water valves during construction. All work shall be performed to the satisfaction of the Engineer.

TACK COAT

Tack coat shall be per Section 302-5.4 of the Standard Specifications.

ROLLING

Initial or breakdown compaction shall consist of a minimum of three coverages of a layer of asphalt mixture. 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 ensure 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. New asphalt concrete shall be compacted to achieve at least 95 percent of the relative compaction.

Pneumatic rollers shall not be used without prior approval of the Engineer. The top layer of each patch, once commenced, shall be placed without interruption. The Contractor shall compact the newly laid asphalt concrete in such a manner that will not create a joint between two passes; variations at joints shall be no greater than 1/8". 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. 6" of newly laid asphalt concrete adjoining to the edge of a pass to be joined by an adjoining pass shall not be rolled until adjoining pass has been laid. Asphalt concrete shall be placed to obtain constant cross-slope and maximum joint quality.

The asphalt concrete base courses shall be Type III-C2-PG 64-10 (1/2" sieve size).

The asphalt concrete finish course shall be 2" Type III-C2-PG 64-10 (1/2" sieve size).

Subgrade preparation shall conform to Sections 203-10 and 301-1 of the Green Book.

PAYMENT

Payment for Asphalt Concrete Pavement shall be made at the unit prices bid per TON. The unit price bid shall include all work, materials and equipment required to complete AC installation including surface preparation, tack coat, compaction and all other incidentals. No further compensation shall be allowed.

BID ITEM NO. 7: COLD MILL (GRIND) AND OVERLAY

Asphalt concrete Cold Mill (Grind) and Overlay shall conform to Sections 302-1 of the Standard Specifications as well as the Asphalt Concrete Pavement Section of these Technical Specifications.

The asphalt concrete overlay course shall be 2" minimum of Type III-C2-PG 64-10 (1/2" sieve size).

PAYMENT

Payment for Asphalt Concrete Cold Mill (Grind) and Overlay shall be made at the unit prices bid per Square Foot. The unit price bid shall include all work, materials and equipment required to complete AC installation including cold mill, disposal of millings, header cuts, surface preparation, tack coat, compaction and all other incidentals. No further compensation shall be allowed.

BID ITEMS NO. 8 & 9: CONSTRUCT CURB, AND CONSTRUCT SIDEWALK

CONSTRUCT MISCELLANEOUS PORTLAND CEMENT CONCRETE (PCC) IMPROVEMENTS

Various Portland Cement Concrete (PCC) improvements shall be constructed in conformance with City of Costa Mesa Standard Drawing No. 412 and per details shown on the plans and applicable sections of the Standard Specifications. Crushed miscellaneous base (CMB) material shall be placed under all PCC improvements as shown on the standard drawings and plans. Concrete shall be class 560-C-3250.

Crushed miscellaneous base material and construction shall conform to Subsection 200-2.4 and 301-2 of the Standard Specifications and as directed by the Engineer. The sieve size shall be 3/4" (fine). Contractor shall install Crushed Miscellaneous Base with lines and grades to match final subgrade elevations and as shown on the City of Costa Mesa Standard Plans.

Final repair of sidewalks and pavement after removal of sidewalk shall comply with City Standard Plan 811, extend to score lines or within pavement three feet outside excavation, and shall be similar kind of material and finish. Concrete shall be transit mixed. Saw cutting shall be required for both concrete and pavement repair.

Contractor shall stage driveway reconstruction work to maintain business/resident access at all times. Driveways shall be reconstructed in two separate staged sections, utilizing quick setting "High-Early" PCC. #4 dowels (2-foot long) at 18 inches O/C shall be installed at cold joints. Access to businesses shall be maintained at all times without exception.

Weakened plane and expansion joints shall be constructed in sidewalk and curb & gutter in accordance with the plans and specifications, City Standard drawings, and subsection 303-5.4 "Joints" of Standard Specifications. Crack Control Joints and Decorative Scoring shall be constructed per plans as directed by the Engineer. Saw-cut joints shall be consistent in width and depth, true, straight, continuous, and evenly spaced.

All sprinkler systems encountered and damaged by the Contractor's operations shall be replaced in kind. Compensation for this work shall be included as a part of the unit price bids for curb & gutter, sidewalk, and curb ramps. Any damage to adjacent improvements will be repaired at the Contractor's expense.

All removals associated with PCC work shall be included as part of unclassified excavation.

Once work is started, and subgrade is exposed as part of unclassified excavation operations, the Contractor has (10) working days to perform and complete all PCC hardscape work and landscaping soft scape work at each location.

Weakened plane joints are required every ten (10) feet, and 1/4" expansion joint every 40'. Transitional curb and gutter shall be five (5) feet from one type to the other. No construction joints will be permitted.

The contractor shall be responsible to protect and oversee the curing of all concrete improvements to prevent graffiti damage or other unauthorized markings in new concrete surfaces. Any concrete surface deemed unacceptable to the engineer, shall be removed and replaced by the contractor at no additional cost to the city.

Any damage to adjacent improvements will be repaired at the Contractor's expense.

CONSTRUCT TYPE A1-6 CURB OVER 6" CMB

Curb shall conform to the details shown on the plans and applicable sections of the Green Book. Variable height curb for curb ramps shall be included as part of the Curb Ramp bid item.

Six (6) inches of crushed miscellaneous base (CMB) shall be required under all new curb and compacted to 95 percent relative density. Subgrade relative compaction shall not be less than 90%. All roots and stumps shall be removed and/or ground to six (6) inches below subgrade.

The concrete class shall be 560-C-3250.

The work shall include removal and replacement of the interfering portions of existing curb drain pipe that lie in the path of the construction to be performed. Existing curb drain pipe shall be replaced with 3" inside diameter ABS Schedule 40 pipe for 6" and 8" curb. The work required includes the cutting and removal of existing pipe, constructing holes in new curbs where applicable, enlarging holes in the existing curb as required, connecting the upper end of the new pipe to the existing pipe and the lower end to the outside of the curb outlet, and related work as required. All work shall conform to Sections 306-7 and 308-5.2.3 of the Standard Specifications unless otherwise directed. The work shall include replacement or relocation of any damaged irrigation lines and sprinkler heads to a condition equal to or better than existing; and replacement of any grass damaged as a result of the construction operations with Modified Class "A" Topsoil and sod.

Asphalt concrete slot paving shall be Type III-C2-PG 64-10 (1/2" sieve size) adjacent to the curb and gutter. Slot paving shall be 2' wide and a minimum of 6 inches deep unless otherwise shown on plans. Subgrade preparation below asphalt concrete slot paving shall conform to Section 301-1 of the Green Book and shall be included in the unit price bid for this item. Subgrade relative compaction shall not be less than 95%.

CONSTRUCT OF 4" PCC SIDEWALK OVER 4" CMB

The Contractor shall construct new concrete sidewalk, including wheelchair ramps, flares, monolithic and retaining curb, and other miscellaneous concrete construction conforming to Section 303-5 of the Standard Specifications and the City of Costa Mesa Standard Drawing No. 412, with lines and grades to meet existing. Four inches (4") of crushed miscellaneous base (CMB) shall be required under all sidewalks and compacted to 95 percent relative density. Subgrade relative compaction shall not be less than 90%. The Contractor may be directed to construct new concrete walkways or steps in landscaped areas and on private properties, where required.

At all times the Contractor shall provide a safe and walkable temporary sidewalk with a minimum width of forty-eight inch (48") clearance adjoining excavated areas within parkway limits for wheelchair and pedestrians to travel around construction areas. If such clearance is not possible, barricading, plating, filling, re-routing or other measures shall be required.

PAYMENT

Payment for Construct Curb shall be per the unit price bid per linear foot; and Payment for Construct Sidewalk shall be per the unit price bid per square foot; and all PCC Improvements shall include furnishing and placing CMB, temporary AC pavement, slot AC pavement, construction of new curb and sidewalk to meet existing sidewalk and existing improvements, depressed curb for driveway approach, depressed curb for curb ramps, curb drain removal and replacement, replacement of any damaged irrigation lines and sprinkler heads, replacement of any damaged grass, and other work as required to complete the work. No additional compensation shall be allowed.

BID ITEM NO. 10: FURNISH AND INSTALL WHEEL STOP

Work and materials for Furnish and Install Wheel Stop shall conform to the requirements of the details shown on the plans.

PAYMENT

Payment for Furnish and Install Wheel Stop shall be at the contract unit price for Each and shall include all materials, labor, and appurtenances, cooperation, including all work required to furnish and install wheel stop, complete, as shown on the plans and as specified herein.

BID ITEM NO. 11: FURNISH AND INSTALL ARMOR-TILE CAST-IN-PLACE TRUNCATED WARNING DOMES

Work and materials for Furnish and Install Armor-Tile Cast-in-Place Truncated Warning Domes (or equivalent) shall conform to the requirements of the manufacturer:

<https://armor-tile.com/assets/armor-tile-2014-cbc-title-24-compliant-specifications-for-cast-in-place-ada-tactile-detectable-warnings-011816.pdf>

PAYMENT

Payment for Furnish and Install Armor-Tile Cast-in-Place Truncated Warning Domes shall be at the contract unit price per Square Foot and shall include all materials, labor, and appurtenances, cooperation, including all work required to furnish and install truncated warning domes, complete, as shown on the plans and as specified herein.

BID ITEM NO. 12: FURNISH AND INSTALL BOLLARDS

Work and materials for Furnish and Install Wheel Stop shall conform to the requirements of the details shown on the plans.

Any damage to adjacent improvements will be repaired at the Contractor's expense.

PAYMENT

Payment for Furnish and Install Bollards shall be at the contract unit price for Each item and shall include all materials, labor, and appurtenances, cooperation, including all work required to furnish and install bollard and foundation, complete, as shown on the plans and as specified herein.

BID ITEM NO. 13: RESTORE EXISTING LANDSCAPE AND IRRIGATION

The materials used for the restoring of existing irrigation and planting shall conform to Section 800 of the Standard Specifications. The installation of irrigation and planting shall conform to Section 800 of the Standard Specifications. Restoration of irrigation and planting improvements shall be completed where excavations affect existing facilities and as directed by the Engineer.

Landscaping used in replacement of affected areas shall match existing plant material (including sod, shrubs and other planting material) and density of plant material as approved by engineer. The Contractor shall water areas affected by irrigation modification as required to maintain landscaping in good condition. Any landscaping damaged during construction shall be repaired by the contractor at no additional cost.

For irrigation repair work, the Contractor shall restore the sprinkler systems within five (5) days after the removal of the existing system. The restored sprinkler systems shall provide equal or better than existing conditions. The Contractor shall cut interfering portions of existing irrigation lines and cap ends for future reconnection.

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 temporary irrigation systems and/or shall water the landscaped area by hand. Property owner's water supply shall not be used without written consent from each owner.

Prior to accepting work, the Contractor must turn on the irrigation system and demonstrate each line works properly in the presence and to the satisfaction of the Engineer and property owner. Any damaged and dead grass or landscaping beyond construction limits, or insufficient water coverage resulting from Contractor's operation shall be replaced by the Contractor at no additional contract cost.

PAYMENT

Payment for this item will be included in the price bid per Lump Sum (LS) and shall include full compensation for all materials, equipment, tools, labor, and incidentals required and no additional compensation will be allowed therefor.

BID ITEM NO. 14: SIGNING AND STRIPING

Work, materials and equipment shall conform to the details shown on the plans, the provisions in Section 84 "Traffic Stripes and Pavement Markings" and Section 85 "Pavement Markers" of the Caltrans' Standard Specifications, the California Manual of Uniform Traffic Control Devices, and the City of Costa Mesa Street Striping Standards. The striping, markings and signing shall be reinstalled at locations in accordance with the plans, City Standard Plans 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.

EV NOTIFICATION SIGNS

All notification signs shall be furnished, installed, removed or relocated at locations shown on the plans and as directed by the Engineer. All parking lot notification signs shall meet ASTM D Type IV or higher, and be equal to High Intensity Prismatic or Micro-prismatic Grade. Prior to the procurement and manufacturing of signs, shop drawings for each type of sign with accurate dimensions and colors shall be submitted to the city for review and approval.

ROADSIDE SIGNS

Roadside signs shall be furnished, installed, removed or relocated at locations shown on the plans and as directed by the Engineer. All new signs shall meet Type VII highway sign standards or higher, equal to High Intensity Prismatic or Diamond Grade "LDP" grade.

PAVEMENT MARKINGS

The Contractor shall furnish and apply Thermoplastic pavement markings shown on the plans or where directed by the Engineer. Placement of markings shall conform to the requirements of Section 84-1 and 84-3 of the Caltrans' Standard Specifications and these special provisions.

The Contractor shall be responsible for the completeness and accuracy of all layout alignment and spotting. The Contractor shall layout or "cat track" proposed marking for approval by the Engineer prior to performing actual marking placement. No work shall commence without said approval. Traffic striping shall not vary more than 1/2 inch in 50 feet from the alignment shown in the plans. The Contractor shall mark, or otherwise delineate, the new traffic lanes and pavement markings directly after the removal of the existing striping and markings. The Contractor shall modify the cat-tracking as directed by and to the satisfaction of the engineer prior to striping and no additional cost shall be allowed for striping revisions directed by the Engineer. No street shall be without the proper striping over a weekend.

The following amendments are made to the Caltrans' Standard Specifications:

Paragraphs 1 and 2 of Subsection 84-1.04, "Description," are amended to read:

This work shall consist of applying thermoplastic traffic stripes (traffic lines) and pavement markings at the locations and in accordance with the details shown on the plans or designated by the Engineer, and as specified in these specifications and the special provisions.

The type of material or paint to be applied shall conform with Caltrans' Standard Specifications, the special provisions, and the plans.

Paragraph 1 of Subsection 84-1.02, "Control of Alignment and Layout," is amended:

The Contractor shall perform all layout, alignment, and spotting of control points spaced at 100 feet on tangents and 50 feet on curves.

The first sentence of paragraph 4 of Subsection 84-1.03, "Tolerances and Appearance," is amended to read:

Drips, overspray, improper markings and paint material tracked by traffic shall be immediately and completely removed from the pavement surface by methods approved by the Engineer.

Paragraph 2 of Subsection 84-1.04, "Protection from Damage," is amended to read:

Newly placed traffic stripes and pavement markings shall be protected from damage by public traffic or other causes until the paint is thoroughly dry.

The first sentence of paragraph 1 of Subsection 84-3.02, "Materials," is amended to read:

Paint and glass beads for traffic stripes and pavement markings will be furnished by the Contractor, including cat tracks and dribble lines.

Add a third sentence to the paragraph of Subsection 84-3.03, "Mixing," to read:

Such mixing shall be at the Contractor's expense.

REMOVE TRAFFIC STRIPES, PAVEMENT MARKINGS, AND PAVEMENT MARKERS

Traffic stripes and pavement markings shall be removed to the fullest extent possible from the pavement by wet sandblasting or any other method approved by the Engineer that does not materially damage the surface or texture of the pavement or surfacing. Sand or other material deposited on the pavement as a result of removing traffic stripes and markings shall be removed on the same day as marking removal.

Accumulations of sand or other material that might interfere with drainage or might constitute a hazard to traffic will not be permitted and shall be removed immediately. Traffic stripes shall be removed before any change is made in the traffic pattern and before painting new stripes and markings.

Where blast cleaning is used for the removal of traffic stripes and pavement markings or for removal of objectionable material, and such removal operation is being performed within ten feet of a lane occupied by public traffic, the residue including dust shall be removed immediately after contact between the sand and the surface being treated.

Nothing in these special provisions shall relieve the Contractor from his responsibilities as provided in Subsection 7-10, "Public Convenience and Safety," of the Standard Specifications for Public Works Construction.

THERMOPLASTIC MARKINGS

All crosswalks, stop bars, arrows and pavement legends shall be thermoplastic conforming to Section 84 of Caltrans Standard Specifications and these Special Provisions. All stop bars, crosswalks, messages, and arrows shall be replaced using thermoplastic, and conform exactly to the City of Costa Mesa stencil types.

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.

THERMOPLASTIC PAVEMENT MARKING MATERIAL

Thermoplastic shall be composed of ALKYLOID/MALEIC THERMOPLASTIC PAVEMENT material 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 resist deformation by traffic.

RED CURB MARKINGS

The Contractor shall furnish and apply red paint on the curb as shown on the plans, on newly constructed curb that was previously painted red, or as directed by the Engineer. All red curb painting shall conform to Section 84 of Caltrans Standard Specifications and these Special Provisions. The red paint shall be in accordance with Federal Specification TT-P-1952E.

PAVEMENT MARKING GUARANTEE

The pavement marking material furnished and installed under this contract shall be included in the lump sum bid fee and 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 oil or gasoline drippings, chipping, spoiling, poor adhesion resulting from defective materials or method of application, loss of reflectivity, from traffic and wear.

PAYMENT

Payment for all the preceding requirements including all sand blasting, striping, pavement markings, red curb paint, pavement legends, raised pavement markers and traffic sign relocations and installations shall be included in the bid price for implementation of the signing and striping plans per the bid schedule, and shall include full compensation for furnishing all materials, services, tools, labor and equipment and incidentals as necessary to perform all the work involved.

Payment for all traffic signal signs mounted on the traffic signal poles shall also be included under this bid item. No additional compensation will be allowed.

BID ITEM NO. 15: FURNISH AND INSTALL ELECTRIC VEHICLE CHARGING SYSTEM (EVCS)

Work and materials to furnish and install the Electric Vehicle Charging System shall conform to the project Plans and Specifications (see attached MasterSpec formatted Electrical Specifications, Division 26). The EVCS shall include concrete support pedestals, charging stations, supporting electrical infrastructure, all initial system configurations, 5 years of network access /service, 5 year parts and labor warranty for all EV charging station components, as well as a minimum 1 year warranty for supporting electrical infrastructure. Contractor to submit, for City approval, a schedule of values and unit prices for each component of the EVCS as detailed in manufacturer's specifications and all supporting electrical infrastructure necessary to provide a fully functional and completely operational EVCS. **The schedule of values shall be submitted to the City by the Contractor before 5:00 PM on the 4th business day following the contract award.** Price includes the indirect cost and markup.

PAYMENT

Payment for Furnish and Install Electric Vehicle Charging System shall be made at a contract Lump Sum price and shall be considered inclusive of all labor, tools, equipment, and materials required to perform the work. Progress payments and percentage complete shall be determined based on the contractor's regularly updated schedule and percentage complete of the City approved schedule of values and unit prices. No additional compensation will be allowed.

BID ITEM NO. 16: ADDITIONAL WORK ITEMS AS DIRECTED BY THE CITY

Allowance to be included in the total bid amount as identified as follows. Use of the allowance will be at the sole discretion of the City and must be authorized in writing at the discretion of the City. Any money used from the project allowance will be authorized via an Allowance Disbursement Form at the City's sole discretion. Any amount of money remaining in the Allowance line item upon completion of the Project will be deducted from the Contract by Deductive Change Order for the full amount(s) remaining therein. The Contractor has no beneficial interest in, and/or claim to, the Allowances and hereby disclaims any and all such interests.

Additional work items include work that will only be used at the discretion of the Engineer. At the discretion of the Engineer, the Contractor shall provide all labor, tools, equipment, materials and incidentals for the extra work beyond the scope of work established within the Contract documents. Work may include, but not be limited to, delivery of additional newsletters; disposal of materials, potholing, furnishing and installation of informational signs, and related work, and will only be performed, if required, and approved by the Engineer. The Contractor acknowledges that this allowance will only be used at the discretion of the City. Contractor shall be paid at force account or at agreed prices for all work performed within this allowance.

PAYMENT

The contractor shall be paid at Force Account (FA) for all work performed under this bid item of work. No additional compensation will be allowed.

SECTION 26 05 00

COMMON WORK RESULTS FOR ELECTRICAL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes the following:
 - 1. Supporting devices for electrical components.
 - 2. Concrete equipment bases.
 - 3. Electrical demolition.
 - 4. Cutting and patching for electrical construction.

1.2 SUBMITTALS

- A. **Field Test Reports:** Indicate and interpret test results for compliance with performance requirements.

1.3 QUALITY ASSURANCE

- A. **Electrical Components, Devices, and Accessories:** Listed and labeled as defined in CEC, Article 100, by a testing agency acceptable to the Owner, and marked for intended use.
- B. Comply with CEC.
- C. **Structural Seismic Performance:** Refer to Division 26 Section "Vibration and Seismic Controls for Electrical Systems."

1.4 COORDINATION

- A. Coordinate chases, slots, inserts, sleeves, and openings with general construction work and arrange in building structure during progress of construction to facilitate the electrical installations that follow.
- B. Sequence, coordinate, and integrate installing electrical materials and equipment for efficient flow of the Work. Coordinate installing large equipment requiring positioning before closing in the building.
- C. Coordinate location of access panels and doors for electrical items that are concealed by finished surfaces. <Access doors and panels are specified in Division 08 Section "Access Doors and Frames.">

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. **Manufacturers:** Subject to compliance with requirements, provide products by one of the manufacturers specified.
 - 2. **Or Equal:** Where products are specified by manufacturers name and accompanied by the term "or equal", comply with provisions in Division 01. Specific procedures must be followed before use of an unnamed product or manufacturer.

2.2 SUPPORTING DEVICES

- A. **Material:** Cold-formed steel, with corrosion-resistant coating acceptable to the Owner.
- B. **Metal Items for Use Outdoors or in Damp Locations:** Hot-dip galvanized steel.
- C. **Slotted-Steel Channel Supports:** Flange edges turned toward web, and 9/16-inch-diameter slotted holes at a maximum of 2 inches o.c., in webs.
 - 1. **Channel Thickness:** Selected to suit structural loading.
 - 2. **Fittings and Accessories:** Products of the same manufacturer as channel supports.
- D. **Raceway and Cable Supports:** Manufactured clevis hangers, riser clamps, straps, threaded C-clamps with retainers, ceiling trapeze hangers, wall brackets, and spring-steel clamps or click-type hangers.
- E. **Pipe Sleeves:** ASTM A 53, Type E, Grade A, Schedule 40, galvanized steel, plain ends.
- F. **Cable Supports for Vertical Conduit:** Factory-fabricated assembly consisting of threaded body and insulating wedging plug for non-armored electrical cables in riser conduits. Plugs have number and size of conductor gripping holes as required to suit individual risers. Body constructed of malleable-iron casting with hot-dip galvanized finish.
- G. **Expansion Anchors:** Carbon-steel wedge or sleeve type.
- H. **Toggle Bolts:** Steel springhead type.
- I. **Powder-Actuated Fasteners:** are prohibited except when executed in accordance with Division 01.

2.3 CONCRETE BASES

- A. **<Concrete Forms and Reinforcement Materials:** As specified in Division 03 Section "Cast-in-Place Concrete.">
- B. **<Concrete:** Minimum 3000-psi, 28-day compressive strength as specified in Division 03 Section "Cast-in-Place Concrete.">

2.4 TOUCHUP PAINT

- A. **For Equipment:** Equipment manufacturer's paint selected to match installed equipment finish.
- B. **Galvanized Surfaces:** Touch-up and repair per ASTM A780 "The Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings."

PART 3 - EXECUTION

3.1 ELECTRICAL EQUIPMENT INSTALLATION

- A. **Headroom Maintenance:** If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide the maximum possible headroom and in no case less than 84 inches.
- B. **Materials and Components:** Install level, plumb, and parallel and perpendicular to other building systems and components, unless otherwise indicated.
- C. **Equipment:** Install to facilitate service, maintenance, and repair or replacement of components. Connect for ease of disconnecting, with minimum interference with other installations.
- D. **Right of Way:** Give to raceways and piping systems installed at a required slope.

3.2 WIRING INSTALLATION

- A. Install splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than the unspliced conductors.
- B. Install wiring at outlets of sufficient length to extend a minimum of 6 inches outside of the opening.
- C. Connect outlet and component connections to wiring systems and to ground. Tighten electrical connectors and terminals, according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A.

3.3 ELECTRICAL SUPPORTING DEVICE APPLICATION

- A. **Damp Locations and Outdoors:** Hot-dip galvanized materials, U-channel system components.
- B. **Dry Locations:** Electro-plated steel materials.
- C. Support Clamps for PVC Raceways: Click-type clamp system.
- D. **Selection of Supports:** Comply with manufacturer's written instructions.
- E. **Strength of Supports:** Adequate to carry present and future loads, times a safety factor of at least four; minimum of 200-lb design load.

3.4 SUPPORT INSTALLATION

- A. Install support devices to securely and permanently fasten and support electrical components.
- B. Install individual and multiple raceway hangers and riser clamps to support raceways. Provide U-bolts, clamps, attachments, and other hardware necessary for hanger assemblies and for securing hanger rods and conduits.
- C. Support parallel runs of horizontal raceways together on trapeze or bracket-type hangers.
- D. Size supports for multiple raceway installations so capacity can be increased by 25 percent minimum in the future.
- E. Support individual horizontal raceways with separate, pipe hangers or clamps.
- F. Install 1/4-inch diameter or larger threaded steel hanger rods.
- G. Arrange supports in vertical runs so the weight of raceways and enclosed conductors is carried entirely by raceway supports, with no weight load on raceway terminals.
- H. Simultaneously install vertical conductor supports with conductors.
- I. Separately support cast boxes that are threaded to raceways and used for fixture support. Support sheet-metal boxes directly from the building structure or by bar hangers. If bar hangers are used, attach bar to raceways on opposite sides of the box and support the raceway with an approved fastener not more than 24 inches from the box.
- J. Install metal channel racks for mounting cabinets, panel boards; disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices unless components are mounted directly to structural elements of adequate strength.
- K. Install sleeves for cable and raceway penetrations of concrete slabs and walls unless core-drilled holes are used. Install sleeves for cable and raceway penetrations of

masonry and fire-rated gypsum walls and other fire-rated floor and wall assemblies. Install sleeves during erection of concrete and masonry walls.

- L. Securely fasten electrical items and their supports to the building structure, unless otherwise indicated. Perform fastening according to the following unless other fastening methods are indicated:
 - 1. Wood: Fasten with wood screws or lag bolts.
 - 2. Masonry: Toggle bolts on hollow masonry units and expansion bolts on solid masonry units.
 - 3. New Concrete: Concrete inserts with machine screws and bolts.
 - 4. Existing Concrete: Expansion bolts.
 - a. Instead of expansion bolts, threaded studs driven by a powder charge and provided with lock washers may be used in existing concrete when executed in accordance with Division 01 requirements.
 - 5. Steel: Welded threaded studs or spring-tension clamps on steel.
 - a. Field Welding: Comply with AWS D1.1.
 - 6. Welding to steel structure may be used only for threaded studs, not for conduits, pipe straps, or other items.
 - 7. Light Steel: Sheet-metal screws.
 - 8. Fasteners: Select so the load applied to each fastener does not exceed 25 percent of its proof-test load.

3.5 FIRESTOPPING

- A. Apply firestopping to cable and raceway penetrations of fire-rated floor and wall assemblies to achieve fire-resistance rating of the assembly. <Fire stopping materials and installation requirements are specified in Division 07 Section "Penetration Firestopping.">

3.6 CONCRETE BASES

- A. Construct concrete bases of dimensions not less than 8 inches larger, in both directions, than supported unit unless larger is required to comply with seismic restraint requirements. Provide 1 inch chamfer or half-inch radius round over at corners. Follow supported equipment manufacturer's anchorage recommendations and setting templates for anchor-bolt and tie locations. Use minimum 3000-psi, 28-day compressive-strength concrete and reinforcement< as specified in Division 03 Section "Cast-in-Place Concrete.">.

3.7 DEMOLITION

- A. Protect existing electrical equipment and installations indicated to remain. If damaged or disturbed in the course of the Work, remove damaged portions and install new products of equal capacity, quality, and functionality.

- B.** Accessible Work: Remove exposed electrical equipment and installations, indicated to be demolished, in their entirety.
- C.** Abandoned Work: Cut and remove buried raceway and wiring. When approved by the Owner's Representative raceway can be abandoned in place a minimum of 4 inches below the surface of adjacent construction. Cap raceways and patch surface to match existing finish.
- D.** Remove demolished material from Project site.
- E.** Remove, store, clean, reinstall, reconnect, and make operational components indicated for relocation.

3.8 CUTTING AND PATCHING

- A.** Cut, channel, chase, and drill floors, walls, partitions, ceilings, and other surfaces required to permit electrical installations. Perform cutting by skilled mechanics of trades involved.
- B.** Repair and refinish disturbed finish materials and other surfaces to match adjacent undisturbed surfaces. Install new fireproofing where existing fire stopping has been disturbed. Repair and refinish materials and other surfaces by skilled mechanics of trades involved.

3.9 FIELD QUALITY CONTROL

- A.** Inspect installed components for damage and faulty work, including the following:
 - 1. Supporting devices for electrical components.
 - 2. Concrete bases.
 - 3. Electrical demolition.
 - 4. Cutting and patching for electrical construction.
 - 5. Touchup painting.

3.10 REFINISHING AND TOUCHUP PAINTING

- A.** Refinish and touch up paint<. Paint materials and application requirements are specified in Division 09 Section "Interior Painting.">
 - 1. Clean damaged and disturbed areas and apply primer, intermediate, and finish coats to suit the degree of damage at each location.
 - 2. Follow paint manufacturer's written instructions for surface preparation and for timing and application of successive coats.
 - 3. Touch-up and repair per ASTM A780 "The Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings."
 - 4. Repair damage to PVC or paint finishes with matching touchup coating recommended by manufacturer.

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3.11 CLEANING AND PROTECTION

- A. On completion of installation, including outlets, fittings, and devices, inspect exposed finish. Remove burrs, dirt, paint spots, and construction debris.
- B. Protect equipment and installations and maintain conditions to ensure that coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.

END OF SECTION 26 05 00

SECTION 26 05 26

GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes grounding and bonding systems and equipment.

1.02 ACTION SUBMITTALS

- A. **Product Data:** For each type of product indicated.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. **Manufacturers:** Subject to compliance with requirements, provide products by the following:
- B. **Basis-of-Design Product:** Subject to compliance with requirements, provide comparable product by one of the following or equal:
 - 1. Burndy; Part of Hubbell Electrical Systems.
 - 2. O-Z/Gedney; A Brand of the EGS Electrical Group.

2.02 SYSTEM DESCRIPTION

- A. **Electrical Components, Devices, and Accessories:** Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with UL 467 for grounding and bonding materials and equipment.

2.03 CONDUCTORS

- A. **Insulated Conductors:** Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.
- B. **Bare Copper Conductors:**
 - 1. Solid Conductors: ASTM B 3.
 - 2. Stranded Conductors: ASTM B 8.
 - 3. Tinned Conductors: ASTM B 33.

(IDS Group)

4. Bonding Cable: 28 kcmil, 14 strands of No. 17 AWG conductor, 1/4 inch (6 mm) in diameter.
5. Bonding Conductor: No. 4 or No. 6 AWG, stranded conductor.
6. Bonding Jumper: Copper tape, braided conductors terminated with copper ferrules; 1-5/8 inches (41 mm) wide and 1/16 inch (1.6 mm) thick.
7. Tinned Bonding Jumper: Tinned-copper tape, braided conductors terminated with copper ferrules; 1-5/8 inches (41 mm) wide and 1/16 inch (1.6 mm) thick.

2.04 CONNECTORS

- A. Listed and labeled by an NRTL acceptable to authorities having jurisdiction for applications in which used and for specific types, sizes, and combinations of conductors and other items connected.
- B. Bolted Connectors for Conductors and Pipes: Copper or copper alloy.
- C. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.
- D. Bus-Bar Connectors: Mechanical type, cast silicon bronze, solderless exothermic-type wire terminals, and long-barrel, two-bolt connection to ground bus bar.

2.04 GROUNDING ELECTRODES

- A. **Ground Rods:** Copper-clad steel; 3/4 inch by 10 feet (19 mm by 3 m).

PART 3 - EXECUTION

3.01 APPLICATIONS

- A. Conductors: Install solid conductor for No. 8 AWG and smaller, and stranded conductors for No. 6 AWG and larger unless otherwise indicated.
- B. Underground Grounding Conductors: Install bare copper conductor, No. 3/0 AWG minimum.
 1. Bury at least 24 inches (600 mm) below grade.
- C. Conductor Terminations and Connections:
 1. Pipe and Equipment Grounding Conductor Terminations: Bolted connectors.
 2. Underground Connections: Welded connectors except at test wells and as otherwise indicated.
 3. Connections to Ground Rods at Test Wells: Bolted connectors.

4. Connections to Structural Steel: Welded connectors.

3.02 GROUNDING AT THE SERVICE

- A. Equipment grounding conductors and grounding electrode conductors shall be connected to the ground bus. Install a main bonding jumper between the neutral and ground buses.

3.03 EQUIPMENT GROUNDING

- A. Install insulated equipment grounding conductors with all feeders and branch circuits.
- B. Install insulated equipment grounding conductors with the following items, in addition to those required by NFPA 70:
 1. Feeders and branch circuits.
 2. Lighting circuits.
 3. Receptacle circuits.
 4. Single-phase motor and appliance branch circuits.
 5. Three-phase motor and appliance branch circuits.
 6. Flexible raceway runs.
 7. Armored and metal-clad cable runs.
 8. Busway Supply Circuits: Install insulated equipment grounding conductor from grounding bus in the switchgear, switchboard, or distribution panel to equipment grounding bar terminal on busway.
- C. Air-Duct Equipment Circuits: Install insulated equipment grounding conductor to duct-mounted electrical devices operating at 120 V and more, including air cleaners, heaters, dampers, humidifiers, and other duct electrical equipment. Bond conductor to each unit and to air duct and connected metallic piping.
- D. Water Heater Cables: Install a separate insulated equipment grounding conductor to each electric water heater and heat-tracing cable. Bond conductor to heater units, piping, connected equipment, and components.
- E. Poles Supporting Outdoor Lighting Fixtures: Install grounding electrode and a separate insulated equipment grounding conductor in addition to grounding conductor installed with branch-circuit conductors.

3.04 INSTALLATION

- A. Grounding Conductors: Route along shortest and straightest paths possible unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.

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- B.** Ground Rods: Drive rods until tops are 2 inches (50 mm) below finished floor or final grade unless otherwise indicated.
 - 1. Interconnect ground rods with grounding electrode conductor below grade and as otherwise indicated. Make connections without exposing steel or damaging coating if any.
 - 2. For grounding electrode system, install at least three rods spaced at least one-rod length from each other and located at least the same distance from other grounding electrodes, and connect to the service grounding electrode conductor.

- C.** Test Wells: Ground rod driven through drilled hole in bottom of handhole. Handholes are specified in Section 26 05 43 "Underground Ducts and Raceways for Electrical Systems," and shall be at least 12 inches (300 mm) deep, with cover.
 - 1. Test Wells: Install at least one test well for each service unless otherwise indicated. Install at the ground rod electrically closest to service entrance. Set top of test well flush with finished grade or floor.

- D.** Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance except where routed through short lengths of conduit.
 - 1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
 - 2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install bonding so vibration is not transmitted to rigidly mounted equipment.
 - 3. Use exothermic-welded connectors for outdoor locations; if a disconnect-type connection is required, use a bolted clamp.

- E.** Grounding and Bonding for Piping:
 - 1. Metal Water Service Pipe: Install insulated copper grounding conductors, in conduit, from building's main service equipment, or grounding bus, to main metal water service entrances to building. Connect grounding conductors to main metal water service pipes; use a bolted clamp connector or bolt a lug-type connector to a pipe flange by using one of the lug bolts of the flange. Where a dielectric main water fitting is installed, connect grounding conductor on street side of fitting. Bond metal grounding conductor conduit or sleeve to conductor at each end.
 - 2. Water Meter Piping: Use braided-type bonding jumpers to electrically bypass water meters. Connect to pipe with a bolted connector.
 - 3. Bond each aboveground portion of gas piping system downstream from equipment shutoff valve.

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3.04 QUALITY CONTROL

- A. Perform tests and inspections. Inspect physical and mechanical condition. Verify tightness of accessible, bolted, electrical connections with a calibrated torque wrench according to manufacturer's written instructions.

END OF SECTION 26 05 26

SECTION 26 05 29

HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes:

1. Hangers and supports for electrical equipment and systems.
2. Construction requirements for concrete bases.

1.02 PERFORMANCE REQUIREMENTS

- A. Delegated Design:** Design supports for multiple raceways, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- B.** Design supports for multiple raceways capable of supporting combined weight of supported systems and its contents.
- C.** Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.
- D. Rated Strength:** Adequate in tension, shear, and pullout force to resist maximum loads calculated or imposed for this Project, with a minimum structural safety factor of five times the applied force.

1.03 ACTION SUBMITTALS

- E. Product Data:** For steel slotted support systems.
- F. Shop Drawings:** Show fabrication and installation details and include calculations for the following:
 1. Trapeze hangers. Include Product Data for components.
 2. Steel slotted channel systems. Include Product Data for components.
 3. Equipment supports.

1.04 INFORMATIONAL SUBMITTALS

- A. Welding certificates.**

1.05 QUALITY ASSURANCE

- A. Welding: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.01 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- A. Steel Slotted Support Systems: Comply with MFMA-4, factory-fabricated components for field assembly.
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 2. Manufacturers: Subject to compliance with requirements, provide products by one of the following or equal:
 - a. Allied Tube & Conduit.
 - b. Cooper B-Line, Inc.; a division of Cooper Industries.
 - c. Thomas & Betts Corporation.
 - d. Unistrut; Tyco International, Ltd.
 - 3. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
 - 4. Nonmetallic Coatings: Manufacturer's standard PVC, polyurethane, or polyester coating applied according to MFMA-4.
 - 5. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.
 - 6. Channel Dimensions: Selected for applicable load criteria.
- B. Raceway and Cable Supports: As described in NECA 1 and NECA 101.
- C. Conduit and Cable Support Devices: Steel hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.
- D. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for non-armored electrical conductors or cables in riser conduits. Plugs shall have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body shall be malleable iron.
- E. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.
- F. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:

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1. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
 - a. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - b. Manufacturers: Subject to compliance with requirements, provide products by one of the following or equal:
 - 1) Hilti Inc.
 - 2) Simpson Strong-Tie Co., Inc.; Masterset Fastening Systems Unit.
2. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel, for use in hardened portland cement concrete with tension, shear, and pullout capacities appropriate for supported loads and building materials in which used.
 - a. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - b. Manufacturers: Subject to compliance with requirements, provide products by one of the following or equal:
 - 1) Cooper B-Line, Inc.; a division of Cooper Industries.
 - 2) Hilti Inc.
 - 3) MKT Fastening, LLC.
3. Concrete Inserts: Steel or malleable-iron, slotted support system units similar to MSS Type 18; complying with MFMA-4 or MSS SP-58.
4. Clamps for Attachment to Steel Structural Elements: MSS SP-58, type suitable for attached structural element.
5. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325.
6. Toggle Bolts: All-steel springhead type.
7. Hanger Rods: Threaded steel.

2.02 FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES

- A. Description: Welded or bolted, structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.
- B. Materials: Comply with requirements in Section 05 50 00 "Metal Fabrications" for steel shapes and plates.

PART 3 - EXECUTION

3.01 APPLICATION

- A.** Comply with NECA 1 and NECA 101 for application of hangers and supports for electrical equipment and systems except if requirements in this Section are stricter.
- B.** Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for EMT, IMC, and RMC as scheduled in NECA 1, where its Table 1 lists maximum spacings less than stated in NFPA 70. Minimum rod size shall be 1/4 inch (6 mm) in diameter.
- C.** Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted support system, sized so capacity can be increased by at least 25percent in future without exceeding specified design load limits.
 - 1. Secure raceways and cables to these supports with two-bolt conduit clamps.
- D.** Spring-steel clamps designed for supporting single conduits without bolts may be used for 1-1/2-inch (38-mm) and smaller raceways serving branch circuits and communication systems above suspended ceilings and for fastening raceways to trapeze supports.

3.02 SUPPORT INSTALLATION

- A.** Comply with NECA 1 and NECA 101 for installation requirements except as specified in this Article.
- B.** Raceway Support Methods: In addition to methods described in NECA 1, EMT, IMC, and RMC may be supported by openings through structure members, as permitted in NFPA 70.
- C.** Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb (90 kg).
- D.** Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:
 - 1. To Wood: Fasten with lag screws or through bolts.
 - 2. To New Concrete: Bolt to concrete inserts.
 - 3. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
 - 4. To Existing Concrete: Expansion anchor fasteners.
 - 5. Instead of expansion anchors, powder-actuated driven threaded studs provided with lock washers and nuts may be used in existing standard-weight concrete 4 inches (100 mm) thick or greater. Do not use for

- anchorage to lightweight-aggregate concrete or for slabs less than 4 inches (100 mm) thick.
6. To Steel: Welded threaded studs complying with AWS D1.1/D1.1M, with lock washers and nuts.
 7. To Light Steel: Sheet metal screws.
 8. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate by means that meet seismic-restraint strength and anchorage requirements.
- E. Drill holes for expansion anchors in concrete at locations and to depths that avoid reinforcing bars.

3.03 INSTALLATION OF FABRICATED METAL SUPPORTS

- A. Comply with installation requirements in Section 05 50 00 "Metal Fabrications" for site-fabricated metal supports.
- B. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.
- C. Field Welding: Comply with AWS D1.1/D1.1M.

3.04 CONCRETE BASES

- A. Construct concrete bases of dimensions indicated but not less than 4 inches (100 mm) larger in both directions than supported unit, and so anchors will be a minimum of 10 bolt diameters from edge of the base.
- B. Use 3000-psi (20.7-MPa), 28-day compressive-strength concrete. Concrete materials, reinforcement, and placement requirements are specified in Section 03 30 00 "Cast-in-Place Concrete."
- C. Anchor equipment to concrete base.
 1. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 2. Install anchor bolts to elevations required for proper attachment to supported equipment.
 3. Install anchor bolts according to anchor-bolt manufacturer's written instructions.

3.05 PAINTING

- A. Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.
 - 1. Apply paint by brush or spray to provide minimum dry film thickness of 2.0 mils (0.05 mm).
- B. Touchup: Comply with requirements in Section 09 91 13 "Exterior Painting" and Section 09 91 23 "Interior Painting" for cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint on miscellaneous metal.
- C. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

END OF SECTION 26 05 29

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SECTION 26 05 33

RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
1. Metal conduits, tubing, and fittings.
 2. Nonmetal conduits, tubing, and fittings.
 3. Metal wireways and auxiliary gutters.
 4. Nonmetal wireways and auxiliary gutters.
 5. Surface raceways.
 6. Boxes, enclosures, and cabinets.
 7. Handholes and boxes for exterior underground cabling.

1.02 ACTION SUBMITTALS

- A. **Product Data:** For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.
- B. **Shop Drawings:** For custom enclosures and cabinets. Include plans, elevations, sections, and attachment details.

1.03 INFORMATIONAL SUBMITTALS

- A. **Coordination Drawings:** Conduit routing plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of items involved:
1. Structural members in paths of conduit groups with common supports.
 2. HVAC and plumbing items and architectural features in paths of conduit groups with common supports.
- B. **Seismic Qualification Certificates:** For enclosures, cabinets, and conduit racks and their mounting provisions, including those for internal components, from manufacturer.

PART 2 - PRODUCTS

2.01 METAL CONDUITS, TUBING, AND FITTINGS

- A. **Listing and Labeling:** Metal conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. **GRC:** Comply with ANSI C80.1 and UL 6.
- C. **ARC:** Comply with ANSI C80.5 and UL 6A.
- D. **IMC:** Comply with ANSI C80.6 and UL 1242.
- E. **PVC-Coated Steel Conduit:** PVC-coated rigid steel conduit.
 - 1. Comply with NEMA RN 1.
 - 2. Coating Thickness: 0.040 inch (1 mm), minimum.
- F. **EMT:** Comply with ANSI C80.3 and UL 797.
- G. **FMC:** Comply with UL 1; zinc-coated steel.
- H. **LFMC:** Flexible steel conduit with PVC jacket and complying with UL 360.
- I. **Fittings for Metal Conduit:** Comply with NEMA FB 1 and UL 514B.
 - 1. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 886 and NFPA 70.
 - 2. Fittings for EMT:
 - a. Material: Steel.
 - b. Type: compression.
 - 3. Expansion Fittings: PVC or steel to match conduit type, complying with UL 651, rated for environmental conditions were installed, and including flexible external bonding jumper.
 - 4. Coating for Fittings for PVC-Coated Conduit: Minimum thickness of 0.040 inch (1 mm), with overlapping sleeves protecting threaded joints.
- J. **Joint Compound for IMC, GRC, or ARC:** Approved, as defined in NFPA 70, by authorities having jurisdiction for use in conduit assemblies, and compounded for use to lubricate and protect threaded conduit joints from corrosion and to enhance their conductivity.

2.02 NONMETALLIC CONDUITS, TUBING, AND FITTINGS

- A. **Listing and Labeling:** Nonmetallic conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. **ENT:** Comply with NEMA TC 13 and UL 1653.
- C. **RNC:** Type EPC-40-PVC, complying with NEMA TC 2 and UL 651 unless otherwise indicated.

- D. **LFNC:** Comply with UL 1660.
- E. **Continuous HDPE:** Comply with UL 651B.
- F. **Coilable HDPE:** Preassembled with conductors or cables and complying with ASTM D 3485.
- G. **Fittings for ENT and RNC:** Comply with NEMA TC 3; match to conduit or tubing type and material.
- H. **Fittings for LFNC:** Comply with UL 514B.
- I. Solvent cements and adhesive primers shall have a VOC content of 510 and 550 g/L or less, respectively, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- J. Solvent cements and adhesive primers shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

2.03 METAL WIREWAYS AND AUXILIARY GUTTERS

- A. **Description:** Sheet metal, complying with UL 870 and NEMA 250, Type 1 unless otherwise indicated, and sized according to NFPA 70.
 - 1. Metal wireways installed outdoors shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. **Fittings and Accessories:** Include covers, couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.

2.04 NONMETALLIC WIREWAYS AND AUXILIARY GUTTERS

- A. **Listing and Labeling:** Nonmetallic wireways and auxiliary gutters shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. **Description:** Fiberglass polyester, extruded and fabricated to required size and shape, without holes or knockouts. Cover shall be gasketed with oil-resistant gasket material and fastened with captive screws treated for corrosion resistance. Connections shall be flanged and have stainless-steel screws and oil-resistant gaskets.
- C. **Description:** PVC, extruded and fabricated to required size and shape, and having snap-on cover, mechanically coupled connections, and plastic fasteners.

- D. Fittings and Accessories: Couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings shall match and mate with wireways as required for complete system.
- E. Solvent cements and adhesive primers shall have a VOC content of 510 and 550 g/L or less, respectively, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- F. Solvent cements and adhesive primers shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

2.05 SURFACE RACEWAYS

- A. Listing and Labeling: Surface raceways and tele-power poles shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Surface Metal Raceways: Galvanized steel with snap-on covers complying with UL 5.

2.06 BOXES, ENCLOSURES, AND CABINETS

- A. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations.
- B. Sheet Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.
- C. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, aluminum, Type FD, with gasketed cover.
- D. Nonmetallic Outlet and Device Boxes: Comply with NEMA OS 2 and UL 514C.
- E. Metal Floor Boxes:
 - 1. Material: Cast metal.
 - 2. Type: Fully adjustable.
 - 3. Shape: Rectangular.
 - 4. Listing and Labeling: Metal floor boxes shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- F. Luminaire Outlet Boxes: Nonadjustable, designed for attachment of luminaire weighing 50 lb (23 kg). Outlet boxes designed for attachment of luminaires weighing more than 50 lb (23 kg) shall be listed and marked for the maximum allowable weight.
- G. Paddle Fan Outlet Boxes: Nonadjustable, designed for attachment of paddle fan weighing 70 lb (32 kg).

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1. Listing and labeling: Paddle fan outlet boxes shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- H.** Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.
- I.** Cast-Metal Access, Pull, and Junction Boxes: Comply with NEMA FB 1 and UL 1773, cast aluminum with gasketed cover.
- J.** Box extensions used to accommodate new building finishes shall be of same material as recessed box.
- K.** Device Box Dimensions: 4 inches square by 2-1/8 inches deep (100 mm square by 60 mm deep).
- L.** Gangable boxes are allowed.
- M.** Hinged-Cover Enclosures: Comply with UL 50 and NEMA 250, Type 3R with continuous-hinge cover with flush latch unless otherwise indicated.
1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.
 2. Nonmetallic Enclosures: Fiberglass.
 3. Interior Panels: Steel; all sides finished with manufacturer's standard enamel.
- N.** Cabinets:
1. NEMA 250, Type 1 galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel.
 2. Hinged door in front cover with flush latch and concealed hinge.
 3. Key latch to match panelboards.
 4. Metal barriers to separate wiring of different systems and voltage.
 5. Accessory feet where required for freestanding equipment.
 6. Nonmetallic cabinets shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.07 HANDHOLES AND BOXES FOR EXTERIOR UNDERGROUND WIRING

- A.** General Requirements for Handholes and Boxes:
1. Boxes and handholes for use in underground systems shall be designed and identified as defined in NFPA 70, for intended location and application.
 2. Boxes installed in wet areas shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B.** Polymer-Concrete Handholes and Boxes with Polymer-Concrete Cover: Molded of sand and aggregate, bound together with polymer resin, and reinforced with steel, fiberglass, or a combination of the two.

1. Standard: Comply with SCTE 77.
 2. Configuration: Designed for flush burial with open bottom unless otherwise indicated.
 3. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure and handhole location.
 4. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
 5. Cover Legend: Molded lettering, "ELECTRIC."
 6. Conduit Entrance Provisions: Conduit-terminating fittings shall mate with entering ducts for secure, fixed installation in enclosure wall.
- C. Fiberglass Handholes and Boxes: Molded of fiberglass-reinforced polyester resin, with frame and covers of reinforced concrete.
1. Standard: Comply with SCTE 77.
 2. Configuration: Designed for flush burial with open bottom unless otherwise indicated.
 3. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure and handhole location.
 4. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
 5. Cover Legend: Molded lettering, "ELECTRIC."
 6. Conduit Entrance Provisions: Conduit-terminating fittings shall mate with entering ducts for secure, fixed installation in enclosure wall.

PART 3 - EXECUTION

3.01 RACEWAY APPLICATION

- A. **Outdoors:** Apply raceway products as specified below unless otherwise indicated:
1. Exposed Conduit: RNC, Type EPC-40-PVC.
 2. Concealed Conduit, Aboveground: EMT.
 3. Underground Conduit: RNC, Type EPC-40-PVC.
 4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
 5. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.
- B. **Indoors:** Apply raceway products as specified below unless otherwise indicated.
1. Exposed, Not Subject to Physical Damage: EMT.
 2. Exposed, Not Subject to Severe Physical Damage: EMT.
 3. Exposed and Subject to Severe Physical Damage: GRC. Raceway locations include the following:

- a. Loading dock.
 - b. Corridors used for traffic of mechanized carts, forklifts, and pallet-handling units.
 - c. Mechanical rooms.
 - d. Gymnasiums.
4. Concealed in Ceilings and Interior Walls and Partitions: EMT.
 5. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
 6. Damp or Wet Locations: GRC.
 7. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4 stainless steel in institutional and commercial kitchens and damp or wet locations.
- C. Minimum Raceway Size:** 1/2-inch (16-mm) trade size.
- D. Raceway Fittings:** Compatible with raceways and suitable for use and location.
1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings unless otherwise indicated. Comply with NEMA FB 2.10.
 2. PVC Externally Coated, Rigid Steel Conduits: Use only fittings listed for use with this type of conduit. Patch and seal all joints, nicks, and scrapes in PVC coating after installing conduits and fittings. Use sealant recommended by fitting manufacturer and apply in thickness and number of coats recommended by manufacturer.
 3. EMT: Use compression, steel fittings. Comply with NEMA FB 2.10.
 4. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.
- E.** Do not install aluminum conduits, boxes, or fittings in contact with concrete or earth.
- F.** Install surface raceways only where indicated on Drawings.
- G.** Do not install nonmetallic conduit where ambient temperature exceeds 120 deg F (49 deg C).

3.02 INSTALLATION

- A.** Comply with NECA 1 and NECA 101 for installation requirements except where requirements on Drawings or in this article are stricter. Comply with NECA 102 for aluminum conduits. Comply with NFPA 70 limitations for types of raceways allowed in specific occupancies and number of floors.
- B.** Keep raceways at least 6 inches (150 mm) away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.

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- C.** Comply with requirements in Section 26 05 29 "Hangers and Supports for Electrical Systems" for hangers and supports.
- D.** Arrange stub-ups so curved portions of bends are not visible above finished slab.
- E.** Install no more than the equivalent of three 90-degree bends in any conduit run except for control wiring conduits, for which fewer bends are allowed. Support within 12 inches (300 mm) of changes in direction.
- F.** Conceal conduit and EMT within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.
- G.** Support conduit within 12 inches (300 mm) of enclosures to which attached.
- H.** Raceways Embedded in Slabs:
 - 1. Run conduit larger than 1-inch (27-mm) trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support. Secure raceways to reinforcement at maximum 10-foot (3-m) intervals.
 - 2. Arrange raceways to cross building expansion joints at right angles with expansion fittings.
 - 3. Arrange raceways to keep a minimum of 3 inch (75 mm) of concrete cover in all directions.
 - 4. Do not embed threadless fittings in concrete unless specifically approved by Architect for each specific location.
 - 5. Change from ENT to RNC, Type EPC-40-PVC before rising above floor.
- I.** Stub-ups to Above Recessed Ceilings:
 - 1. Use EMT, IMC, or RMC for raceways.
 - 2. Use a conduit bushing or insulated fitting to terminate stub-ups not terminated in hubs or in an enclosure.
- J.** Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.
- K.** Coat field-cut threads on PVC-coated raceway with a corrosion-preventing conductive compound prior to assembly.
- L.** Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors including conductors smaller than No. 4 AWG.
- M.** Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to 1-1/4-inch (35-mm) trade size and insulated throat metal bushings on 1-1/2-inch (41-mm) trade size and larger conduits terminated with locknuts. Install insulated throat metal grounding bushings on service conduits.

- N.** Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb (90-kg) tensile strength. Leave at least 12 inches (300 mm) of slack at each end of pull wire. Cap underground raceways designated as spare above grade alongside raceways in use.
- O.** Surface Raceways:
1. Install surface raceway with a minimum 2-inch (50-mm) radius control at bend points.
 2. Secure surface raceway with screws or other anchor-type devices at intervals not exceeding 48 inches (1200 mm) and with no less than two supports per straight raceway section. Support surface raceway according to manufacturer's written instructions. Tape and glue are not acceptable support methods.
- P.** Install raceway sealing fittings at accessible locations according to NFPA 70 and fill them with listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces.
- Q.** Install devices to seal raceway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal the interior of all raceways at the following points:
1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
 2. Where an underground service raceway enters a building or structure.
 3. Where otherwise required by NFPA 70.
- R.** Expansion-Joint Fittings:
1. Install in each run of aboveground RNC that is located where environmental temperature change may exceed 30 deg F (17 deg C) and that has straight-run length that exceeds 25 feet (7.6 m).
 2. Install type and quantity of fittings that accommodate temperature change listed for each of the following locations:
 - a. Outdoor Locations Not Exposed to Direct Sunlight: 125 deg F (70 deg C) temperature change.
 - b. Outdoor Locations Exposed to Direct Sunlight: 155 deg F (86 deg C) temperature change.
 - c. Indoor Spaces Connected with Outdoors without Physical Separation: 125 deg F (70 deg C) temperature change.
 - d. Attics: 135 deg F (75 deg C) temperature change.
 3. Install fitting(s) that provide expansion and contraction for at least 0.00041 inch per foot of length of straight run per degree F (0.06 mm per meter of length of straight run per degree C) of temperature change for PVC conduits.
 4. Install expansion fittings at all locations where conduits cross building or structure expansion joints.
 5. Install each expansion-joint fitting with position, mounting, and piston setting selected according to manufacturer's written instructions for

conditions at specific location at time of installation. Install conduit supports to allow for expansion movement.

- S. Flexible Conduit Connections: Comply with NEMA RV 3. Use a maximum of 72 inches (1830 mm) of flexible conduit for recessed and semi recessed luminaires, equipment subject to vibration, noise transmission, or movement; and for transformers and motors.
 - 1. Use LFMC in damp or wet locations subject to severe physical damage.
 - 2. Use LFMC or LFNC in damp or wet locations not subject to severe physical damage.
- T. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to top of box unless otherwise indicated.
- U. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block and install box flush with surface of wall. Prepare block surfaces to provide a flat surface for a raintight connection between the box and cover plate or the supported equipment and box.
- V. Horizontally separate boxes mounted on opposite sides of walls, so they are not in the same vertical channel.
- W. Locate boxes so that cover or plate will not span different building finishes.
- X. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for the purpose.
- Y. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.
- Z. Set metal floor boxes level and flush with finished floor surface.
- AA. Set nonmetallic floor boxes level. Trim after installation to fit flush with finished floor surface.

3.03 INSTALLATION OF UNDERGROUND CONDUIT

- A. Direct-Buried Conduit:
 - 1. Excavate trench bottom to provide firm and uniform support for conduit. Prepare trench bottom as specified in Section 31 20 00 "Earth Moving" for pipe less than 6 inches (150 mm) in nominal diameter.
 - 2. Install backfill as specified in Section 31 20 00 "Earth Moving."
 - 3. After installing conduit, backfill and compact. Start at tie-in point, and work toward end of conduit run, leaving conduit at end of run free to move with expansion and contraction as temperature changes during this process. Firmly hand tamp backfill around conduit to provide maximum supporting strength. After placing controlled backfill to within 12 inches (300 mm) of finished grade, make final conduit connection at end of run and complete

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backfilling with normal compaction as specified in Section 31 20 00 "Earth Moving."

4. Install manufactured duct elbows for stub-up at poles and equipment and at building entrances through floor unless otherwise indicated. Encase elbows for stub-up ducts throughout length of elbow.
5. Install manufactured rigid steel conduit elbows for stub-ups at poles and equipment and at building entrances through floor.
 - a. Couple steel conduits to ducts with adapters designed for this purpose and encase coupling with 3 inches (75 mm) of concrete for a minimum of 12 inches (300 mm) on each side of the coupling.
 - b. For stub-ups at equipment mounted on outdoor concrete bases and where conduits penetrate building foundations, extend steel conduit horizontally a minimum of 60 inches (1500 mm) from edge of foundation or equipment base. Install insulated grounding bushings on terminations at equipment.
6. **Underground Warning Tape:** Comply with requirements in Section 26 05 53 "Identification for Electrical Systems."

3.04 INSTALLATION OF UNDERGROUND HANDHOLES AND BOXES

- A.** Install handholes and boxes level and plumb and with orientation and depth coordinated with connecting conduits to minimize bends and deflections required for proper entrances.
- B.** Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1/2-inch (12.5-mm) sieve to No. 4 (4.75-mm) sieve and compacted to same density as adjacent undisturbed earth.
- C.** **Elevation:** In paved areas, set so cover surface will be flush with finished grade. Set covers of other enclosures 1 inch (25 mm) above finished grade.
- D.** Field-cut openings for conduits according to enclosure manufacturer's written instructions. Cut wall of enclosure with a tool designed for material to be cut. Size holes for terminating fittings to be used, and seal around penetrations after fittings are installed.

3.05 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS

- A.** Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies. Comply with requirements in Section 26 05 44 "Sleeves and Sleeve Seals for Electrical Raceways and Cabling."

3.06 FIRESTOPPING

- A. Install firestopping at penetrations of fire-rated floor and wall assemblies. Comply with requirements in Section 07 84 13 "Penetration Firestopping."

3.07 PROTECTION

- A. Protect coatings, finishes, and cabinets from damage and deterioration.
 - 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
 - 2. Repair damage to PVC coatings or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION 26 05 33

SECTION 26 05 43

UNDERGROUND DUCTS AND RACEWAYS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. **Section Includes:**

1. Direct-buried conduit, ducts, and duct accessories.
2. Concrete-encased conduit, ducts, and duct accessories.
3. Handholes and boxes.

1.3 DEFINITIONS

- A. **Trafficways:** Locations where vehicular or pedestrian traffic is a normal course of events.

1.4 ACTION SUBMITTALS

A. **Product Data:** For each type of product.

1. Include duct-bank materials, including separators and miscellaneous components.
2. Include ducts and conduits and their accessories, including elbows, end bells, bends, fittings, and solvent cement.
3. Include accessories for manholes, handholes, boxes, and other utility structures.
4. Include warning tape.
5. Include warning planks.

B. **Shop Drawings:**

1. Precast or Factory-Fabricated Underground Utility Structures:

- a. Include plans, elevations, sections, details, attachments to other work, and accessories.
- b. Include duct entry provisions, including locations and duct sizes.
- c. Include reinforcement details.
- d. Include frame and cover design and manhole frame support rings.
- e. Include details.
- f. Include grounding details.
- g. Include dimensioned locations of cable rack inserts, pulling-in and lifting irons, and sumps.
- h. Include joint details.

2. Factory-Fabricated Handholes and Boxes Other Than Precast Concrete:

- a. Include dimensioned plans, sections, and elevations, and fabrication and installation details.
- b. Include duct entry provisions, including locations and duct sizes.
- c. Include cover design.
- d. Include grounding details.
- e. Include dimensioned locations of cable rack inserts, and pulling-in and lifting irons.

1.5 INFORMATIONAL SUBMITTALS

- A. Duct-Bank Coordination Drawings:** Show duct profiles and coordination with other utilities and underground structures.
 1. Include plans and sections, drawn to scale, and show bends and locations of expansion fittings.
 2. Drawings shall be signed and sealed by a qualified professional engineer.
- B. Product Certificates:** For concrete and steel used in precast concrete pull boxes and handholes, as required by ASTM C 858.
- C. Qualification Data:** For professional engineer and testing agency responsible for testing nonconcrete handholes and boxes.
- D.** Source quality-control reports.
- E.** Field quality-control reports.

1.6 MAINTENANCE MATERIALS SUBMITTALS

- A.** Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1.7 QUALITY ASSURANCE

- A. **Testing Agency Qualifications:** Qualified according to ASTM E 329 for testing indicated.

1.8 FIELD CONDITIONS

- A. **Ground Water:** Assume ground-water level is at grade level unless a lower water table is noted on Drawings.
- B. **Ground Water:** Assume ground-water level is 36 inches below ground surface unless a higher water table is noted on Drawings.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR DUCTS AND RACEWAYS

- A. Comply with ANSI C2.

2.2 CONDUIT

- A. **RNC:** NEMA TC 2, Type EPC-40-PVC and Type EPC-80-PVC, UL 651, with matching fittings by same manufacturer as the conduit, complying with NEMA TC 3 and UL 514B.

2.3 NONMETALLIC DUCTS AND DUCT ACCESSORIES

- A. Underground Plastic Utilities Duct: NEMA TC 2, UL 651, ASTM F 512, Type EPC-80 and Type EPC-40, with matching fittings complying with NEMA TC 3 by same manufacturer as the duct.
- B. Duct Accessories:
1. Duct Separators: Factory-fabricated rigid PVC interlocking spacers, sized for type and size of ducts with which used, and selected to provide minimum duct spacing indicated while supporting ducts during concreting or backfilling.
 2. Warning Tape: Underground-line warning tape specified in Section 26 05 53 "Identification for Electrical Systems."
 3. Concrete Warning Planks: Nominal 12 by 24 by 3 inches in size, manufactured from 6000-psi concrete.
 - a. Color: Red dye added to concrete during batching.
 - b. Mark each plank with "ELECTRIC" in 2-inch-high, 3/8-inch-deep letters.

2.4 PRECAST CONCRETE HANDHOLES AND BOXES

- A. <Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Christy Concrete Products.
 2. Utility Concrete Products, LLC.
 3. Utility Vault Co.
- B. Comply with ASTM C 858 for design and manufacturing processes.
- C. **Description:** Factory-fabricated, reinforced-concrete, monolithically poured walls and bottom unless open-bottom enclosures are indicated. Frame and cover shall form top of enclosure and shall have load rating consistent with that of handhole or box.
1. Frame and Cover: Weatherproof cast-iron frame, with cast-iron cover with recessed cover hook eyes and tamper-resistant, captive, cover-securing bolts.
 2. Frame and Cover: Weatherproof steel frame, with steel cover with recessed cover hook eyes and tamper-resistant, captive, cover-securing bolts.
 3. Frame and Cover: Weatherproof steel frame, with hinged steel access door assembly with tamper-resistant, captive, cover-securing bolts.
 - a. Cover Hinges: Concealed, with hold-open ratchet assembly.
 - b. Cover Handle: Recessed.
 4. Frame and Cover: Weatherproof aluminum frame with hinged aluminum access door assembly with tamper-resistant, captive, cover-securing bolts.
 - a. Cover Hinges: Concealed, with hold-open ratchet assembly.
 - b. Cover Handle: Recessed.
 5. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
 6. Cover Legend: Molded lettering, "ELECTRIC."
 7. Configuration: Units shall be designed for flush burial and have integral closed bottom unless otherwise indicated.
 8. Extensions and Slabs: Designed to mate with bottom of enclosure. Same material as enclosure.
 - a. Extension shall provide increased depth of 12 inches.
 - b. Slab: Same dimensions as bottom of enclosure, and arranged to provide closure.

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9. Joint Sealant: Asphaltic-butyl material with adhesion, cohesion, flexibility, and durability properties necessary to withstand maximum hydrostatic pressures at the installation location with the ground-water level at grade.
10. Windows: Precast openings in walls, arranged to match dimensions and elevations of approaching ducts and duct banks, plus an additional 12 inches vertically and horizontally to accommodate alignment variations.
 - a. Windows shall be located no less than 6 inches from interior surfaces of walls, floors, or frames and covers of handholes, but close enough to corners to facilitate racking of cables on walls.
 - b. Window opening shall have cast-in-place, welded-wire fabric reinforcement for field cutting and bending to tie in to concrete envelopes of duct banks.
 - c. Window openings shall be framed with at least two additional No. 3 steel reinforcing bars in concrete around each opening.
11. Duct Entrances in Handhole Walls: Cast end-bell or duct-terminating fitting in wall for each entering duct.
 - a. Type and size shall match fittings to duct or conduit to be terminated.
 - b. Fittings shall align with elevations of approaching ducts and be located near interior corners of handholes to facilitate racking of cable.
12. Handholes 12 inches wide by 24 inches long and larger shall have inserts for cable racks and pulling-in irons installed before concrete is poured.

2.5 HANDHOLES AND BOXES OTHER THAN PRECAST CONCRETE

- A. General Requirements for Handholes and Boxes: Comply with SCTE 77. Comply with tier requirements in "Underground Enclosure Application" Article.
 1. Color: Gray.
 2. Configuration: Units shall be designed for flush burial and have open bottom unless otherwise indicated.
 3. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure.
 4. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
 5. Cover Legend: Molded lettering, "ELECTRIC."
 6. Direct-Buried Wiring Entrance Provisions: Knockouts equipped with insulated bushings or end-bell fittings, selected to suit box material, sized

for wiring indicated, and arranged for secure, fixed installation in enclosure wall.

7. Duct Entrance Provisions: Duct-terminating fittings shall mate with entering ducts for secure, fixed installation in enclosure wall.
8. Handholes 12 inches wide by 24 inches long and larger shall have factory-installed inserts for cable racks and pulling-in irons.

2.6 SOURCE QUALITY CONTROL

- A. Test and inspect precast concrete utility structures according to ASTM C 1037.
- B. Nonconcrete Handhole and Pull-Box Prototype Test: Test prototypes of manholes and boxes for compliance with SCTE 77. Strength tests shall be for specified tier ratings of products supplied.
 1. Tests of materials shall be performed by an independent testing agency.
 2. Strength tests of complete boxes and covers shall be by either an independent testing agency or manufacturer. A qualified registered professional engineer shall certify tests by manufacturer.
 3. Testing machine pressure gages shall have current calibration certification, complying with ISO 9000 and ISO 10012, and traceable to NIST standards.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Coordinate layout and installation of ducts, manholes, handholes, and boxes with final arrangement of other utilities, site grading, and surface features as determined in the field. Notify Architect if there is a conflict between areas of excavation and existing structures or archaeological sites to remain.
- B. Coordinate elevations of ducts and duct-bank entrances into manholes, handholes, and boxes with final locations and profiles of ducts and duct banks, as determined by coordination with other utilities, underground obstructions, and surface features. Revise locations and elevations as required to suit field conditions and to ensure that duct runs drain to manholes and handholes, and as approved by Architect.
- C. Clear and grub vegetation to be removed, and protect vegetation to remain according to Section 31 10 00 "Site Clearing." Remove and stockpile topsoil for reapplication according to Section 31 10 00 "Site Clearing."

3.2 UNDERGROUND DUCT APPLICATION

- A.** Ducts for Electrical Cables More than 600 V: RNC, NEMA Type EPC-80 or Type EPC-40-PVC, in concrete-encased duct bank unless otherwise indicated.
- B.** Ducts for Electrical Feeders 600 V and Less: RNC, NEMA Type EPC-40-PVC, in direct-buried duct bank unless otherwise indicated.
- C.** Underground Ducts Crossing Paved Paths Walks and Driveways Roadways: RNC, NEMA Type EPC-40-PVC, in direct buried duct-bank installed in accordance with local utility agency requirements. .

3.3 UNDERGROUND ENCLOSURE APPLICATION

- A.** Handholes and Boxes for 600 V and Less:
 - 1. Units in Roadways and Other Deliberate Traffic Paths: Precast concrete. AASHTO HB 17, structural load rating.
 - 2. Units in Driveway, Parking Lot, and Off-Roadway Locations, Subject to Occasional, Nondeliberate Loading by Heavy Vehicles: Precast concrete, AASHTO HB 17, H-20 structural load rating.
 - 3. Units in Sidewalk and Similar Applications with a Safety Factor for Nondeliberate Loading by Vehicles: Precast concrete, AASHTO HB 17, H-10 structural load rating.
 - 4. Units Subject to Light-Duty Pedestrian Traffic Only: High-density plastic, structurally tested according to SCTE 77 with 3000-lbf vertical loading.
 - 5. Cover design load shall not exceed the design load of the handhole or box.
 - 6. Units Not Located in Deliberate Traffic Paths by Heavy or Medium Vehicles: H-10 load rating according to AASHTO HB 17.

3.4 EARTHWORK

- A.** Excavation and Backfill: Comply with Section 31 20 00 "Earth Moving," but do not use heavy-duty, hydraulic-operated, compaction equipment.
- B.** Restore surface features at areas disturbed by excavation, and re-establish original grades unless otherwise indicated. Replace removed sod immediately after backfilling is completed.
- C.** Restore areas disturbed by trenching, storing of dirt, cable laying, and other work. Restore vegetation and include necessary topsoiling, fertilizing, liming, seeding, sodding, sprigging, and mulching. Comply with Section 32 92 00 "Turf and Grasses" and Section 32 93 00 "Plants."
- D.** Cut and patch existing pavement in the path of underground ducts and utility structures according to the "Cutting and Patching" Article in Section 01 73 00 "Execution."

3.5 DUCT INSTALLATION

- A.** Install ducts according to NEMA TCB 2.
- B.** Slope: Pitch ducts a minimum slope of 1:300 down toward manholes and handholes and away from buildings and equipment. Slope ducts from a high point in runs between two manholes, to drain in both directions.
- C.** Curves and Bends: Use 5-degree angle couplings for small changes in direction. Use manufactured long sweep bends with a minimum radius of 48 inches, both horizontally and vertically, at other locations unless otherwise indicated.
- D.** Joints: Use solvent-cemented joints in ducts and fittings and make watertight according to manufacturer's written instructions. Stagger couplings so those of adjacent ducts do not lie in same plane.
- E.** Installation Adjacent to High-Temperature Steam Lines: Where duct banks are installed parallel to underground steam lines, perform calculations showing the duct bank will not be subject to environmental temperatures above 40 deg C. Where environmental temperatures are calculated to rise above 40 deg C, and anywhere the duct bank crosses above an underground steam line, install insulation blankets listed for direct burial to isolate the duct bank from the steam line.
- F.** Duct Entrances to Manholes and Concrete and Polymer Concrete Handholes: Use end bells, spaced approximately 10 inches o.c. for 5-inch ducts, and vary proportionately for other duct sizes.
 - 1. Begin change from regular spacing to end-bell spacing 10 feet from the end bell without reducing duct line slope and without forming a trap in the line.
 - 2. Direct-Buried Duct Banks: Install an expansion and deflection fitting in each conduit in the area of disturbed earth adjacent to manhole or handhole. Install an expansion fitting near the center of all straight line direct-buried duct banks with calculated expansion of more than 3/4 inch.
 - 3. Grout end bells into structure walls from both sides to provide watertight entrances.
- G.** Building Wall Penetrations: Make a transition from underground duct to rigid steel conduit at least 10 feet outside the building wall, without reducing duct line slope away from the building, and without forming a trap in the line. Use fittings manufactured for duct-to-conduit transition. Install conduit penetrations of building walls as specified in Section 26 05 44 "Sleeves and Sleeve Seals for Electrical Raceways and Cabling."
- H.** Sealing: Provide temporary closure at terminations of ducts that have cables pulled. Seal spare ducts at terminations. Use sealing compound and plugs to withstand at least 15-psig hydrostatic pressure.

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- I. Pulling Cord: Install 100-lbf-test nylon cord in empty ducts.
- J. Concrete-Encased Ducts: Support ducts on duct separators.
 - 1. Excavate trench bottom to provide firm and uniform support for duct bank. Prepare trench bottoms as specified in Section 31 20 00 "Earth Moving" for pipes less than 6 inches in nominal diameter.
 - 2. Width: Excavate trench 12 inches wider than duct bank on each side.
 - 3. Width: Excavate trench 3 inches wider than duct bank on each side.
 - 4. Depth: Install top of duct bank at least 24 inches below finished grade in areas not subject to deliberate traffic, and at least 30 inches below finished grade in deliberate traffic paths for vehicles unless otherwise indicated.
 - 5. Support ducts on duct separators coordinated with duct size, duct spacing, and outdoor temperature.
 - 6. Separator Installation: Space separators close enough to prevent sagging and deforming of ducts, with not less than four spacers per 20 feet of duct. Secure separators to earth and to ducts to prevent floating during concreting. Stagger separators approximately 6 inches between tiers. Tie entire assembly together using fabric straps; do not use tie wires or reinforcing steel that may form conductive or magnetic loops around ducts or duct groups.
 - 7. Minimum Space between Ducts: 3 inches between ducts and exterior envelope wall, 2 inches between ducts for like services, and 4 inches between power and signal ducts.
 - 8. Elbows: Use manufactured duct elbows for stub-ups at poles and equipment, at building entrances through floor, and at changes of direction in duct run unless otherwise indicated. Extend concrete encasement throughout length of elbow.
 - 9. Elbows: Use manufactured rigid steel conduit elbows for stub-ups at poles and equipment, at building entrances through floor, and at changes of direction in duct run.
 - a. Couple steel conduits to ducts with adapters designed for this purpose, and encase coupling with 3 inches of concrete.
 - b. Stub-Ups to Equipment: For equipment mounted on outdoor concrete bases, extend steel conduit horizontally a minimum of 60 inches from edge of base. Install insulated grounding bushings on terminations at equipment.
 - 10. Reinforcement: Reinforce concrete-encased duct banks where they cross disturbed earth and where indicated. Arrange reinforcing rods and ties without forming conductive or magnetic loops around ducts or duct groups.

UNDERGROUND DUCTS AND RACEWAYS FOR ELECTRICAL
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11. Forms: Use walls of trench to form side walls of duct bank where soil is self-supporting and concrete envelope can be poured without soil inclusions; otherwise, use forms.
12. Concrete Cover: Install a minimum of 3 inches of concrete cover at top and bottom, and a minimum of 2 inches on each side of duct bank.
13. Concreting Sequence: Pour each run of envelope between manholes or other terminations in one continuous operation.
 - a. Start at one end and finish at the other, allowing for expansion and contraction of ducts as their temperature changes during and after the pour. Use expansion fittings installed according to manufacturer's written recommendations, or use other specific measures to prevent expansion-contraction damage.
 - b. If more than one pour is necessary, terminate each pour in a vertical plane and install 3/4-inch reinforcing-rod dowels extending a minimum of 18 inches into concrete on both sides of joint near corners of envelope.
14. Pouring Concrete: Comply with requirements in "Concrete Placement" Article in Section 03 30 00 "Cast-in-Place Concrete." Place concrete carefully during pours to prevent voids under and between conduits and at exterior surface of envelope. Do not allow a heavy mass of concrete to fall directly onto ducts. Allow concrete to flow to center of bank and rise up in middle, uniformly filling all open spaces. Do not use power-driven agitating equipment unless specifically designed for duct-bank application.

K. Direct-Buried Duct Banks:

1. Excavate trench bottom to provide firm and uniform support for duct bank. Comply with requirements in Section 31 20 00 "Earth Moving" for preparation of trench bottoms for pipes less than 6 inches in nominal diameter.
2. Support ducts on duct separators coordinated with duct size, duct spacing, and outdoor temperature.
3. Space separators close enough to prevent sagging and deforming of ducts, with not less than four spacers per 20 feet of duct. Secure separators to earth and to ducts to prevent displacement during backfill and yet permit linear duct movement due to expansion and contraction as temperature changes. Stagger spacers approximately 6 inches between tiers.
4. Depth: Install top of duct bank at least 36 inches below finished grade unless otherwise indicated.
5. Set elevation of bottom of duct bank below frost line.
6. Install ducts with a minimum of 3 inches between ducts for like services and 6 inches between power and signal ducts.

UNDERGROUND DUCTS AND RACEWAYS FOR ELECTRICAL
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7. Elbows: Install manufactured duct elbows for stub-ups at poles and equipment, at building entrances through floor, and at changes of direction in duct run unless otherwise indicated. Encase elbows for stub-up ducts throughout length of elbow.
8. Install manufactured rigid steel conduit elbows for stub-ups at poles and equipment, at building entrances through floor, and at changes of direction in duct run.
 - a. Couple steel conduits to ducts with adapters designed for this purpose, and encase coupling with 3 inches of concrete.
 - b. For equipment mounted on outdoor concrete bases, extend steel conduit horizontally a minimum of 60 inches from edge of equipment pad or foundation. Install insulated grounding bushings on terminations at equipment.
9. After installing first tier of ducts, backfill and compact. Start at tie-in point and work toward end of duct run, leaving ducts at end of run free to move with expansion and contraction as temperature changes during this process. Repeat procedure after placing each tier. After placing last tier, hand place backfill to 4 inches over ducts and hand tamp. Firmly tamp backfill around ducts to provide maximum supporting strength. Use hand tamper only. After placing controlled backfill over final tier, make final duct connections at end of run and complete backfilling with normal compaction. Comply with requirements in Section 31 20 00 "Earth Moving" for installation of backfill materials.
 - a. Place minimum 3 inches of sand as a bed for duct bank. Place sand to a minimum of 6 inches above top level of duct bank.
 - b. Place minimum 6 inches of engineered fill above concrete encasement of duct bank.
- L. Warning Planks: Bury warning planks approximately 12 inches above direct-buried ducts and duct banks, placing them 24 inches o.c. Align planks along the width and along the centerline of duct bank. Provide an additional plank for each 12-inch increment of duct-bank width over a nominal 18 inches. Space additional planks 12 inches apart, horizontally.
- M. Warning Tape: Bury warning tape approximately 12 inches above all concrete-encased ducts and duct banks. Align tape parallel to and within 3 inches of centerline of duct bank. Provide an additional warning tape for each 12-inch increment of duct-bank width over a nominal 18 inches. Space additional tapes 12 inches apart, horizontally.

3.6 INSTALLATION OF CONCRETE MANHOLES, HANDHOLES, AND BOXES

A. Cast-in-Place Manhole Installation:

1. Finish interior surfaces with a smooth-troweled finish.
2. Windows for Future Duct Connections: Form and pour concrete knockout panels 1-1/2 to 2 inches thick, arranged as indicated.
3. Comply with requirements in Section 03 30 00 "Cast-in-Place Concrete" for cast-in-place concrete, formwork, and reinforcement.

B. Precast Concrete Handhole and Manhole Installation:

1. Comply with ASTM C 891 unless otherwise indicated.
2. Install units level and plumb and with orientation and depth coordinated with connecting ducts, to minimize bends and deflections required for proper entrances.
3. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1-inch sieve to No. 4 sieve and compacted to same density as adjacent undisturbed earth.

C. Elevations:

1. Handhole Covers: In paved areas and trafficways, set surface flush with finished grade. Set covers of other handholes 1 inch above finished grade.
2. Where indicated, cast handhole cover frame integrally with handhole structure.

D. Drainage: Install drains in bottom of manholes where indicated. Coordinate with drainage provisions indicated.

3.7 INSTALLATION OF HANDHOLES AND BOXES OTHER THAN PRECAST CONCRETE

- A.** Install handholes and boxes level and plumb and with orientation and depth coordinated with connecting ducts, to minimize bends and deflections required for proper entrances. Use box extension if required to match depths of ducts, and seal joint between box and extension as recommended by manufacturer.
- B.** Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1/2-inch sieve to No. 4 sieve and compacted to same density as adjacent undisturbed earth.
- C.** Elevation: In paved areas and trafficways, set cover flush with finished grade. Set covers of other handholes 1 inch above finished grade.
- D.** For enclosures installed in asphalt paving and concrete and subject to occasional, nondeliberate, heavy-vehicle loading, form and pour a concrete ring encircling, and in contact with, enclosure and with top surface screeded to top of box cover frame. Bottom of ring shall rest on compacted earth.

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1. Concrete: 3000 psi, 28-day strength, complying with Section 03 30 00 "Cast-in-Place Concrete," with a troweled finish.
2. Dimensions: 10 inches wide by 12 inches deep.

3.8 GROUNDING

- A. Ground underground ducts and utility structures according to Section 26 05 26 "Grounding and Bonding for Electrical Systems."

3.9 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections and prepare test reports:
 1. Demonstrate capability and compliance with requirements on completion of installation of underground ducts and utility structures.
 2. Pull solid aluminum or wood test mandrel through duct to prove joint integrity and adequate bend radii, and test for out-of-round duct. Provide a minimum 6-inch-long mandrel equal to 80 percent fill of duct. If obstructions are indicated, remove obstructions and retest.
- B. Correct deficiencies and retest as specified above to demonstrate compliance.

3.10 CLEANING

- A. Pull leather-washer-type duct cleaner, with graduated washer sizes, through full length of ducts. Follow with rubber duct swab for final cleaning and to assist in spreading lubricant throughout ducts.
- B. Clean internal surfaces of manholes, including sump. Remove foreign material.

END OF SECTION 26 05 43

SECTION 26 05 44

SLEEVES AND SLEEVE SEALS FOR ELECTRICAL RACEWAYS AND CABLING

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Sleeves for raceway and cable penetration of non-fire-rated construction walls and floors.
2. Sleeve-seal systems.
3. Sleeve-seal fittings.
4. Grout.
5. Silicone sealants.

B. Related Requirements:

1. Section 07 84 13 "Penetration Firestopping" for penetration firestopping installed in fire-resistance-rated walls, horizontal assemblies, and smoke barriers, with and without penetrating items.

1.02 ACTION SUBMITTALS

- ###### A. Product Data:
- For each type of product.

PART 2 - PRODUCTS

2.01 SLEEVES

A. Wall Sleeves:

1. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, zinc coated, plain ends.
2. Cast-Iron Pipe Sleeves: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop unless otherwise indicated.

- ###### B. Sleeves for Conduits Penetrating Non-Fire-Rated Gypsum Board Assemblies:
- Galvanized-steel sheet; 0.0239-inch (0.6-mm) minimum thickness; round tube closed with welded longitudinal joint, with tabs for screw-fastening the sleeve to the board.

C. Sleeves for Rectangular Openings:

1. Material: Galvanized sheet steel.

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2. Minimum Metal Thickness:
 - a. For sleeve cross-section rectangle perimeter less than 50 inches (1270 mm) and with no side larger than 16 inches (400 mm), thickness shall be 0.052 inch (1.3 mm).
 - b. For sleeve cross-section rectangle perimeter 50 inches (1270 mm) or more and one or more sides larger than 16 inches (400 mm), thickness shall be 0.138 inch (3.5 mm).

2.02 SLEEVE-SEAL SYSTEMS

- A. Description:** Modular sealing device, designed for field assembly, to fill annular space between sleeve and raceway or cable.
1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 2. Basis-of-Design Product: Subject to compliance with requirements, provide product by one of the following:
 - a. Advance Products & Systems, Inc.
 - b. CALPICO, Inc.
 - c. Metraflex Company (The).
 - d. Pipeline Seal and Insulator, Inc.
 - e. Proco Products, Inc.
 3. Sealing Elements: EPDM rubber interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size of pipe.
 4. Pressure Plates: Carbon steel.
 5. Connecting Bolts and Nuts: Carbon steel, with corrosion-resistant coating of length required to secure pressure plates to sealing elements.

2.03 SLEEVE-SEAL FITTINGS

- A. Description:** Manufactured plastic, sleeve-type, waterstop assembly made for embedding in concrete slab or wall. Unit shall have plastic or rubber waterstop collar with center opening to match piping OD.
1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 2. Basis-of-Design Product: Subject to compliance with requirements, provide product by one of the following:
 - a. Presealed Systems.

2.04 GROUT

- A. Description:** Nonshrink; recommended for interior and exterior sealing openings in non-fire-rated walls or floors.

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- B. Standard:** ASTM C 1107/C 1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.
- C. Design Mix:** 5000-psi (34.5-MPa), 28-day compressive strength.
- D. Packaging:** Premixed and factory packaged.

2.05 SILICONE SEALANTS

- A. Silicone Sealants:** Single-component, silicone-based, neutral-curing elastomeric sealants of grade indicated below.
 - 1. Grade: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces that are not fire rated.
 - 2. Sealant shall have VOC content of 30 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
 - 3. Sealant shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- B. Silicone Foams:** Multicomponent, silicone-based liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam.

PART 3 - EXECUTION

3.01 SLEEVE INSTALLATION FOR NON-FIRE-RATED ELECTRICAL PENETRATIONS

- A.** Comply with NECA 1.
- B.** Comply with NEMA VE 2 for cable tray and cable penetrations.
- C.** Sleeves for Conduits Penetrating Above-Grade Non-Fire-Rated Concrete and Masonry-Unit Floors and Walls:
 - 1. Interior Penetrations of Non-Fire-Rated Walls and Floors:
 - a. Seal annular space between sleeve and raceway or cable, using joint sealant appropriate for size, depth, and location of joint. Comply with requirements in Section 07 92 00 "Joint Sealants."
 - b. Seal space outside of sleeves with mortar or grout. Pack sealing material solidly between sleeve and wall so no voids remain. Tool exposed surfaces smooth; protect material while curing.
 - 2. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
 - 3. Size pipe sleeves to provide 1/4-inch (6.4-mm) annular clear space between sleeve and raceway or cable unless sleeve seal is to be installed or unless seismic criteria require different clearance.

SLEEVES AND SLEEVE SEALS FOR ELECTRICAL RACEWAYS AND CABLING
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4. Install sleeves for wall penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of walls. Cut sleeves to length for mounting flush with both surfaces of walls. Deburr after cutting.
 5. Install sleeves for floor penetrations. Extend sleeves installed in floors 3 inches (75 mm) above finished floor level. Install sleeves during erection of floors.
- D.** Sleeves for Conduits Penetrating Non-Fire-Rated Gypsum Board Assemblies:
1. Use circular metal sleeves unless penetration arrangement requires rectangular sleeved opening.
 2. Seal space outside of sleeves with approved joint compound for gypsum board assemblies.
- E.** Roof-Penetration Sleeves: Seal penetration of individual raceways and cables with flexible boot-type flashing units applied in coordination with roofing work.
- F.** Aboveground, Exterior-Wall Penetrations: Seal penetrations using steel pipe sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch (25-mm) annular clear space between pipe and sleeve for installing mechanical sleeve seals.
- G.** Underground, Exterior-Wall and Floor Penetrations: Install cast-iron pipe sleeves. Size sleeves to allow for 1-inch (25-mm) annular clear space between raceway or cable and sleeve for installing sleeve-seal system.

3.02 SLEEVE-SEAL-SYSTEM INSTALLATION

- A.** Install sleeve-seal systems in sleeves in exterior concrete walls and slabs-on-grade at raceway entries into building.
- B.** Install type and number of sealing elements recommended by manufacturer for raceway or cable material and size. Position raceway or cable in center of sleeve. Assemble mechanical sleeve seals and install in annular space between raceway or cable and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.03 SLEEVE-SEAL-FITTING INSTALLATION

- A.** Install sleeve-seal fittings in new walls and slabs as they are constructed.
- B.** Assemble fitting components of length to be flush with both surfaces of concrete slabs and walls. Position waterstop flange to be centered in concrete slab or wall.
- C.** Secure nailing flanges to concrete forms.

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- D.** Using grout, seal the space around outside of sleeve-seal fittings.

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SECTION 26 05 48.16

SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A.** Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A.** Section Includes:
 - 1. Restraint channel bracings.
 - 2. Restraint cables.
 - 3. Seismic-restraint accessories.
 - 4. Mechanical anchor bolts.
 - 5. Adhesive anchor bolts.
- B.** Related Requirements:
 - 1. Section 26 05 29 "Hangers and Supports for Electrical Systems" for commonly used electrical supports and installation requirements.

1.03 ACTION SUBMITTALS

- A. Product Data:** For each type of product.
 - 1. Illustrate and indicate style, material, strength, fastening provision, and finish for each type and size of seismic-restraint component used.
 - a. Tabulate types and sizes of seismic restraints, complete with report numbers and rated strength in tension and shear as evaluated by an agency acceptable to authorities having jurisdiction.
 - b. Annotate to indicate application of each product submitted and compliance with requirements.
- B. Delegated-Design Submittal:** For each seismic-restraint device.
 - 1. Include design calculations and details for selecting seismic restraints complying with performance requirements, design criteria, and analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

2. **Design Calculations:** Calculate static and dynamic loading caused by equipment weight, operation, and seismic forces required to select seismic restraints and for designing vibration isolation bases.
 - a. Coordinate design calculations with wind load calculations required for equipment mounted outdoors. Comply with requirements in other Sections for equipment mounted outdoors.
3. **Seismic-Restraint Details:**
 - a. **Design Analysis:** To support selection and arrangement of seismic restraints. Include calculations of combined tensile and shear loads.
 - b. **Details:** Indicate fabrication and arrangement. Detail attachments of restraints to the restrained items and to the structure. Show attachment locations, methods, and spacings. Identify components, list their strengths, and indicate directions and values of forces transmitted to the structure during seismic events. Indicate association with vibration isolation devices.
 - c. Coordinate seismic-restraint and vibration isolation details with wind-restraint details required for equipment mounted outdoors. Comply with requirements in other Sections for equipment mounted outdoors.
 - d. **Preapproval and Evaluation Documentation:** By an agency acceptable to authorities having jurisdiction, showing maximum ratings of restraint items and the basis for approval (tests or calculations).

1.04 INFORMATIONAL SUBMITTALS

- A. **Coordination Drawings:** Show coordination of seismic bracing for electrical components with other systems and equipment in the vicinity, including other supports and seismic restraints.
- B. **Qualification Data:** For professional engineer and testing agency.
- C. **Welding certificates.**
- D. **Field quality-control reports.**

1.05 QUALITY ASSURANCE

- A. **Testing Agency Qualifications:** An independent agency, with the experience and capability to conduct the testing indicated, that is a nationally recognized testing laboratory as defined by OSHA in 29 CFR 1910.7 and that is acceptable to authorities having jurisdiction.
- B. **Comply with seismic-restraint requirements in the IBC unless requirements in this Section are more stringent.**

- C. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- D. Seismic-restraint devices shall have horizontal and vertical load testing and analysis. They shall bear anchorage preapproval from OSHPD in addition to preapproval, showing maximum seismic-restraint ratings, by ICC-ES or another agency acceptable to authorities having jurisdiction. Ratings based on independent testing are preferred to ratings based on calculations. If preapproved ratings are not available, submittals based on independent testing are preferred. Calculations (including combining shear and tensile loads) that support seismic-restraint designs must be signed and sealed by a qualified professional engineer.
- E. Comply with NFPA 70.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. **Seismic-Restraint Loading:**
 - 1. Site Class as Defined in the IBC: D.
 - 2. Assigned Seismic Use Group or Building Category as Defined in the IBC: [I] [II] [III].
 - a. Component Importance Factor: 1.0.
 - b. Component Response Modification Factor: 2.5.
 - c. Component Amplification Factor: 1.0.
 - 3. Design Spectral Response Acceleration at Short Periods (0.2 Second): SDs = 1.308.
 - 4. Design Spectral Response Acceleration at 1.0-Second Period: SD1=0.726.

2.02 RESTRAINT CHANNEL BRACINGS

- A. **Manufacturers:** Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - 1. B-line, an Eaton business.
 - 2. Hilti, Inc.
 - 3. Mason Industries, Inc.
 - 4. Unistrut; Part of Atkore International.
- B. **Description:** MFMA-4, shop- or field-fabricated bracing assembly made of slotted steel channels with accessories for attachment to braced component at one end and to building structure at the other end, with other matching components, and with corrosion-resistant coating; rated in tension, compression, and torsion forces.

2.03 RESTRAINT CABLES

- A. Manufacturers:** Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
1. Kinetics Noise Control, Inc.
 2. Loos & Co., Inc.
 3. Vibration Mountings & Controls, Inc.
- B. Restraint Cables:** ASTM A 603 galvanized-steel cables. End connections made of steel assemblies with thimbles, brackets, swivel, and bolts designed for restraining cable service; with a minimum of two clamping bolts for cable engagement.

2.04 SEISMIC-RESTRAINT ACCESSORIES

- A. Manufacturers:** Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
1. B-line, an Eaton business.
 2. Kinetics Noise Control, Inc.
 3. Mason Industries, Inc.
 4. TOLCO; a brand of NIBCO INC.
- B. Hanger-Rod Stiffener:** Steel tube or steel slotted-support-system sleeve with internally bolted connections to hanger rod.
- C. Hinged and Swivel Brace Attachments:** Multifunctional steel connectors for attaching hangers to rigid channel bracings and restraint cables.
- D. Bushings for Floor-Mounted Equipment Anchor Bolts:** Neoprene bushings designed for rigid equipment mountings and matched to type and size of anchor bolts and studs.
- E. Bushing Assemblies for Wall-Mounted Equipment Anchorage:** Assemblies of neoprene elements and steel sleeves designed for rigid equipment mountings and matched to type and size of attachment devices used.
- F. Resilient Isolation Washers and Bushings:** One-piece, molded, oil- and water-resistant neoprene, with a flat washer face.

2.05 MECHANICAL ANCHOR BOLTS

- A. Manufacturers:** Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
1. B-line, an Eaton business.
 2. Hilti, Inc.

3. Kinetics Noise Control, Inc.
4. Mason Industries, Inc.

B. Mechanical Anchor Bolts: Drilled-in and stud-wedge or female-wedge type in zinc-coated steel for interior applications and stainless steel for exterior applications. Select anchor bolts with strength required for anchor and as tested according to ASTM E 488.

2.06 ADHESIVE ANCHOR BOLTS

- A. Manufacturers:** Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
1. Hilti, Inc.
 2. Kinetics Noise Control, Inc.
 3. Mason Industries, Inc.
- B. Adhesive Anchor Bolts:** Drilled-in and capsule anchor system containing PVC or urethane methacrylate-based resin and accelerator, or injected polymer or hybrid mortar adhesive. Provide anchor bolts and hardware with zinc-coated steel for interior applications and stainless steel for exterior applications. Select anchor bolts with strength required for anchor and as tested according to ASTM E 488.

PART 3 - EXECUTION

3.01 EXAMINATION

- A.** Examine areas and equipment to receive seismic-control devices for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B.** Examine roughing-in for reinforcement and cast-in-place anchors to verify actual locations before installation.
- C.** Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 APPLICATIONS

- A.** Multiple Raceways or Cables: Secure raceways and cables to trapeze member with clamps approved for application by an agency acceptable to authorities having jurisdiction.
- B.** Hanger-Rod Stiffeners: Install hanger-rod stiffeners where indicated or scheduled on Drawings to receive them and where required to prevent buckling of hanger rods caused by seismic forces.

- C. **Strength of Support and Seismic-Restraint Assemblies:** Where not indicated, select sizes of components so strength will be adequate to carry present and future static and seismic loads within specified loading limits.

3.03 SEISMIC-RESTRAINT DEVICE INSTALLATION

- A. **Equipment and Hanger Restraints:**
 - 1. Install resilient, bolt-isolation washers on equipment anchor bolts where clearance between anchor and adjacent surface exceeds 0.125 inch (3.2 mm).
 - 2. Install seismic-restraint devices using methods approved by an agency acceptable to authorities having jurisdiction providing required submittals for component.
- B. Install cables so they do not bend across edges of adjacent equipment or building structure.
- C. Install bushing assemblies for mounting bolts for wall-mounted equipment, arranged to provide resilient media where equipment or equipment-mounting channels are attached to wall.
- D. **Attachment to Structure:** If specific attachment is not indicated, anchor bracing to structure at flanges of beams, at upper truss chords of bar joists, or at concrete members.
- E. **Drilled-in Anchors:**
 - 1. Identify position of reinforcing steel and other embedded items prior to drilling holes for anchors. Do not damage existing reinforcing or embedded items during coring or drilling. Notify the structural engineer if reinforcing steel or other embedded items are encountered during drilling. Locate and avoid prestressed tendons, electrical and telecommunications conduit, and gas lines.
 - 2. Do not drill holes in concrete or masonry until concrete, mortar, or grout has achieved full design strength.
 - 3. **Wedge Anchors:** Protect threads from damage during anchor installation. Heavy-duty sleeve anchors shall be installed with sleeve fully engaged in the structural element to which anchor is to be fastened.
 - 4. **Adhesive Anchors:** Clean holes to remove loose material and drilling dust prior to installation of adhesive. Place adhesive in holes proceeding from the bottom of the hole and progressing toward the surface in such a manner as to avoid introduction of air pockets in the adhesive.
 - 5. Set anchors to manufacturer's recommended torque using a torque wrench.
 - 6. Install zinc-coated steel anchors for interior and stainless-steel anchors for exterior applications.

3.04 ACCOMMODATION OF DIFFERENTIAL SEISMIC MOTION

- A.** Install flexible connections in runs of raceways, cables, wireways, cable trays, and busways where they cross seismic joints, where adjacent sections or branches are supported by different structural elements, and where connection is terminated to equipment that is anchored to a different structural element from the one supporting them as they approach equipment.

3.05 FIELD QUALITY CONTROL

- A.** Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B.** Perform the following tests and inspections:
 - 1. Provide evidence of recent calibration of test equipment by a testing agency acceptable to authorities having jurisdiction.
 - 2. Schedule test with Owner, through Architect, before connecting anchorage device to restrained component (unless post connection testing has been approved), and with at least seven days' advance notice.
 - 3. Obtain Architect's approval before transmitting test loads to structure. Provide temporary load-spreading members.
 - 4. Test at least four of each type and size of installed anchors and fasteners selected by Architect.
 - 5. Test to 90 percent of rated proof load of device.
- C.** Seismic controls will be considered defective if they do not pass tests and inspections.
- D.** Prepare test and inspection reports.

3.06 ADJUSTING

- A.** Adjust restraints to permit free movement of equipment within normal mode of operation.

END OF SECTION 26 05 48.16

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PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:**
1. Identification for raceways.
 2. Identification of power and control cables.
 3. Identification for conductors.
 4. Underground-line warning tape.
 5. Warning labels and signs.
 6. Equipment identification labels.
 7. Miscellaneous identification products.

1.02 ACTION SUBMITTALS

- A. Product Data:** For each electrical identification product indicated.

1.03 QUALITY ASSURANCE

- A.** Comply with ANSI A13.1.
- B.** Comply with NFPA 70.
- C.** Comply with 29 CFR 1910.144 and 29 CFR 1910.145.
- D.** Comply with ANSI Z535.4 for safety signs and labels.
- E.** Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.

PART 2 - PRODUCTS

2.01 POWER RACEWAY IDENTIFICATION MATERIALS

- A.** Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway size.
- B.** Colors for Raceways Carrying Circuits at 600 V or Less:
1. Black letters on an orange field.
 2. Legend: Indicate voltage – 208 volts.
- C. Self-Adhesive Vinyl Labels for Raceways Carrying Circuits at 600 V or Less:** Preprinted, flexible label laminated with a clear, weather- and chemical-

resistant coating and matching wraparound adhesive tape for securing ends of legend label.

- D. **Snap-Around Labels for Raceways Carrying Circuits at 600 V or Less:** Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeve, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.
- E. **Snap-Around, Color-Coding Bands for Raceways Carrying Circuits at 600 V or Less:** Slit, pretensioned, flexible, solid-colored acrylic sleeve, 2 inches (50 mm) long, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.
- F. **Write-On Tags:** Polyester tag, 0.010 inch (0.25 mm) thick, with corrosion-resistant grommet and cable tie for attachment to conductor or cable.
 - 1. **Marker for Tags:** Permanent, waterproof, black ink marker recommended by tag manufacturer.
 - 2. **Marker for Tags:** Machine-printed, permanent, waterproof, black ink marker recommended by printer manufacturer.

2.02 2.02 ARMORED AND METAL-CLAD CABLE IDENTIFICATION MATERIALS

- A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway and cable size.
- B. Colors for Raceways Carrying Circuits at 600 V and Less:
 - 1. Black letters on an orange field.
 - 2. Legend: Indicate voltage – 208 volts.
- C. Self-Adhesive Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.
- D. Self-Adhesive Vinyl Tape: Colored, heavy duty, waterproof, fade resistant; 2 inches (50 mm) wide; compounded for outdoor use.

2.03 2.03 POWER AND CONTROL CABLE IDENTIFICATION MATERIALS

- A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway and cable size.
- B. **Self-Adhesive Vinyl Labels:** Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.
- C. **Write-On Tags:** Polyester tag, 0.010 inch (0.25 mm) thick, with corrosion-resistant grommet and cable tie for attachment to conductor or cable.

1. **Marker for Tags:** Permanent, waterproof, black ink marker recommended by tag manufacturer.
 2. **Marker for Tags:** Machine-printed, permanent, waterproof, black ink marker recommended by printer manufacturer.
- D. Snap-Around Labels:** Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeve, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.
- E. Snap-Around, Color-Coding Bands:** Slit, pretensioned, flexible, solid-colored acrylic sleeve, 2 inches (50 mm) long, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.

2.04 CONDUCTOR IDENTIFICATION MATERIALS

- A. Color-Coding Conductor Tape:** Colored, self-adhesive vinyl tape not less than 3 mils (0.08 mm) thick by 1 to 2 inches (25 to 50 mm) wide.
- B. Self-Adhesive Vinyl Labels:** Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.
- C. Marker Tapes:** Vinyl or vinyl-cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.
- D. Write-On Tags:** Polyester tag, 0.010 inch (0.25 mm) thick, with corrosion-resistant grommet and cable tie for attachment to conductor or cable.
1. **Marker for Tags:** Permanent, waterproof, black ink marker recommended by tag manufacturer.
 2. **Marker for Tags:** Machine-printed, permanent, waterproof, black ink marker recommended by printer manufacturer.

2.05 FLOOR MARKING TAPE

- A.** 2-inch- (50-mm-) wide, 5-mil (0.125-mm) pressure-sensitive vinyl tape, with black and white stripes and clear vinyl overlay.

2.06 2.06 UNDERGROUND-LINE WARNING TAPE

- A. Tape:**
1. Recommended by manufacturer for the method of installation and suitable to identify and locate underground electrical utility lines.

2. Printing on tape shall be permanent and shall not be damaged by burial operations.
3. Tape material and ink shall be chemically inert, and not subject to degrading when exposed to acids, alkalis, and other destructive substances commonly found in soils.

B. Color and Printing:

1. Comply with ANSI Z535.1 through ANSI Z535.5.
2. Inscriptions for Red-Colored Tapes: ELECTRIC LINE, HIGH VOLTAGE.
3. Inscriptions for Orange-Colored Tapes: TELEPHONE CABLE, CATV CABLE, COMMUNICATIONS CABLE, OPTICAL FIBER CABLE.

C. Tag: Type I:

1. Pigmented polyolefin, bright-colored, continuous-printed on one side with the inscription of the utility, compounded for direct-burial service.
2. Thickness: 4 mils (0.1 mm).
3. Weight: 18.5 lb/1000 sq. ft. (9.0 kg/100 sq. m).
4. 3-Inch (75-mm) Tensile According to ASTM D 882: 30 lbf (133.4 N), and 2500 psi (17.2 MPa).

D. Tag: Type ID:

1. Detectable three-layer laminate, consisting of a printed pigmented polyolefin film, a solid aluminum-foil core, and a clear protective film that allows inspection of the continuity of the conductive core, bright-colored, continuous-printed on one side with the inscription of the utility, compounded for direct-burial service.
2. Overall Thickness: 5 mils (0.125 mm).
3. Foil Core Thickness: 0.35 mil (0.00889 mm).
4. Weight: 28 lb/1000 sq. ft. (13.7 kg/100 sq. m).
5. 3-Inch (75-mm) Tensile According to ASTM D 882: 70 lbf (311.3 N), and 4600 psi (31.7 MPa).

2.07 WARNING LABELS AND SIGNS

A. Comply with NFPA 70 and 29 CFR 1910.145.

B. Self-Adhesive Warning Labels: Factory-printed, multicolor, pressure-sensitive adhesive labels, configured for display on front cover, door, or other access to equipment unless otherwise indicated.

C. Baked-Enamel Warning Signs:

1. Preprinted aluminum signs, punched or drilled for fasteners, with colors, legend, and size required for application.
2. 1/4-inch (6.4-mm) grommets in corners for mounting.
3. Nominal size, 7 by 10 inches (180 by 250 mm).

(IDS Group)

- D. Metal-Backed, Butyrate Warning Signs:**
1. Weather-resistant, nonfading, preprinted, cellulose-acetate butyrate signs with 0.0396-inch (1-mm) galvanized-steel backing; and with colors, legend, and size required for application.
 2. 1/4-inch (6.4-mm) grommets in corners for mounting.
 3. Nominal size, 10 by 14 inches (250 by 360 mm).
- E. Warning label and sign shall include, but are not limited to, the following legends:**
1. Multiple Power Source Warning: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES."
 2. Workspace Clearance Warning: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES (915 MM)."

2.08 INSTRUCTION SIGNS

- A. Engraved, laminated acrylic or melamine plastic, minimum 1/16 inch (1.6 mm) thick for signs up to 20 sq. inches (129 sq. cm) and 1/8 inch (3.2 mm) thick for larger sizes.**
1. Engraved legend with black letters on white face.
 2. Punched or drilled for mechanical fasteners.
 3. Framed with mitered acrylic molding and arranged for attachment at applicable equipment.
- B. Adhesive Film Label: Machine printed, in black, by thermal transfer or equivalent process. Minimum letter height shall be 3/8 inch (10 mm).**
- C. Adhesive Film Label with Clear Protective Overlay: Machine printed, in black, by thermal transfer or equivalent process. Minimum letter height shall be 3/8 inch (10 mm). Overlay shall provide a weatherproof and UV-resistant seal for label.**

2.09 EQUIPMENT IDENTIFICATION LABELS

- A. Adhesive Film Label with Clear Protective Overlay: Machine printed, in black, by thermal transfer or equivalent process. Minimum letter height shall be 3/8 inch (10 mm). Overlay shall provide a weatherproof and UV-resistant seal for label.**
- B. Self-Adhesive, Engraved, Laminated Acrylic or Melamine Label: Adhesive backed, with white letters on a dark-gray background. Minimum letter height shall be 3/8 inch (10 mm).**

- C. Stenciled Legend: In nonfading, waterproof, black ink or paint. Minimum letter height shall be 1 inch (25 mm).

2.10 2.10 MISCELLANEOUS IDENTIFICATION PRODUCTS

- A. Paint: Comply with requirements in painting Sections for paint materials and application requirements. Select paint system applicable for surface material and location (exterior or interior).
- B. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.
- B. Apply identification devices to surfaces that require finish after completing finish work.
- C. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device.
- D. Attach signs and plastic labels that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.
- E. System Identification Color-Coding Bands for Raceways and Cables: Each color-coding band shall completely encircle cable or conduit. Place adjacent bands of two-color markings in contact, side by side. Locate bands at changes in direction, at penetrations of walls and floors, at 50-foot (15-m) maximum intervals in straight runs, and at 25-foot (7.6-m) maximum intervals in congested areas.
- F. Underground-Line Warning Tape: During backfilling of trenches install continuous underground-line warning tape directly above line at 6 to 8 inches (150 to 200 mm) below finished grade. Use multiple tapes where width of multiple lines installed in a common trench or concrete envelope exceeds 16 inches (400 mm) overall.
- G. Painted Identification: Comply with requirements in painting Sections for surface preparation and paint application.

3.02 IDENTIFICATION SCHEDULE

1. Accessible Raceways and Metal-Clad Cables, 600 V or Less, for Service, Feeder, and Branch Circuits More Than 30A, and 120 V to ground: Install labels at 10-foot (3-m) maximum intervals.
- B.** Accessible Raceways and Cables within Buildings: Identify the covers of each junction and pull box of the following systems with self-adhesive vinyl labels with the wiring system legend and system voltage. System legends shall be as follows:
 1. Emergency Power.
 2. Power.
 3. UPS.
- C.** Power-Circuit Conductor Identification, 600 V or Less: For conductors in vaults, pull and junction boxes, manholes, and handholes, use color-coding conductor tape to identify the phase.
 1. Color-Coding for Phase and 208 Voltage Level Identification, 600 V or Less: Use colors listed below for ungrounded feeder and branch-circuit conductors.
 - a. Color shall be factory applied.
 - b. Colors for 280/110-V Circuits:
 - 1) Phase A: Black.
 - 2) Phase B: Red.
 - 3) Phase C: Blue.
 - c. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches (150 mm) from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding. Locate bands to avoid obscuring factory cable markings.
- D.** Install instructional sign including the color-code for grounded and ungrounded conductors using adhesive-film-type labels.
- E.** Conductors to Be Extended in the Future: Attach marker tape to conductors and list source.
- F.** Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.
 1. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, and pull points. Identify by system and circuit designation.
 2. Use system of marker tape designations that is uniform and consistent with system used by manufacturer for factory-installed connections.
 3. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual.

- G.** Locations of Underground Lines: Identify with underground-line warning tape for power, lighting, communication, and control wiring and optical fiber cable.
 - 1. Limit use of underground-line warning tape to direct-buried cables.
 - 2. Install underground-line warning tape for both direct-buried cables and cables in raceway.
- H.** Workspace Indication: Install floor marking tape to show working clearances in the direction of access to live parts. Workspace shall be as required by NFPA 70 and 29 CFR 1926.403 unless otherwise indicated. Do not install at flush-mounted panelboards and similar equipment in finished spaces.
- I.** Warning Labels for Indoor Cabinets, Boxes, and Enclosures for Power and Lighting: Baked-enamel warning signs.
 - 1. Comply with 29 CFR 1910.145.
 - 2. Identify system voltage with black letters on an orange background.
 - 3. Apply to exterior of door, cover, or other access.
 - 4. For equipment with multiple power or control sources, apply to door or cover of equipment including, but not limited to, the following:
 - a. Power transfer switches.
 - b. Controls with external control power connections.
- J.** Operating Instruction Signs: Install instruction signs to facilitate proper operation and maintenance of electrical systems and items to which they connect. Install instruction signs with approved legend where instructions are needed for system or equipment operation.
- K.** Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and the Operation and Maintenance Manual. Apply labels to disconnect switches and protection equipment, central or master units, control panels, control stations, terminal cabinets, and racks of each system. Systems include power, lighting, control, communication, signal, monitoring, and alarm systems unless equipment is provided with its own identification.
 - 1. Labeling Instructions:
 - a. Indoor Equipment: Engraved, laminated acrylic or melamine label. Unless otherwise indicated, provide a single line of text with 1/2-inch- (13-mm-) high letters on 1-1/2-inch- (38-mm-) high label; where two lines of text are required, use labels 2 inches (50 mm) high.
 - b. Outdoor Equipment: Engraved, laminated acrylic or melamine label.
 - c. Elevated Components: Increase sizes of labels and letters to those appropriate for viewing from the floor.

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- d. Unless provided with self-adhesive means of attachment, fasten labels with appropriate mechanical fasteners that do not change the NEMA or NRTL rating of the enclosure.

END OF SECTION 26 05 53

SECTION 26 24 16

LOAD CENTERS & SIGNAL TERMINAL CABINETS

PART 1 - GENERAL:

1.01 SECTION REQUIREMENTS

- A. **Submittals: Product Data.**
- B. **Comply with NFPA 70.**
- C. **Comply with NEMA PB 1.**

1.02 DESIGN REQUIREMENTS

- A. Two and 3 pole branches shall be enclosed and shall be thermal magnetic circuit breakers with inverse time delay, non-tamper type, ambient compensated, single handle, internal common trip, and quick-make, and quick-break mechanism with silver alloy contacts and plug-in type circuit breakers shall be rated as indicated on the Drawings.
- B. Main and sub feeder circuit breakers shall be enclosed, thermal magnetic type with inverse time delay, single handle common trip, quick-make, quick-break mechanism, corrosion resistant bearings and silver alloy contacts. Ampere frame size and trip rating shall be as indicated on Drawings. Breakers over 225 amperes shall have interchangeable trip units. Handles of main and sub feeder circuit breakers shall be under cabinet door. Voltage rating shall be as indicated on Drawings.
- C. All circuit breakers shall be one-piece, plug-on type and shall meet short circuit interrupting capacity requirements indicated on Drawings, including series rating.
- D. Breakers shall have a minimum short circuit interrupting rating of 10,000 symmetrical for panel's board voltage 240 volts and 14,000 symmetrical thru 600 volts or as specified on drawings. Interrupting rating shall not be less than what is indicated on drawings.

PART 2 - PRODUCTS

2.01 REQUIREMENTS

- A. Provide products in accordance with Section 01 60 00.**

2.02 LOAD CENTERS

- A. Flush or surface mounted, NEMA PB 1, Type 1.**
1. Load Center Capacity: As indicated in Drawings.
 2. Front: Secured to box with concealed trim clamps.
 3. Doors: With concealed hinges and flush catches.
 4. Bus: Tin plated aluminum.
 5. Feed-through Lugs: Sized to accommodate feeders indicated.
 6. Tumbler lock to panel except for apartment panel. All keyed alike.
 7. All unit load center fronts of the enclosures shall be factory painted white in color.
- B. Molded-Case Circuit Breakers:** NEMA PB 1, plug-in type. Single handle for multiple circuit breakers. Appropriate for application, including Type SWD for repetitive switching lighting loads and Type HACR for heating, air-conditioning, and refrigerating equipment. Ground fault interrupters shall be incorporated into circuit breakers where indicated.
- C. All circuit breakers in load centers located in the unit shall have ARC fault interrupting type circuit breakers as indicated on the panel schedules.**

2.03 TERMINAL CABINETS, SIGNAL:

- A. All light cabinets shall be flush type, with 2" trim or surface mounted type, as indicated on Drawings. All terminal cabinets shall have section. Cabinets shall be provided with barriers to separate each system. Sections over 24" in width shall be provided with double door and lock. Each terminal cabinet, or section of a terminal housing a separate system, shall measure 12" wide x 18" high x 5-3/4" deep, unless otherwise indicated on Drawings.**
- B. All terminal cabinets shall be equipped with 3/4" thick plywood backboards within cabinets and fastened in place with machine screws. Backboards shall be largest size cabinet and conduit terminations will permit.**
- C. Flush mounted terminal cabinets shall be finished as specified for flush mounted panel board cabinets. Surface and semi-flush mounted terminal cabinets shall be finished as specified for surface mounted panel board cabinets.**

PART 3 - EXECUTION

3.01 REQUIREMENTS

- A. Execution shall be in accordance with Division 1.**

3.02 INSTALLATION

- A.** Install panel boards and accessory items according to NEMA PB 1.1. Indicate installed circuit loads on a type's circuit directory after balancing panel board loads.
- B. Mounting Heights:** Top of trim 54 inches and top of trim for handicap 48 inches above finished floor, unless otherwise indicated.
- C. Wiring in Panel board Gutters:** Arrange conductors into groups, bundle and wrap with wire ties.
- D.** Tighten electrical connectors and terminals, including grounding connections, according to manufacturer's published torque-tightening values. Where manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.
- E.** Perform visual and mechanical inspections and electrical tests stated in NETA ATS.
- F. Enclosures:** All equipment exposed to the weather shall be provided with NEMA 3R enclosures whether or not shown on the drawings. Equipment located in rooms, building cavities or closets without doors or protection from the weather shall be provided with NEMA 3R enclosures.
- G.** Provide multipole circuit breaker or single pole circuit breakers with an identified handle tie for multiwire branch circuit. All ungrounded and grounded conductors associated with a particular multiwire branch circuit shall be physically grouped at the point of origin "ganged".

END OF SECTION 26 24 16

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SECTION 26 24 16.01

PANELBOARDS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. **Section Includes:**

- 1. Distribution panelboards.
- 2. Lighting and appliance branch-circuit panelboards.
- 3. Electronic-grade panelboards.

1.03 DEFINITIONS

- A. **ATS:** Acceptance testing specification.
- B. **GFCI:** Ground-fault circuit interrupter.
- C. **GFEP:** Ground-fault equipment protection.
- D. **HID:** High-intensity discharge.
- E. **MCCB:** Molded-case circuit breaker.
- F. **SPD:** Surge protective device.
- G. **VPR:** Voltage protection rating.

1.04 ACTION SUBMITTALS

A. **Product Data:** For each type of panelboard.

- 1. Include materials, switching and overcurrent protective devices, SPDs, accessories, and components indicated.
- 2. Include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, and finishes.

B. **Shop Drawings:** For each panelboard and related equipment.

1. Include dimensioned plans, elevations, sections, and details.
2. Show tabulations of installed devices with nameplates, conductor termination sizes, equipment features, and ratings.
3. Detail enclosure types including mounting and anchorage, environmental protection, knockouts, corner treatments, covers and doors, gaskets, hinges, and locks.
4. Detail bus configuration, current, and voltage ratings.
5. Short-circuit current rating of panelboards and overcurrent protective devices.
6. Include time-current coordination curves for each type and rating of overcurrent protective device included in panelboards.

1.05 INFORMATIONAL SUBMITTALS

- A. **Qualification Data:** For testing agency.
- B. **Panelboard Schedules:** For installation in panelboards. Submit final versions after load balancing.

1.06 CLOSEOUT SUBMITTALS

- A. **Operation and Maintenance Data:** For panelboards and components to include in emergency, operation, and maintenance manuals. In addition to items specified in Section 01 78 23 "Operation and Maintenance Data," include the following:
 1. Manufacturer's written instructions for testing and adjusting overcurrent protective devices.
 2. Time-current curves, including selectable ranges for each type of overcurrent protective device that allows adjustments.

1.07 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 1. Keys: Two spares for each type of panelboard cabinet lock.
 2. Circuit Breakers Including GFCI Types: Provide spares for each panelboard as indicated on the plans.

1.08 QUALITY ASSURANCE

- A. **Manufacturer Qualifications:** ISO 9001 or 9002 certified.

1.09 DELIVERY, STORAGE, AND HANDLING

- A. Remove loose packing and flammable materials from inside panelboards; install temporary electric heating (250 W per panelboard) to prevent condensation.
- B. Handle and prepare panelboards for installation according to NEMA PB 1.

1.10 FIELD CONDITIONS

A. **Environmental Limitations:**

- 1. Do not deliver or install panelboards until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above panelboards is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.
- 2. Rate equipment for continuous operation under the following conditions unless otherwise indicated:

B. **Service Conditions:** NEMA PB 1, usual service conditions, as follows:

- 1. Ambient temperatures within limits specified.
- 2. Altitude not exceeding 6600 feet.

1.11 WARRANTY

A. **Manufacturer's Warranty:** Manufacturer agrees to repair or replace panelboards that fail in materials or workmanship within specified warranty period.

- 1. Panelboard Warranty Period: 18 months from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 PANELBOARDS AND LOAD CENTERS COMMON REQUIREMENTS

- A. Fabricate and test panelboards according to IEEE 344 to withstand seismic forces defined in Section 26 05 48.16 "Seismic Controls for Electrical Systems."
- B. Product Selection for Restricted Space: Drawings indicate maximum dimensions for panelboards including clearances between panelboards and adjacent surfaces and other items. Comply with indicated maximum dimensions.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

- D.** Comply with NEMA PB 1.
- E.** Comply with NFPA 70.
- F.** Enclosures: Flush and Surface-mounted, dead-front cabinets.
 - 1. Rated for environmental conditions at installed location.
 - a. Indoor Dry and Clean Locations: NEMA 250, Type 1.
 - 2. Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box. Trims shall cover all live parts and shall have no exposed hardware.
 - 3. Finishes:
 - a. Panels and Trim: Steel, factory finished immediately after cleaning and pretreating with manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat.
 - b. Back Boxes: Galvanized steel.
- G. Incoming Mains:**
 - 1. Location: Convertible between top and bottom.
 - 2. Main Breaker: Main lug interiors up to 400 amperes shall be field convertible to main breaker.
- H. Phase, Neutral, and Ground Buses:**
 - 1. Material: Tin-plated aluminum.
 - a. Plating shall run entire length of bus.
 - b. Bus shall be fully rated the entire length.
 - 2. Interiors shall be factory assembled into a unit. Replacing switching and protective devices shall not disturb adjacent units or require removing the main bus connectors.
 - 3. Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box.
 - 4. Full-Sized Neutral: Equipped with full-capacity bonding strap for service entrance applications. Mount electrically isolated from enclosure. Do not mount neutral bus in gutter.
- I. Conductor Connectors:** Suitable for use with conductor material and sizes.
 - 1. Material: Tin-plated aluminum.
 - 2. Terminations shall allow use of 75 deg C rated conductors without derating.
 - 3. Size: Lugs suitable for indicated conductor sizes, with additional gutter space, if required, for larger conductors.

4. Main and Neutral Lugs: Compression type, with a lug on the neutral bar for each pole in the panelboard.
 5. Ground Lugs and Bus-Configured Terminators: Compression type, with a lug on the bar for each pole in the panelboard.
 6. Feed-Through Lugs: Compression type, suitable for use with conductor material. Locate at opposite end of bus from incoming lugs or main device.
 7. Subfeed (Double) Lugs: Compression type suitable for use with conductor material. Locate at same end of bus as incoming lugs or main device.
- J. Future Devices:** Panelboards or load centers shall have mounting brackets, bus connections, filler plates, and necessary appurtenances required for future installation of devices.
1. Percentage of Future Space Capacity: As indicated on the plan drawings.
- K. Panelboard Short-Circuit Current Rating:** Fully rated to interrupt symmetrical short-circuit current available at terminals. Assembly listed by an NRTL for 100 percent interrupting capacity.
1. Panelboards and overcurrent protective devices rated 240 V or less shall have short-circuit ratings as shown on Drawings, but not less than 10,000 A rms symmetrical.
 2. Panelboards and overcurrent protective devices rated above 240 V and less than 600 V shall have short-circuit ratings as shown on Drawings, but not less than 14,000 A rms symmetrical.

2.02 PERFORMANCE REQUIREMENTS

- A. Seismic Performance:** Panelboards shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
1. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified."

2.03 POWER PANELBOARDS

- A. Manufacturers:** Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Eaton.
 2. General Electric Company; GE Energy Management - Electrical Distribution.
 3. SIEMENS Industry, Inc.; Energy Management Division.
 4. Square D; by Schneider Electric.

- B. Panelboards:** NEMA PB 1, distribution type.
- C. Doors:** Secured with vault-type latch with tumbler lock; keyed alike.
 - 1. For doors more than 36 inches high, provide two latches, keyed alike.
- D. Mains:** Circuit breaker and Lugs only.
- E. Branch Overcurrent Protective Devices for Circuit-Breaker Frame Sizes 125 A and Smaller:** Bolt-on circuit breakers.
- F. Branch Overcurrent Protective Devices for Circuit-Breaker Frame Sizes Larger Than 125 A:** Bolt-on circuit breakers.
- G. Branch Overcurrent Protective Devices:** Fused switches.

2.04 LIGHTING AND APPLIANCE BRANCH-CIRCUIT PANELBOARDS

- A. Manufacturers:** Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - 1. Eaton.
 - 2. General Electric Company; GE Energy Management - Electrical Distribution.
 - 3. SIEMENS Industry, Inc.; Energy Management Division.
 - 4. Square D; by Schneider Electric.
- B. Panelboards:** NEMA PB 1, lighting and appliance branch-circuit type.
- C. Mains:** Circuit breaker or lugs only.
- D. Branch Overcurrent Protective Devices:** Bolt-on circuit breakers, replaceable without disturbing adjacent units.
- E. Doors:** Concealed hinges; secured with flush latch with tumbler lock; keyed alike.
- F. Doors:** Door-in-door construction with concealed hinges; secured with multipoint latch with tumbler lock; keyed alike. Outer door shall permit full access to the panel interior. Inner door shall permit access to breaker operating handles and labeling, but current carrying terminals and bus shall remain concealed.

2.05 DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES

- A. Manufacturers:** Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Eaton.
 - 2. General Electric Company; GE Energy Management - Electrical Distribution.

3. SIEMENS Industry, Inc.; Energy Management Division.
 4. Square D; by Schneider Electric.
- B. MCCB: Comply with UL 489, with interrupting capacity to meet available fault currents.**
1. Thermal-Magnetic Circuit Breakers:
 - a. Inverse time-current element for low-level overloads.
 - b. Instantaneous magnetic trip element for short circuits.
 - c. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
 2. Adjustable Instantaneous-Trip Circuit Breakers: Magnetic trip element with front-mounted, field-adjustable trip setting.
 3. Electronic Trip Circuit Breakers:
 - a. RMS sensing.
 - b. Field-replaceable rating plug or electronic trip.
 - c. Digital display of settings, trip targets, and indicated metering displays.
 - d. Multi-button keypad to access programmable functions and monitored data.
 - e. Ten-event, trip-history log. Each trip event shall be recorded with type, phase, and magnitude of fault that caused the trip.
 - f. Integral test jack for connection to portable test set or laptop computer.
 - g. Field-Adjustable Settings:
 - 1) Instantaneous trip.
 - 2) Long- and short-time pickup levels.
 - 3) Long and short time adjustments.
 - 4) Ground-fault pickup level, time delay, and I squared T response.
 4. Current-Limiting Circuit Breakers: Frame sizes 400 A and smaller; let-through ratings less than NEMA FU 1, RK-5.
 5. GFCI Circuit Breakers: Single- and double-pole configurations with Class A ground-fault protection (6-mA trip).
 6. Arc-Fault Circuit Interrupter Circuit Breakers: Comply with UL 1699; 120/240-V, single-pole configuration.
 7. Subfeed Circuit Breakers: Vertically mounted.
 8. Lockable OCPD device.
 9. MCCB Features and Accessories:

- a. Standard frame sizes, trip ratings, and number of poles.
- b. Breaker handle indicates tripped status.
- c. UL listed for reverse connection without restrictive line or load ratings.
- d. Lugs: Compression style, suitable for number, size, trip ratings, and conductor materials.
- e. Application Listing: Appropriate for application; Type SWD for switching fluorescent lighting loads; Type HID for feeding fluorescent and HID lighting circuits.
- f. Shunt Trip: 120-V trip coil energized from separate circuit, set to trip at 75 percent of rated voltage.
- g. Undervoltage Trip: Set to operate at 35 to 75 percent of rated voltage without intentional time delay.
- h. Rating Plugs: Three-pole breakers with ampere ratings greater than 150 amperes shall have interchangeable rating plugs or electronic adjustable trip units.
- i. Multipole units enclosed in a single housing with a single handle and factory assembled to operate as a single unit.
- j. Handle Padlocking Device: Fixed attachment, for locking circuit-breaker handle in on or off position.
- k. Handle Clamp: Loose attachment, for holding circuit-breaker handle in on position.

2.06 IDENTIFICATION

- A. Panelboard Label: Manufacturer's name and trademark, voltage, amperage, number of phases, and number of poles shall be located on the interior of the panelboard door.
- B. Breaker Labels: Faceplate shall list current rating, UL and IEC certification standards, and AIC rating.
- C. Circuit Directory: Directory card inside panelboard door, mounted in metal frame with transparent protective cover.
 1. Circuit directory shall identify specific purpose with detail sufficient to distinguish it from all other circuits.
- D. Circuit Directory: Computer-generated circuit directory mounted inside panelboard door with transparent plastic protective cover.
 1. Circuit directory shall identify specific purpose with detail sufficient to distinguish it from all other circuits.

2.07 ACCESSORY COMPONENTS AND FEATURES

- A.** Accessory Set: Include tools and miscellaneous items required for overcurrent protective device test, inspection, maintenance, and operation.
- B.** Portable Test Set: For testing functions of solid-state trip devices without removing from panelboard. Include relay and meter test plugs suitable for testing panelboard meters and switchboard class relays.

PART 3 - EXECUTION

3.01 EXAMINATION

- A.** Verify actual conditions with field measurements prior to ordering panelboards to verify that equipment fits in allocated space in, and comply with, minimum required clearances specified in NFPA 70.
- B.** Receive, inspect, handle, and store panelboards according to NEMA PB 1.1.
- C.** Examine panelboards before installation. Reject panelboards that are damaged, rusted, or have been subjected to water saturation.
- D.** Examine elements and surfaces to receive panelboards for compliance with installation tolerances and other conditions affecting performance of the Work.
- E.** Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

- A.** Coordinate layout and installation of panelboards and components with other construction that penetrates walls or is supported by them, including electrical and other types of equipment, raceways, piping, encumbrances to workspace clearance requirements, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.
- B.** Comply with NECA 1.
- C.** Install panelboards and accessories according to NEMA PB 1.1.
- D.** Equipment Mounting:
 - 1. Attach panelboard to the vertical finished or structural surface behind the panelboard.
 - 2. Comply with requirements for seismic control devices specified in Section 26 05 48.16 "Seismic Controls for Electrical Systems."
- E.** Comply with mounting and anchoring requirements specified in Section 26 05 48.16 "Seismic Controls for Electrical Systems."
- F.** Mount top of trim 90 inches above finished floor unless otherwise indicated.

- G.** Mount panelboard cabinet plumb and rigid without distortion of box.
- H.** Mount recessed panelboards with fronts uniformly flush with wall finish and mating with back box.
- I.** Mounting panelboards with space behind is recommended for damp, wet, or dirty locations. The steel slotted supports in the following paragraph provide an even mounting surface and the recommended space behind to prevent moisture or dirt collection.
- J.** Mount surface-mounted panelboards to steel slotted supports 5/8 inch in depth. Orient steel slotted supports vertically.
- K.** Install overcurrent protective devices and controllers not already factory installed.
 - 1. Set field-adjustable, circuit-breaker trip ranges.
 - 2. Tighten bolted connections and circuit breaker connections using calibrated torque wrench or torque screwdriver per manufacturer's written instructions.
- L.** Make grounding connections and bond neutral for services and separately derived systems to ground. Make connections to grounding electrodes, separate grounds for isolated ground bars, and connections to separate ground bars.
- M.** Install filler plates in unused spaces.
- N.** Stub four 1-inch empty conduits from panelboard into accessible ceiling space or space designated to be ceiling space in the future. Stub four 1-inch empty conduits into raised floor space or below slab not on grade.
- O.** Arrange conductors in gutters into groups and bundle and wrap with wire ties after completing load balancing.
- P.** Mount spare fuse cabinet in accessible location.

3.03 IDENTIFICATION

- A.** Identify field-installed conductors, interconnecting wiring, and components; install warning signs complying with requirements in Section 26 05 53 "Identification for Electrical Systems."
- B.** Create a directory to indicate installed circuit loads after balancing panelboard loads; incorporate Owner's final room designations. Obtain approval before installing. Handwritten directories are not acceptable. Install directory inside panelboard door.
- C.** Panelboard Nameplates: Label each panelboard with a nameplate complying with requirements for identification specified in Section 26 05 53 "Identification for Electrical Systems."

- D. Device Nameplates: Label each branch circuit device in power panelboards with a nameplate complying with requirements for identification specified in Section 26 05 53 "Identification for Electrical Systems."
- E. Install warning signs complying with requirements in Section 26 05 53 "Identification for Electrical Systems" identifying source of remote circuit.

3.04 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.
- B. Perform tests and inspections.
 - 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- C. Acceptance Testing Preparation:
 - 1. Test insulation resistance for each panelboard bus, component, connecting supply, feeder, and control circuit.
 - 2. Test continuity of each circuit.
- D. Tests and Inspections:
 - 1. Perform each visual and mechanical inspection and electrical test for low-voltage air circuit breakers stated in NETA ATS, Paragraph 7.6 Circuit Breakers. Certify compliance with test parameters.
 - 2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
 - 3. Perform the following infrared scan tests and inspections and prepare reports:
 - a. Initial Infrared Scanning: After Substantial Completion, but not more than 60 days after Final Acceptance, perform an infrared scan of each panelboard. Remove front panels so joints and connections are accessible to portable scanner.
 - b. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan of each panelboard 11 months after date of Substantial Completion.
 - c. Instruments and Equipment:
 - 1) Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.

- E. Panelboards will be considered defective if they do not pass tests and inspections.
- F. Prepare test and inspection reports, including a certified report that identifies panelboards included and that describes scanning results, with comparisons of the two scans. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

3.05 ADJUSTING

- A. Adjust moving parts and operable components to function smoothly and lubricate as recommended by manufacturer.
- B. Set field-adjustable circuit-breaker trip ranges as specified in Section 26 05 73 "Overcurrent Protective Device Coordination Study."
- C. Load Balancing:
 - 1. Tolerance: Maximum difference between phase loads, within a panelboard, shall not exceed 20 percent.

3.06 PROTECTION

- A. Temporary Heating: Prior to energizing panelboards, apply temporary heat to maintain temperature according to manufacturer's written instructions.

END OF SECTION 26 24 16.01

SECTION 26 27 13

ELECTRICITY METERING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section includes equipment for electricity metering by utility company.

1.03 DEFINITIONS

- A. **KY Pulse:** Term used by the metering industry to describe a method of measuring consumption of electricity that is based on a relay opening and closing in response to the rotation of the disk in the meter.
- B. **PC:** Personal computer.

1.04 ACTION SUBMITTALS

- A. **Product Data:** For each type of product indicated.
- B. **Shop Drawings:** For electricity-metering equipment.
 - 1. Dimensioned plans and sections or elevation layouts.
 - 2. Wiring Diagrams: For power, signal, and control wiring. Identify terminals and wiring designations and color-codes to facilitate installation, operation, and maintenance. Indicate recommended types, wire sizes, and circuiting arrangements for field-installed wiring, and show circuit protection features.

1.05 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

1.06 CLOSEOUT SUBMITTALS

- A. **Operation and Maintenance Data.** In addition to items specified in Section 01 78 23 "Operation and Maintenance Data," include the following:
1. Application and operating software documentation.
 2. Software licenses.
 3. Software service agreement.
 4. Hard copies of manufacturer's operating specifications, design user's guides for software and hardware, and PDF files on CD-ROM of the hard-copy Submittal.

1.07 QUALITY ASSURANCE

- A. **Electrical Components, Devices, and Accessories:** Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Receive, store, and handle modular meter center according to NECA 400.

1.09 COORDINATION

- A. **Electrical Service Connections:** Coordinate with utility companies and components they furnish as follows:
1. Comply with requirements of utilities providing electrical power services.
 2. Coordinate installation and connection of utilities and services, including provision for electricity-metering components.

1.10 SOFTWARE SERVICE AGREEMENT

- A. **Technical Support:** Beginning with Substantial Completion, provide software support for two years.

PART 2 - PRODUCTS

2.01 EQUIPMENT FOR ELECTRICITY METERING BY UTILITY COMPANY

- A. Meters will be furnished by utility company.
- B. **Current-Transformer Cabinets:** Comply with requirements of electrical-power utility company.
- C. **Meter Sockets:** Comply with requirements of electrical-power utility company.

- D. Meter Sockets:** Steady-state and short-circuit current ratings shall meet indicated circuit ratings.
- E. Modular Meter Center:** Factory-coordinated assembly of a main service terminal box with lugs only, wireways, tenant meter socket modules, and tenant feeder circuit breakers arranged in adjacent vertical sections. Assembly shall be complete with interconnecting buses and other features as specified below.
1. **Manufacturers:** Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 2. **Basis-of-Design Product:** Subject to compliance with requirements, provide product by one of the following:
 - a. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
 - b. General Electric Company; GE Consumer & Industrial - Electrical Distribution.
 - c. Siemens Energy & Automation, Inc.
 - d. Square D; a brand of Schneider Electric.
 - 3.
 4. Comply with requirements of utility company for meter center.
 5. **Housing:** NEMA 250, Type 1 enclosure.
 6. **Minimum Short-Circuit Rating:** 65,000A symmetrical at rated voltage, or as indicated on Electrical drawings.
 7. **Main Disconnect Device:** Circuit breaker, series-combination rated for use with downstream feeder and branch circuit breakers.
 8. **Main Disconnect Device:** Fusible switch, series-combination rated by circuit-breaker manufacturer to protect downstream feeder and branch circuit breakers.
 9. **Tenant Feeder Circuit Breakers:** Series-combination-rated molded-case units, rated to protect circuit breakers in downstream tenant and to house load centers and panelboards that have 65,000-A interrupting capacity.
 - a. **Identification:** Complying with requirements in Section 26 05 53 "Identification for Electrical Systems" with legend identifying tenant's address.
 - b. **Physical Protection:** Tamper resistant, with hasp for padlock.
 - 10.
 11. **Meter Socket:** Rating coordinated with indicated tenant feeder circuit rating.
 12. **Surge Protection:** For main disconnect device, comply with requirements in Section 26 43 13 "Surge Protection for Low-Voltage Electrical Power Circuits."

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Comply with equipment installation requirements in NECA 1.
- B. Install meters furnished by utility company. Install raceways and equipment according to utility company's written requirements. Provide empty conduits for metering leads and extend grounding connections as required by utility company.
- C. Install modular meter center according to NECA 400 switchboard installation requirements.

3.02 IDENTIFICATION

- A. Comply with requirements for identification specified in Section 26 05 53 "Identification for Electrical Systems."
 - 1. Series Combination Warning Label: Self-adhesive type, with text as required by NFPA 70.
 - 2. Equipment Identification Labels: Adhesive film labels with clear protective overlay. For residential meters, provide an additional card holder suitable for typewritten card with occupant's name.

3.03 FIELD QUALITY CONTROL

- A. **Perform tests and inspections.**
 - 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- B. **Tests and Inspections:**
 - 1. Connect a load of known kilowatt rating, 1.5 kW minimum, to a circuit supplied by metered feeder.
 - 2. Turn off circuits supplied by metered feeder and secure them in off condition.
 - 3. Run test load continuously for eight hours minimum, or longer, to obtain a measurable meter indication. Use test-load placement and setting that ensures continuous, safe operation.
 - 4. Check and record meter reading at end of test period and compare with actual electricity used, based on test-load rating, duration of test, and sample measurements of supply voltage at test-load connection. Record test results.

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- C. Electricity metering will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.

END OF SECTION 26 27 13

SECTION 26 27 43

ELECTRIC-VEHICLE SERVICE EQUIPMENT - AC LEVEL 2 AND DC LEVEL 3

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes EVCE that provides AC Level 2 EV charging and DC Level 3 EV charging.

1.3 DEFINITIONS

- A. EV: Electric vehicle.
- B. EV Cable: The off-board cable containing the conductor(s) to connect the EV power controller to the EV that provides both power and communications during energy transfer.
- C. EV Charger or EV Charging Equipment: See "EVCE."
- D. EV Connector: A conductive device that, when electrically coupled to an EV inlet, establishes an electrical connection to the EV for the purpose of power transfer and information exchange. This device is part of the EV coupler.
- E. EV Coupler: A mating EV inlet and connector set.
- F. EV Inlet: The device in the vehicle into which the EV connector is inserted, and a conductive connection is made for the transfer of power and communication. This device is part of the EV coupler.
- G. EVSE: Electric-Vehicle Supply Equipment. It includes the EV charging equipment and conductors, including the ungrounded, grounded, and equipment grounding conductors and EV cables, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for transferring energy between the premise wiring and the EV.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at the City of Costa Mesa front parking lot

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for EV charging equipment.
 - 2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
- B. Shop Drawings: For EVSE.
 - 1. Include plans, elevations, sections, and mounting details.
 - 2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 - 3. Detail fabrication and assembly of mounting assemblies for EV charging equipment.
 - 4. Include diagrams for power, signal, and control wiring.
 - 5. Include verification of [wired] or [wireless] communications service at each location of EVSE.
- C. EVSE Schedule of Values and Unit Prices of the following system components to be referenced on construction invoices and progress payments: [**Use same designations indicated on Drawings.**]
 - 1. Charging Stations Equipment
 - a. Level 2 Dual Port Charging Station Equipment
 - b. Level 3 Charging Station Equipment
 - 2. Charging Station Services (Included with equipment purchase)
 - a. 5 year - Level 2 Charging Station network service plan including driver support, access controls, general reporting, payment processing.
 - b. 5 year – Level 2 Charging Station Warranty including parts and labor.
 - c. Level 2 Charging Station Activation and Configuration including activation of cloud services, configuration of radio groups, custom groups, connections, access control, visibility control, pricing, reports and alerts.
 - d. 5 year - Level 3 Charging Station network service plan including driver support, access controls, general reporting, payment processing.
 - e. 5 year – Level 3 Charging Station Warranty including parts and labor.

- f. Level 3 Charging Station Activation and Configuration including activation of cloud services, configuration groups, connections, access control, visibility control, pricing, reports and alerts.
- 3. Charging Station Infrastructure
 - a. LF of Installed Conduit (Underground/Overhead)
 - b. LF of Conductor Pulled
 - c. Concrete Pedestals
 - d. Electrical Room Upgrades
 - 1) SCE Sub-meter "EVH"
 - 2) Power Panel
 - 3) Power Transformer
 - 4) Power Panel "EVL"

1.6 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Area plans and details, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
 - 1. Structural members to which equipment will be attached.
 - 2. Electrical service.
 - 3. Communications service[, **including wireless communications equipment**].
 - 4. Items penetrating finished [**floor**] [**ceiling**].
- B. Qualification Data: For [**Installer**] [**factory-authorized service representative**].
- C. Seismic Qualification Data: Certificates, for EVSE, accessories, and components, from manufacturer.
 - 1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
 - 2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
 - 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
- D. Field quality-control reports.
- E. Sample Warranty: For manufacturer's warranty.

1.7 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For EVSE to include in operation and maintenance manuals.
- B. Software and Firmware Operational Documentation:
 - 1. Software operating manuals.
 - 2. Program Software Backup: On USB, CD, Cloud, or approved media, complete with configuration files.
 - 3. Device address and password list.
 - 4. Printout of software application and graphic screens.

1.8 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1.9 QUALITY ASSURANCE

- A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

1.10 FIELD CONDITIONS

- A. Wireless Survey: Complete wireless survey to determine if wireless provider signals meet or exceed manufacturer's recommended minimum values.
- B. Rate equipment for continuous operation under the following conditions unless otherwise indicated:
 - 1. Ambient Temperature: Not exceeding minus 22 to plus 122 deg F.
 - 2. Altitude: Not exceeding 6600 feet.
- C. Interruption of Existing Electric Service: Do not interrupt electric service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electric service according to requirements indicated:
 - 1. Notify Construction Manager **and** City no fewer than 5 days in advance of proposed interruption of electric service.
 - 2. Do not proceed with interruption of electric service without Construction Manager's explicit written permission.

1.11 WARRANTY

- A. **Manufacturer's Warranty:** Manufacturer and Manufacturer's Installer agree to repair or replace components of EV Charging Stations that fail(s) in materials or workmanship within specified warranty period.
 - 1. **Warranty Period for EV Charging Stations:** 5 year(s) parts and labor from date of Substantial Completion.
- B. **Contractors Warranty:**
 - 1. Contractor agrees to repair or replace components of the Electrical Infrastructure that fail in materials or workmanship within specified warranty period. The Warranty for Electrical Infrastructure shall be 5 years from the date of substantial completion.
 - 2. For all improvements other than the EV Charging Stations and the Electrical Infrastructure the warranty shall be 1 year from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. **Manufacturers:** Subject to compliance with requirements, provide products by one of the following:
 - 1. ABB (Electrification Products Division).
 - 2. AeroVironment.
 - 3. Blink.
 - 4. Bosch Automotive Service Solutions.
 - 5. ChargePoint.
 - 6. Clipper Creek, Inc.
 - 7. Eaton.
 - 8. efacec.
 - 9. EV Box.
 - 10. Evo Charge.
 - 11. Hubbell Incorporated.
 - 12. Legrand North America, LLC (Cablofil).
- B. **Source Limitations:** Obtain EVCE from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. **Seismic Performance:** EVCE shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

1. The term "withstand" means "the unit will remain in place without separation of any parts when subjected to the seismic forces specified and the unit will be fully operational after the seismic event.
- B. Ambient Temperature: 41 to 104 deg, F5 to 104 deg F.
- C. Relative Humidity: Zero to 95 percent.
- D. Altitude: Sea level to 1000 feet.
- E. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
- F. Surge Withstand: 6 kV at 3000 A.
- G. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
- H. Network components and services – 97% guaranteed uptime and 1 day response time.
- I. EV Charging Levels:
 1. Single vehicle, AC Level 1 at up to 1.7 kW per vehicle.
 2. Single vehicle, AC Level 2 at up to 19.2 kW per vehicle.
 3. Dual vehicles, AC Level 2 at up to 19.2 kW per vehicle.

2.3 EVSE DESCRIPTION

- A. Comply with NFPA 70.
- B. Comply with:
 1. UL 2231-1.
 2. UL 2594.
 3. SAE J1772 for SAE combo chargers.
 4. CHAdeMo for CHAdeMo chargers.
- C. Comply with ADA-ABA Accessibility Guidelines.
- D. Metering: [**Revenue**] [**Nonrevenue**] grade meter.
- E. Control Power: 20 A, 110/120-V ac, 60 Hz, single phase per charger.
- F. Input Power:

1. 20 A, 110/120-V ac, 60 Hz, single phase per charger.
2. Two 40 A 208/240-V ac, 60 Hz, single-phase services per charger.
3. Dual circuits shall be interlocked.

G. Integral GFCI.

H. Auto-GFCI fault retry.

I. EVSE Mounting: Floor mount As indicated on Drawings.

J. Enclosures:

1. Rated for environmental conditions at installed location.
 - a. Indoor Dry and Clean Locations: NEMA 250 1R.
 - b. Outdoor Locations: NEMA 250, 3R
 - c. Other Wet or Damp Indoor Locations: NEMA 250, 3R.
 - d. Stainless steel, Aluminum, Composite, UV-resistant plastic.
 - e. Thermoset, polyester powder paint Anodized.
 - f. Lockable.
 - g. Tamper resistant.

K. Status Indicators:

1. LEDs to indicate power, charging, charging complete, system status, faults, and service.

L. Display Screen:

1. Daylight viewable, UV-protected display with human-machine interface capability.
2. Displays power, charging, charging complete, remote control, system status, faults, and service.

2.4

A. Networking:

1. WAN Communications: Cellular GSM/GPRS, CDMA.
2. LAN Communications: 10/100/1000 Base T Ethernet.
3. Capable of remote configuration and reporting.

B. Payment System:

1. Contactless credit card reader.

2. PCI compliant.
 3. Capable of remote control and authorization.
- C. Charging Network: Compatible with the AeroVironment, Blink, Chargepoint, EV Connect, eVgo, GE Wattstation, PlugShare, SemaConnect, EV charging network.
1. Multiple units shall independently connect to charging network.
 2. Multiple units shall have one unit designated as a master unit that is configured as a gateway unit between the EVSE and the charging network.
 3. Individual units shall be capable of indicating station status and availability providing or connecting user to customer support.

2.5 GENERAL FINISH REQUIREMENTS

- A. Protect mechanical finishes on exposed surfaces from damage by utilizing cushioning materials or foam or by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roughing-in for EVSE electrical conduit to verify actual locations of conduit connections before equipment installation.
- C. Examine floors and pavement for suitable conditions where EVSE will be installed.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Comply with NECA 1 and NECA 413.
- B. Concrete Base Mounting:

1. Install EVSE on 6-inch nominal-thickness concrete base. Comply with requirements for concrete base specified in Section 033000 "Cast-in-Place Concrete."
 - a. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of concrete base.
 - b. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete floor.
 - c. Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - d. Install anchor bolts to elevations required for proper attachment to supported equipment.
 - e. Secure EVSE to concrete base according to manufacturer's written instructions.

2. Install EVSE on 12-inch nominal-diameter and 48-inch-deep concrete base. Comply with requirements for concrete base specified in Section 033000 "Cast-in-Place Concrete."
 - a. Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - b. Install anchor bolts to elevations required for proper attachment to supported equipment.
 - c. Secure EVSE to concrete base according to manufacturer's written instructions.

C. Wall Mounting:

1. Install EVSE, so that its receptacles or holders are not less than 18 inches and not more than 4 feet above finished floor.
2. Mount EVSE to steel slotted supports 1-1/4 inches in depth. Orient steel slotted supports vertically.
3. Ensure that EVSE is plumb and rigid without distortion of box.
4. Secure EVSE according to manufacturer's written instructions.

D. Pole Mounting:

1. Allow a minimum of 24 inches of clearance around EVSE.
2. EVSE receptacles or holders shall be not less than 24 inches and not more than 4 feet above finished grade.
3. Mount EVSE plumb and rigid without distortion of enclosure.
4. Secure EVSE according to manufacturer's written instructions.

- E. Comply with mounting and anchoring requirements specified in Section 260548.16 "Seismic Controls for Electrical Systems."
- F. Wiring Method: Install cables in raceways and cable trays. Conceal raceway and cables except in unfinished spaces.
 - 1. Comply with requirements for raceways and boxes specified in Section 260533 "Raceways and Boxes for Electrical Systems."
 - 2. Comply with requirements for underground raceways and enclosures specified in Section 260543 "Underground Ducts and Raceways for Electrical Systems."
- G. Wiring Method: Conceal conductors and cables in accessible ceilings, walls, and floors where possible.
- H. Wiring within Enclosures: Bundle, lace, and train conductors to terminal points with no excess and without exceeding manufacturer's limitations on bending radii. Install lacing bars and distribution spools.
- I. Disconnect: Install disconnect in a readily accessible location according to Section 262816 "Enclosed Switches and Circuit Breakers."
- J. Circuit Breakers: Comply with Section 262816 "Enclosed Switches and Circuit Breakers."
- K. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking from enclosures and components.
- L. Secure covers to enclosure.
- M. Cybersecurity:
 - 1. Software:
 - a. Coordinate security requirements with IT department, Insert entity responsible for IT security.
 - b. Ensure that latest stable software release is installed and properly operating.
 - c. Disable or change default passwords to password of at least eight characters in length, using a combination of uppercase and lower letters, numbers, and symbols. Record passwords and turn over to party responsible for system operation and administration.
 - 2. Hardware:
 - a. Coordinate location and access requirements with IT department, Insert entity responsible for IT security.

- b. Enable highest level of wireless encryption that is compatible with Owner's ICT network.
- c. Disable dual network connections.

3.3 CONNECTIONS

- A. Connect wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables."
- B. Comply with grounding requirements in Section 260526 "Grounding and Bonding for Electrical Systems."
- C. Comply with requirements for installation of conduit in Section 260533 "Raceways and Boxes for Electrical Systems." Drawings indicate general arrangement of conduit, fittings, and specialties.
- D. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.
- E. Verify that all electrical connections have been made according to the manufacturer's instructions. Remove all burrs, shavings, and detritus from inside the enclosure.
- F. After confirming all connections, install covers and tighten fasteners to according to manufacturer's instructions.

3.4 IDENTIFICATION

- A. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

3.5 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
- B. Perform tests and inspections with the assistance of a factory-authorized service representative.
- C. Tests and Inspections:
 - 1. For each unit of EVSE, perform the following tests and inspections:

- a. Unit self-test.
 - b. Operation test with load bank.
 - c. Operation test with EV.
 - d. Network communications test.
- D. EVSE will be considered defective if it does not pass tests and inspections.
- E. Prepare test and inspection reports.

3.6 STARTUP SERVICE

- A. Engage a factory-authorized service representative to perform startup service.
- 1. Complete installation and startup checks according to manufacturer's written instructions.

3.7 SOFTWARE SERVICE AGREEMENT

- A. Technical Support: Beginning at Substantial Completion, service agreement shall include software support for five years.
- B. Upgrade Service: At Substantial Completion, update software to latest version. Install and program software upgrades that become available within five years from date of Substantial Completion. Upgrading software shall include operating system and new or revised licenses for using software.
- 1. Upgrade Notice: At least 30 days to allow Owner to schedule and access the system and to upgrade computer equipment if necessary.

3.8 DEMONSTRATION

- A. Engage a factory-authorized service representative to training Owner's maintenance personnel to adjust, operate, and maintain EV charging equipment.

END OF SECTION 262743

**MISCELLANEOUS
CONTRACT
DOCUMENTS
(SAMPLE)**

**CITY OF COSTA MESA
PUBLIC WORKS AGREEMENT**

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

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

ACCORDINGLY, the parties hereto agree as follows:

1. SCOPE OF WORK.

The Work consists of:

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

The Project is known as Project (“Project”).

2. CONTRACT DOCUMENTS.

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

- a. This Agreement;
- b. CONTRACTOR’s bid;
- c. Demolition and Construction Plans & Details;
- d. Labor and Material Bond, including agent’s Power of Attorney;
- e. Summary of Public Contract Code section 9204;
- f. Drug-Free Workplace Policy; and
- g. Provisions of the most current edition of The Greenbook: Standard Specifications for Public Works Construction (“The Greenbook”).

The documents attached hereto are incorporated herein by this reference. The Greenbook is incorporated by reference as if fully set forth herein. The documents

comprising the complete Agreement will be referred to as the "Contract Documents."

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

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

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

3. CITY'S REPRESENTATIVE.

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

4. CONTRACTOR'S PROJECT MANAGER; PERSONNEL.

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

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

This Paragraph 4 is a material provision of the Agreement.

5. SCHEDULE.

All Work shall be performed in accordance with the schedule approved on behalf of CITY by the Project Manager, and in accordance with the time of performance set forth in Paragraph 8 (Time of Performance).

6. EQUIPMENT - PERFORMANCE OF WORK.

CONTRACTOR shall furnish all tools, equipment, apparatus, facilities, labor and

materials necessary to perform and complete the Work of construction in a good and workmanlike manner in strict conformity with the Contract Documents.

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

7. CONTRACT PRICE.

(\$00).

8. TIME OF PERFORMANCE.

CONTRACTOR shall commence Work by the date specified in CITY's Notice to Proceed, unless a later date is agreed upon in writing by the parties. The Work shall be completed within fourteen (14) working days from the first day of commencement of the Work.

9. TERMINATION.

(a) Termination for Convenience.

CITY may terminate this Agreement at any time, with or without cause, by providing thirty (30) days' written notice to CONTRACTOR.

(b) Termination for Breach of Contract.

(i) If CONTRACTOR refuses or fails to prosecute the Work or any severable part of it with such diligence as will ensure its timely completion, or if CONTRACTOR fails to complete the Work on time, or if CONTRACTOR, or any subcontractor, violates any of the provisions of the Contract Documents, the Project Manager may give written notice to CONTRACTOR and CONTRACTOR's sureties of the CITY's intention to terminate this Agreement; and, unless within five (5) days after the serving of that notice, such conduct shall cease and arrangements for the correction

thereof be made to the satisfaction of the CITY, this Agreement may be terminated at the option of CITY effective upon CONTRACTOR's receipt of a second notice sent by the CITY indicating that the CITY has exercised its option to terminate.

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

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

10. 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.

11. 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.

12. 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.

13. 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.

14. 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. 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.

15. SUBCONTRACTORS.

CONTRACTOR shall not subcontract the Work or any portion thereof without CITY's prior written consent.

16. CONTRACT SECURITY AND GUARANTEE.

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

CONTRACTOR shall provide a certified copy of the certificate of authority of the surety issued by the Insurance Commissioner; a certificate from the clerk of the county in which the court or officer is located that the certificate of authority of the surety has not been surrendered, revoked, canceled, annulled, or suspended or, in the event that it has, that renewed authority has been granted; and copies of the surety's most recent annual

statement and quarterly statement filed with the Department of Insurance pursuant to Article 10 (commencing with Section 900) of Chapter 1 of Part 2 of Division 1 of the Insurance Code.

CONTRACTOR guarantees that all materials used in the Work and all labor performed shall be in conformity with the Contract Documents including, but not limited to, the standards and specifications set forth in the most current edition of The Greenbook. CONTRACTOR shall, at its own expense, make any and all repairs and replacements that shall become necessary as the result of any failure of the Work to conform to the aforementioned Contract Documents, and standard specifications; provided, however, that CONTRACTOR shall be obligated under this provision only to the extent of those failures or defects of which he is given notice within a period of twelve (12) months from the date that the Notice of Completion is recorded.

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

17. INDEMNIFICATION.

CONTRACTOR agrees to protect, defend, indemnify and hold harmless CITY and its elected and appointed boards, officers, agents, and employees from any and all claims, liabilities, expenses, or damages of any nature, including attorney fees, for injury to or death of any person, and for injury or damage to any property, including consequential damages of any nature resulting therefrom, arising out of or in any way connected with the performance of this Agreement. The defense obligation provided for

hereunder shall apply without any advance showing of negligence or wrongdoing by the CONTRACTOR, its employees, and/or authorized subcontractors, but shall be required whenever any claim, action, complaint, or suit asserts as its basis the negligence, errors, omissions or misconduct of the CONTRACTOR, its employees, and/or authorized subcontractors, and/or whenever any claim, action, complaint or suit asserts liability against the CITY, its elected officials, officers, agents and employees based upon the work performed by the CONTRACTOR, its employees, and/or authorized subcontractors under this Agreement, whether or not the CONTRACTOR, its employees, and/or authorized subcontractors are specifically named or otherwise asserted to be liable. Notwithstanding the foregoing, the CONTRACTOR shall not be liable for the defense or indemnification of the CITY for claims, actions, complaints or suits arising out of the sole active negligence or willful misconduct of the CITY. This provision shall supersede and replace all other indemnity provisions contained either in the CITY's specifications or CONTRACTOR's proposal, which shall be of no force and effect.

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

CITY does not, and shall not, waive any rights against CONTRACTOR which it may have by reason of the above hold harmless agreements, because of the acceptance by CITY or the deposit with CITY by CONTRACTOR of any or all of the insurance policies described in Paragraph 18 (Insurance) of this Agreement.

The hold harmless agreements by CONTRACTOR shall apply to all liabilities, expenses, claims, and damages of every kind (including but not limited to attorney fees) incurred or alleged to have been incurred, by reason of the operations of CONTRACTOR or any subcontractor or others performing on behalf of CONTRACTOR, whether or not such insurance policies are applicable. CONTRACTOR shall require any and all tiers of subcontractors to afford the same degree of indemnification to the CITY OF COSTA MESA and its elected and appointed boards, officers, agents, and employees that is required of CONTRACTOR and shall incorporate identical indemnity provisions in all contracts between CONTRACTOR and all tiers of its subcontractors.

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

18. INSURANCE.

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

obtained and approved.

Neither the failure of CONTRACTOR to supply specified insurance policies and coverage, nor the failure of CITY to approve same shall alter or invalidate the provisions of Paragraph 17 (Indemnification) of this Agreement.

(a) Workers' Compensation Insurance.

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

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

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

(b) Liability Insurance Coverage.

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

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

less than \$1,000,000.00 combined single limits, per occurrence and aggregate.

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

(1) Additional Insured:

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

(2) Notice:

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

(3) Other Insurance:

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

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

19. PROOF OF INSURANCE.

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

20. LEGAL WORK DAY - PENALTIES FOR VIOLATION.

Eight (8) hours of labor shall constitute a legal day's work during any one (1) calendar day. CONTRACTOR shall forfeit to CITY the sum of Twenty-Five Dollars (\$25.00) for each workman employed in the execution of this Agreement by CONTRACTOR or by any subcontractor for each calendar day during which such workman is required or permitted to work more than eight (8) hours in any one calendar day and 40 hours in any one calendar week in violation of California Labor Code Sections 1810 through 1815, inclusive.

21. PREVAILING WAGE SCALE.

CONTRACTOR shall comply in all respects with the Davis-Bacon Act (40 U.S.C. section 276a) and with California Labor Code sections 1770 et seq., including the keeping of all records required by the provisions of Labor Code section 1776.

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

22. 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.

23. 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.

24. 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.

25. CONTRACT ASSURANCE.

The CONTRACTOR or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Agreement. The CONTRACTOR shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the CONTRACTOR to carry out these requirements is a material breach of this Agreement, which may result in the termination of this Agreement or such other remedy as recipient deems appropriate.

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

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:

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

Attn:

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

Attn: _____

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. RESOLUTION OF CONTRACTOR CLAIMS.

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

33. 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.

34. ASSIGNABILITY.

This Agreement may not be sold, transferred or assigned by either party, or by operation of law, to any other person or persons or business entity, without the other party's written permission. Any such sale, transfer or assignment, or attempted sale, transfer or assignment without written permission, may be deemed by the other party to

constitute a voluntary termination of this Agreement and this Agreement shall thereafter be deemed terminated and void.

35. 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.

36. 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.

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.

39. ADDITIONAL SERVICES.

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

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

[Signatures appear on following page.]

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

CITY OF COSTA MESA,
A municipal corporation

Lori Ann Farrell Harrison
City Manager

Date: _____

CONTRACTOR

Signature

Date: _____

Name and Title

Signature

Date: _____

Name and Title

Social Security or Taxpayer ID Number

ATTEST:

Brenda Green
City Clerk

Date: _____

APPROVED AS TO FORM:

Kimberly Hall Barlow
City Attorney

Date: _____

APPROVED AS TO INSURANCE:

Ruth Wang
Risk Management

Date: _____

APPROVED AS TO PURCHASING:

Kelly A. Telford
Finance Director

Date: _____

DEPARTMENTAL APPROVAL:

Raja Sethuraman
Public Services Director

Date: _____

Project Manager

Date: _____

COUNCIL POLICY – DRUG FREE WORKPLACE

CITY OF COSTA MESA, CALIFORNIA

COUNCIL POLICY

SUBJECT	POLICY NUMBER	EFFECTIVE DATE	PAGE
DRUG-FREE WORKPLACE	100-5	8/08/89	1 OF 3

BACKGROUND

Under the Federal Drug-Free Workplace Act of 1988, passed as part of omnibus drug legislation enacted November 18, 1988, contractors and grantees of Federal funds must certify that they will provide drug-free workplaces. At the present time, the City of Costa Mesa, as a subgrantee of Federal funds under a variety of programs, is required to abide by this Act. The City Council has expressed its support of the national effort to eradicate drug abuse through the creation of a Substance Abuse Committee, institution of a City-wide D.A.R.E. program in all local schools and other activities in support of a drug-free community. This Policy is intended to extend that effort to contractors and grantees of the City of Costa Mesa in the elimination of dangerous drugs in the workplace.

PURPOSE

It is the purpose of this Policy to:

1. Clearly state the City of Costa Mesa's commitment to a drug-free society.
2. Set forth guidelines to ensure that public, private, and nonprofit organizations receiving funds from the City of Costa Mesa share the commitment to a drug-free workplace.

POLICY

The City Manager, under direction by the City Council, shall take the necessary steps to see that the following provisions are included in all contracts and agreements entered into by the City of Costa Mesa involving the disbursement of funds.

1. Contractor or subgrantee hereby certifies that it will provide a drug-free workplace by:
 - A. Publishing a statement notifying employees that the unlawful manufacturer, distribution, dispensing, possessing, or use of a controlled substance is prohibited in Contractor's and/or subgrantee's workplace, specifically the job site or location included in this contract, and specifying the actions that will taken against the employees for violation of such prohibition;
 - B. Establishing a Drug-Free Awareness Program to inform employees about:
 1. The dangers of drug abuse in the workplace;

CITY OF COSTA MESA, CALIFORNIA
COUNCIL POLICY

SUBJECT	POLICY NUMBER	EFFECTIVE DATE	PAGE
DRUG-FREE WORKPLACE	100-5	8/08/89	2 OF 3

2. Contractor's and/or subgrantee's policy of maintaining a drug-free workplace;
 3. Any available drug counseling, rehabilitation and employee assistance programs; and
 4. The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace.
- C. Making it a requirement that each employee to be engaged in the performance of the contract be given a copy of the statement required by Subparagraph A.
- D. Notifying the employee in the statement required by Subparagraph 1.A that, as a condition of employment under the contract, the employee will:
1. Abide by the terms of the statement; and
 2. Notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after such violation.
- E. Notifying the City of Costa Mesa within ten (10) days after receiving notice under Subparagraph 1.D.2 from an employee or otherwise receiving the actual notice of such conviction.
- F. Taking one of the following actions within thirty (30) days of receiving notice under Subparagraph 1.D.2 with respect to an employee who is so convicted:
1. Taking appropriate personnel action against such an employee, up to and including termination; or
 2. Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health agency, law enforcement, or other appropriate agency.
- G. Making a good faith effort to maintain a drug-free workplace through implementation of Subparagraph 1.A through 1.F, inclusive.
2. Contractor and/or subgrantee shall be deemed to be in violation of this Policy if the City of Costa Mesa determines that:
- A. Contractor and/or subgrantee has made a false certification under Paragraph 1 above.

CITY OF COSTA MESA, CALIFORNIA

COUNCIL POLICY

SUBJECT	POLICY NUMBER	EFFECTIVE DATE	PAGE
DRUG-FREE WORKPLACE	100-5	8/08/89	3 OF 3

B. Contractor and/or subgrantee has violated the certification by failing to carry out the requirements of Subparagraphs 1.A through 1.G above.

C. Such number of employees of Contractor and/or subgrantee have been convicted of violations of criminal drug statutes for violations occurring in the workplace as to indicate that the Contractor and/or subgrantee has failed to make a good faith effort to provide a drug-free workplace.

3. Should any Contractor and/or subgrantee be deemed to be in violation of this Policy pursuant to the provisions of 2.A, B and C, a suspension, termination or debarment proceeding subject to applicable Federal, State, or local laws shall be conducted. Upon issuance of any final decision under this section requiring debarment of a Contractor and/or subgrantee, the Contractor and/or subgrantee shall be ineligible for award of any contract, agreement or grant from the City of Costa Mesa for a period specified in the decision, not to exceed five (5) years. Upon issuance of any final decision recommending against debarment of the Contractor and/or subgrantee, the Contractor and/or subgrantee shall be eligible for compensation as provided by law.

SUMMARY OF PUBLIC CONTRACT CODE § 9204

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 must 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.

CERTIFICATE OF INSURANCE

CERTIFICATE HOLDER City of Costa Mesa 77 Fair Drive P. O. Box 1200 Costa Mesa, CA 92628-1200	INSURANCE COMPANIES AFFORDING COVERAGES Company Letter A
NAME AND ADDRESS OF INSURED	E

This is to certify that policies of insurance listed below have been issued to the insured named above and are in force at this time, including attached endorsement(s).

COMPANY LETTER	TYPE OF INSURANCE	POLICY NO.	POLICY EXP. DATE	LIMITS OF LIABILITY IN THOUSANDS (100)	
				Each Occurrence	Aggregate
	GENERAL LIABILITY				
	Comprehensive Form			Bodily Injury	\$
	Premises—Operations			Property Damage	\$
	Explosion & Collapse Hazard				
	Underground Hazard				
	Products/Completed—Operations Hazard			Bodily Injury and Property Damage Combined	\$
	Contractual Insurance				
	Broad Form Property Damage				
	Independent Contractors				
	Personal Injury			Personal Injury	\$
	Marine				
	Aviation				
	AUTOMOBILE LIABILITY				
	Comprehensive Form			Bodily Injury (Each Person)	\$
	Owned			Bodily Injury (Each Occurrence)	\$
	Hired			Property Damage	\$
	Non-owned			Bodily Injury and Property Damage Combined	\$
	EXCESS LIABILITY				
	Umbrella Form			Bodily Injury and Property Damage Combined	\$
	Other than Umbrella Form				
	WORKERS' COMPENSATION AND EMPLOYER'S LIABILITY			Statutory	(Each Accident)

NOTE: The Comprehensive General Liability policy and/or Automotive Liability policy is/are endorsed with the City of Costa Mesa Endorsement(s) shown on the reverse side.

CANCELLATION: Said policy shall not terminate, nor shall it be cancelled, nor the coverage reduced, until thirty (30) days after written notice is given to City.

By: _____ Agency: _____ Date Issued _____
Authorized Representative

Description of operations/locations/vehicles: All operations performed for the City of Costa Mesa by or on behalf of the named insured in connection with the following designated contract:

(Project title and contract number)

NOTICE: This certificate or verification of insurance is not an insurance policy and does not amend, extend or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate or verification of insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies, including attached endorsements.

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED –
STATE OR POLITICAL SUBDIVISIONS - PERMIT**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART.

SCHEDULE

State Or Political Subdivision:

The City of Costa Mesa and its elected and appointed boards, officers, agents, and employees are additional insureds.

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

Section II – Who Is An Insured is amended to include as an insured any state or political subdivision shown in the Schedule, subject to the following provisions:

1. This insurance applies only with respect to operations performed by you or on your behalf for which the state or political subdivision has issued a permit.
2. This insurance does not apply to:
 - a. "Bodily injury," "property damage" or "personal and advertising injury" arising out of operations performed for the state or municipality; or
 - b. "Bodily injury" or "property damage" included within the "products-completed operations hazard".

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

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 20 37 10 01

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED – OWNERS, LESSEES OR
CONTRACTORS – COMPLETED OPERATIONS**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name of Person or Organization:
Location And Description of Completed Operations:
Additional Premium:

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

Section II – Who Is An Insured is amended to include as an Insured the person or organization shown in the Schedule, but only with respect to liability arising out of "your work" at the location designated and described in the schedule of this endorsement performed for that insured and included in the "products-completed operations hazard".

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED – OWNERS, LESSEES OR
CONTRACTORS – AUTOMATIC STATUS WHEN
REQUIRED IN CONSTRUCTION AGREEMENT WITH YOU**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

A. Section II – Who Is An Insured is amended to include as an insured any person or organization for whom you are performing operations when you and such person or organization have agreed in writing in a contract or agreement that such person or organization be added as an additional insured on your policy. Such person or organization is an additional insured only with respect to liability arising out of your ongoing operations performed for that insured. A person's or organization's status as an insured under this endorsement ends when your operations for that insured are completed.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

2. Exclusions

This insurance does not apply to:

a. "Bodily injury", "property damage" or "personal and advertising injury" arising out of the rendering of, or the failure to render, any professional architectural, engineering or surveying services, including:

- (1)** The preparing, approving, or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders or drawings and specifications; and
- (2)** Supervisory, inspection, architectural or engineering activities.

b. "Bodily injury" or "property damage" occurring after:

- (1)** All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the site of the covered operations has been completed; or
- (2)** That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

**Workers Compensation
Waiver of Subrogation Endorsement**

Policy Number:
Named Insured:
Workers Compensation Carrier: Star Insurance Company

**IT IS AGREED THAT WE WAIVE ANY RIGHT TO RECOVERY WE MAY HAVE AGAINST
THE PERSON OR ORGANIZATION SHOWN IN THE SCHEDULE BECAUSE PAYMENT
WE MAKE FOR INJURY OR DAMAGE ARISING OUT OF "YOUR WORK" DONE
UNDER A CONTRACT WITH THAT PERSON OR ORGANIZATION.**

Schedule

Name or Person(s) or Organization:

WC 04 03 06

Copyright, Insurance Service Office, Inc., 1984

**Workers' Compensation and Employers' Liability Insurance Policy
Waiver of Our Right to Recover From Others Endorsement - California
WC 04 03 06**

If the following information is not complete, refer to the appropriate Schedule attached to the policy.

Insured: Policy Number
Producer: Effective Date

Schedule

Person or Organization

Job Description

Additional Premium %

We have the right to recover our payments from anyone liable for an injury- covered by this policy. We will not enforce our right against the person or organization named in the Schedule. (This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.)

You must maintain payroll records accurately segregating the remuneration of your employees while engaged in the work described in the Schedule.

The additional premium for this endorsement shall be the percentage, as shown in the Schedule applicable to this endorsement, of the California workers' compensation premium otherwise due on such remuneration.



Authorized Representative

LABOR AND MATERIAL BOND TO ACCOMPANY CONTRACT
PUBLIC WORK

KNOW ALL MEN BY THESE PRESENTS:

THAT, WHEREAS the CITY OF COSTA MESA, 77 Fair Drive, Costa Mesa, California 92626, has awarded to _____ hereinafter designated as the "Contractor," a contract which is hereby incorporated by reference herein, for the work described as follows: _____

_____ ; and
WHEREAS, said Contractor is required by the provisions of Chapter 7, Division 3, Title 15, Sections 3247-3248, Civil Code to furnish a bond in connection with said contract, as hereinafter set forth.

NOW, THEREFORE, We _____
the undersigned Contractor, as Principal, and _____
a corporation organized and existing under the laws of the State of _____
and duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto the CITY OF COSTA MESA in the penal sum of _____ Dollars (\$ _____), said sum being not less than one-half of the estimated amount payable by the said CITY OF COSTA MESA under the terms of the contract. for which payment well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

The Condition Of This Obligation Is Such, That, if said Contractor, his or its heirs, executors, administrators, successors or assigns, or sub-contractors, shall fail to pay for any materials, provisions, provender or other supplies or teams, implements or machinery used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts due under the Unemployment Insurance Code with respect to such work or labor performed under the above contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Contractor and sub-contractors pursuant to Section 13020 of the Unemployment Insurance Code with respect to such work and labor, the surety or sureties herein will pay for the same in an amount not exceeding the sum specified in this bond, otherwise the above obligation shall be void. In case suit is brought upon this bond, the said Surety will pay a reasonable attorney's fee to be fixed by the court. This bond shall inure to the benefit of any and all persons, companies and corporations entitled to file claims under Section 3181 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond. And the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any wise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

IN WITNESS WHEREOF, We have hereunto set our hands and seals this _____ day of _____, 20____.

Bond Number _____

**FAITHFUL PERFORMANCE BOND _____
PUBLIC WORK**

(The premium charge on this bond is \$ _____, being at
the rate of \$ _____ per thousand of the contract price)

KNOW ALL MEN BY THESE PRESENTS:

THAT, WHEREAS the CITY OF COSTA MESA, 77 Fair Drive, Costa Mesa, California 92626, has
entered into a contract dated _____, 20____, which is hereby incorporated by reference
herein, with _____
hereinafter designated as the "Principal," for the work described as follows:

_____ ; and

WHEREAS, said Principal is required by the terms of said contract to furnish a bond for the
faithful performance of said contract.

NOW, THEREFORE, We the Principal, and _____,
a corporation organized and existing under the laws of the State of _____
and duly authorized to transact business under the laws of the State of California, as Surety, are held and
firmly bound unto the CITY OF COSTA MESA in the penal sum of _____
_____ Dollars (\$ _____), lawful money of the United States, for the payment of
which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and
successors, jointly and severally, firmly by these presents.

The Condition Of This Obligation Is Such, That, if the above bounden Principal, his or its heirs,
executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and
truly keep and perform the covenants, conditions and agreements in the said contract and any alteration
thereof made as therein provided, or his or their part, to be kept and performed at the time and in the
manner therein specified, and in all respects according to their true intent and meaning, and shall
indemnify and save harmless the CITY OF COSTA MESA, its officers and agents, as therein stipulated,
then this obligation shall become null and void; otherwise it shall be and remain in full force and virtue.

And the said Surety, for value received, hereby stipulates and agrees that no change, extension of
time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the
specifications accompanying the same shall in any wise affect its obligations on this bond, and it does
hereby waive notice of any such change, extension of time, alteration or addition to the terms of the
contract or the work or to the specifications.

IN WITNESS WHEREOF. We have hereunto set our hands and seals this _____
day of _____, 20____.

City of Costa Mesa, Department of Public Services
Application and Permit for Work Described Below

PERMIT NO.

VENDOR NO.

Address or Location of Work _____ Date _____

Type of Work to be Done _____

Start Date _____ Permit Not Valid After _____ (Expiration Date) Plan No. _____

Contractor's Name _____ Address _____

Telephone No. (Day) _____ (Night) _____ City and State _____

State License No./Class _____ City Business License No. _____

Applicant's Name _____ Address _____

Telephone No. _____ Developer's Name _____ Telephone No. _____

Name of Insurance Co. _____ Insurance Cert. No.(s) _____

24-Hour Emergency Contact _____ Telephone No. _____

<p>Bond FEES</p> <p>Bond \$ _____</p> <p>Cash Deposit \$ _____</p> <p>Issuance \$ _____</p> <p>Inspection \$ _____</p> <p>TOTAL \$ _____</p>	<p>48 HOURS MINIMUM REQUIRED FOR PROCESSING PERMIT</p> <p>Account # </p>	<p>PERMIT APPROVED FOR CITY ENGINEER</p> <p>By _____</p> <p>Date _____</p> <p>Underground Service Alert ID No. _____</p>
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Permittee shall contact the City Inspector's office (754-6025) at least 24 hours prior to commencing any work. Failure to obtain proper inspections prior to commencement of work may be cause for its rejection. **THIS PERMIT WITH APPROVED PLANS MUST BE ON THE JOB AND AVAILABLE TO CITY REPRESENTATIVES AT ALL TIMES.** You are guided by Municipal Code Sections 1-33, 15-25, 15-27, 15-27.1, 15-39 and 15-48.

THE UNDERSIGNED PERMITTEE HEREBY CERTIFIES:

1. That all work shall be performed in accordance with the Standard Specifications for Public Works Construction (latest edition); Standard Drawings of the City of Costa Mesa; special agency provisions; and all applicable laws and ordinances.
2. Control of traffic shall conform to the Work Area Traffic Control Handbook (W.A.T.C.H.) (latest edition). The permittee shall furnish and/or install all signs, lights, barricades, traffic control or warning devices, flagmen and flashing arrow board. The permittee shall obtain approval of the Transportation Services Engineer for all street closures, detours, turn restrictions, parking prohibitions and methods of accommodating traffic. The permittee shall notify Emergency, Fire and Police services and residents or businesses twenty-four (24) hours in advance of any access limitation or traffic restrictions.
3. That a maximum of _____ lane(s) may be closed if necessary to perform work within the public right of way during the hours of 8:30 a.m. - 3:30 p.m. Monday through Friday as long as traffic can be maintained in each direction with flagmen unless otherwise approved by the Transportation Services Engineer.
4. That throughout all phases of construction the work site shall be kept clean and free of rubbish, debris and dust and drainage shall be maintained.

SUBJECT TO THE NOTES BELOW: (inspection fees over the basic inspection time will be billed at the approved hourly rate.)

1. City will provide inspection between 7:30 a.m. and 3:00 p.m., Monday through Friday (except on City observed holidays).
2. Prior to placing Portland Cement Concrete or Asphalt Concrete (A.C.), the following will have been inspected and approved; native and imported .
3. Curb and gutter shall not be removed on the day prior to a weekend or a City observed holiday.
4. Fill in areas left by curb and gutter removal flush with the adjacent pavement on the same day that removal occurs.
5. Bore under all streets, curbs and gutters, sidewalks, cross-gutters and driveway approaches. Tunneling is not allowed.
6. Open excavations must be backfilled or plated with spikes and A.C. tacked around edges during non-working hours.
7. Sidewalk shall be constructed per City of Costa Mesa Standard Drawing No. _____
8. Driveway approach shall be constructed per City of Costa Mesa Standard Drawing No. _____
9. No traffic allowed on concrete for minimum of seven days for curing. See traffic control above.
10. Trench compaction and resurfacing shall conform to City of Costa Mesa Standard Drawing No. 813.
11. Trenches exceeding five (5) feet in depth require a permit from the Division of Industrial Safety, State of California.
12. Permittee shall pay for all S.E., compaction and materials tests deemed necessary by the City.
13. All trenches shall be permanently patched within ten (10) days of completion of work below subgrade.
14. Permittee shall provide the City with record drawings of permitted work before final inspection by the City.
15. Permittee understands and agrees to the hold-harmless agreement required by CMMC Section 15-27 and printed on the reverse of this application.
16. Other: _____

NOTICE: Contractor must notify the following Utility Companies two working days before starting work:

Costa Mesa Sanitary District
(714) 831-1731

Mesa Consolidated Water District
714) 831-1200

UNDERGROUND SERVICE ALERT
Toll Free - 1-800-422-4133; After Hours & Holidays - (714) 739-3031; (213) 821-3111

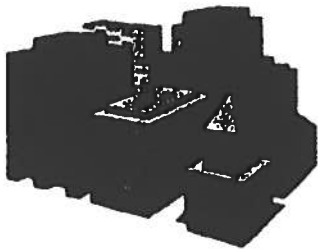
INSPECTION RECORD		Inspector of Records	<p>CERTIFICATE OF INSPECTION</p> <p>I hereby certify that the street work allowed by this permit has been constructed according to the plans and specifications and I hereby accept the work in this manner.</p> <p>By: _____</p> <p style="text-align: right;">Inspector</p> <p style="text-align: right;">Date _____</p>
Date			

0183-02 rev. 2/03
 White - Inspectors;
 Canary - Engineering;
 Pink - Finance;
 Goldenrod - Applicant

I certify I have read and understand all of the above and that all statements made are correct and complete.

Applicant's Signature _____ Date _____

3 COPIES OF SKETCHES OR PLANS ARE REQUIRED PRIOR TO PERMIT ISSUANCE
THIS APPLICATION BECOMES A PERMIT WHEN APPROVED AND VALIDATED



City of Costa Mesa Building Division

PERMIT PROCESSING CENTER SUBMITTAL APPLICATION

Activity Number: _____

Received By: _____

Project Address: _____ Suite/Unit: _____

Development Project Number: _____
(if applicable)

OFFICE USE ONLY

SUBMITTAL TYPE:

- | | | | |
|-------------------------------------|--------------------------------------|--|-------------------------------|
| <input type="checkbox"/> Building | <input type="checkbox"/> Engineering | <input type="checkbox"/> Sanitary District | <input type="checkbox"/> Fire |
| <input type="checkbox"/> Planning | <input type="checkbox"/> Grading | <input type="checkbox"/> Sign | |
| <input type="checkbox"/> Electrical | <input type="checkbox"/> Plumbing | <input type="checkbox"/> Mechanical | |

Other _____

Description of work to be performed: *(please be specific)* _____

Sq. Footage: _____ Type of Const: _____ Valuation: _____

Occupancy Type: _____ Occupant Load: _____ Grading: Cut/Fill _____ cubic yds.

Owner/Tenant: _____ Phone No.: _____

Address: _____ Suite/Unit: _____

City: _____ State: _____ Zip: _____

Applicant/Agent: _____ Phone No.: _____

Address: _____ Suite/Unit: _____ CDL#/SS#: _____

City: _____ State: _____ Zip: _____

Architect/Eng.: _____ Reg. No.: _____ Phone No.: _____

Address: _____ Suite/Unit: _____

City: _____ State: _____ Zip: _____

Contractor: _____ Phone No.: _____

Address: _____ Suite/Unit: _____

City: _____ State: _____ Zip: _____

State License No.: _____ Class _____ Expiration: _____

Workman's Comp. Policy No.: _____ Expiration: _____

Insurance Company: _____

(SEE BACK FOR ITEMIZED ELECTRICAL, MECHANICAL AND PLUMBING)



APPLICATION FOR BUSINESS LICENSE
 SEND YOUR CHECK MADE PAYABLE TO THE CITY OF COSTA MESA
 TREASURY MANAGEMENT DIVISION, PO BOX 1200, COSTA MESA, CA 92628-1200
 (714) 754-5234 TDD: (714) 754-5244

Business Name _____

Parent Company Name _____
(If Corporate Owned)

Note: Business address will be compared to zoning requirements before approval. Check with the Planning Division regarding the use of the location at (714) 754-5245.

Business Address _____
(Cannot be a P.O. Box) Street # _____ Street name _____ Unit # _____ City _____ State _____ Zip _____

Mailing Address _____
(Can be a P.O. Box) Street # _____ Street name _____ Unit # _____ City _____ State _____ Zip _____

Business Telephone # () _____ Business Start Date _____ No. of Employees (on average) _____

Ownership (Check One only)
 Sole Owner Corporation Partnership Husband & Wife Co-ownership Limited Liability Company
 Limited Liability Partnership

Seller's Permit No. _____ Contractors State No. & Class _____
(If Applicable) (If Applicable)

Federal Employer ID # or, Owner's Social Security # _____ Federal Firearms License # (if applicable) _____

OWNER'S OR PRINCIPAL'S NAME(S)

Name _____	Name _____
Home Address _____	Home Address _____
City _____ Zip _____	City _____ Zip _____
Telephone # () _____ Title _____	Telephone # () _____ Title _____
Drivers License No. _____ Date of Birth _____	Drivers License No. _____ Date of Birth _____

TYPE OF BUSINESS

PLEASE CIRCLE ONE: Wholesale/Retail/Manufacturing/Services/Non-Profit/Administrative Only/Warehouse/ Other

Fully Describe Business Operation: _____

Standard Industrial Class Code (SIC) _____

Alcohol Beverage Control Permit No. _____ Department of Motor Vehicles Permit # _____
(If Applicable) (Required for automobile/motorcycle sales businesses)

Hours of Operation (M-F) _____ (S-SU) _____ Number of Rental Units/Rooms/Spaces _____
(Commercial/Industrial only) (If Applicable)

CHOOSE ONE OF THE APPROPRIATE FEES BELOW

GENERAL BUSINESS
(wholesale, retail, professional, Etc.)

Enter Annual Gross Receipts Amount \$ _____

And Circle the corresponding category below

Annual Gross Receipts	Tax
\$0.00 to 1,000.00	\$0.00
\$1,000.01 to 25,000.00	\$25.00
\$25,000.01 to 40,000.00	\$35.00
\$40,000.01 to 75,000.00	\$45.00
\$75,000.01 to 200,000.00	\$60.00
\$200,000.01 to 500,000.00	\$100.00
Over \$500,000.00	\$200.00

TAX EXEMPT ORGANIZATIONS
 Attach proof of Tax Exempt Status (required for waiver of tax due)

SHOW, EXHIBITION, SWAP MEET Tax on the Promoter's Gross Receipts from the Gross Receipts schedule to the left _____
 Enter the tax due amount here \$ _____
PLUS _____ (# of sellers _____ x \$5 = \$ _____)
EQUALS _____ Total tax due \$ _____

ADMINISTRATIVE OFFICES/WAREHOUSES
 (Fees based on annual operating expenses when no receipts generated)
 Enter annual operating expenses amount \$ _____
 Use Gross Receipts schedule to the left to determine business license tax.

CONTRACTOR
(California Licensed) Total tax due **\$50.00**

VEHICLE WHEEL, TAXI, TOW TRUCK, BUS
 Number of Vehicles: _____ x \$25.00 = Total Tax Due \$ _____

- Will you store, handle or use 55 gallons, 500 pounds or 200 cubic feet of hazardous materials per year? Yes No
 - Will you have an assembly room with an occupant load of 50 or more persons? Yes No
 - Will you be installing a spray booth? Yes No
 - Will your business produce dust/wood shavings or other material? Yes No
 - Will you be storing or using flammable or combustible liquids or compressed gases? Yes No
 - Will you be warehousing materials higher than 12 feet? Yes No
- Fire Department approval required for any "Yes" answer. Please make an appointment by calling (714) 754-5128.

Your Business License will be issued under the provisions of Municipal Code Section 9-1. You are cautioned that this License does not permit operation of a business in violation of other Municipal Code Sections. There will be no tax refund if you are found operating illegally after the Certificate has been issued. Your business location will be checked by Planning, Building, and, if necessary, Fire Department officials. If you have any doubt whether your business location and/or building may conform with the requirements of the Municipal Code administered by these departments, you are urged to contact these departments for further information before filing your application. ** Sales or use tax may apply to your business activities. You may seek written advice regarding the application of tax to your particular business by writing or visiting the nearest State Board of Equalization. ** I declare under penalty of perjury that, to the best of my knowledge and belief, the statements made herein are correct and true and that acceptance of payment does not constitute approval of the Business License. Authorization to conduct business is not granted until issuance of the license.

Authorized Signature _____ Title _____ Date _____

FOR CITY OFFICE USE ONLY

Planning Approval _____ Date Approved _____ CUP Required? _____ CUP # _____
 Building Approval _____ Date Approved _____ Comments _____
 Fire Department Approval _____ Date Approved _____

Debarment Statement
(For consulting agreements >\$25,000)

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER
RESPONSIBILITY MATTERS (Executive Order 12549, Debarment and Suspension,
34 CFR Part 85)

Consultant certifies to the best of its knowledge and belief, that it and its principals:

- (a) Are are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (b) Have have not within a three-year period preceding award of this consulting agreement been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or Local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are are not presently indicted for or otherwise criminally charged by a governmental entity (Federal, State or Local) with commission of any of the offenses enumerated in Paragraph (b) above; and
- (d) Have have not within a three-year period preceding award of this consulting agreement had one or more public transactions (Federal, State or Local) terminated for cause or default.

Consultant Signature

Date

Typed or Printed Name

Contractual Agreement No.

COSTA MESA CITY HALL

INSTALLATION OF ELECTRIC VEHICLE CHARGING EQUIPMENT

77 FAIR DR, COSTA MESA,
CA 92626

PLANNING APPROVAL
City of Costa Mesa Planning Div.
Subject to Building Division Regs.
Any Revision must be approved
Required Prior to Building Final.
 YES NO Zoning Inspection
 YES NO Traffic/Park Fees
By: JA G. MA Date: 3/31/20

DIVISION OF BUILDING SAFETY
CITY OF COSTA MESA
REVIEWED FOR CODE COMPLIANCE
By: MA JDA Date: 3/31/20
This set of plans is for information only. It is not to be used on the job at all times and it is unlawful to make any change or alteration to these plans without written permission from the Division of Building and Safety, City of Costa Mesa.
The drawings of these plans and specifications SHALL NOT be held to permit or to be an approval of the installation of any equipment in any City of Costa Mesa Ordinance or other State law. These plans shall remain the property of the City of Costa Mesa and shall not be used for any other purpose without the written consent of the City of Costa Mesa. 105.5 within 180 days of issuance with a not commercial use of the building.



CLIENT
PROJECT NAME
**CITY OF COSTA MESA
EV CHARGING STATIONS**

CONSULTANT
IDS
IDS GROUP
1 PETERSON CANYON ROAD SUITE 30
IRVINE, CA 92606
TEL: 949-387-8500 FAX: 949-387-0800

APPROVED BY: Baltazar Mejia
BALTAZAR MEJIA
INTERIM CITY ENGINEER RCE NO C50330

STAMP

IDS PROJECT # 19X072.00

REV	DESCRIPTION	DATE
1	50% SD OWNER'S REVIEW	1/20/2020
2	50% DD OWNER'S REVIEW	1/31/2020
3	100% CD SUBMITTAL	2/21/2020

<p>SITE INFORMATION</p> <p>PROPOSED CHARGE POINT EV SITE ADDRESS: 77 FAIR DR, COSTA MESA, CA 92626</p> <p>PROPERTY OWNER: CITY OF COSTA MESA</p> <p>EQUIPMENT SUPPLIER: Charge Point or Approved Equal</p> <p>SC EDISON CONTACT INFO: PLANNER: NICK MUKANOS (714) 895-0210</p> <p>PROPOSED CHARGE POINT EV SITE ADDRESS: 77 FAIR DR, COSTA MESA, CA 92626</p> <p>LATITUDE (NAD83): 33° 39' 46.5" N 33.662929</p> <p>LONGITUDE (NAD83): 117° 54' 10.2" W -117.902827</p> <p>CONTACT ENGINEER: IDS GROUP INC.</p>	<p>AREA MAP</p>	<p>LOCATION MAP</p>	<p>PROJECT DESCRIPTION - ELECTRICAL</p> <p>THE INSTALLATION OF (5) ELECTRICAL VEHICLE CHARGING SYSTEMS. (4) LEVEL 2 DUAL PORT CHARGERS (1) LEVEL 3 FAST DC CHARGER AND PROVISIONS FOR (1) FUTURE DC FAST CHARGER. CHARGERS TO BE FED FROM THE EXISTING SWITCHGEAR IN THE BASEMENT OF CITY HALL.</p> <p>PROJECT DESCRIPTION - CIVIL</p> <p>SITE IMPROVEMENT FOR THE ELECTRICAL VEHICLE CHARGING STATIONS MENTIONED ABOVE, INCLUDING REVISIONS TO EXISTING PARKING STALLS, DRIVE AISLES AND ADJACENT LANDSCAPE AREAS.</p>																								
<p>ELECTRICAL APPLICABLE CODES</p> <p>ALL WORK SHALL COMPLY WITH THE FOLLOWING APPLICABLE CODES</p> <p>2019 CALIFORNIA BUILDING CODE 2019 CALIFORNIA GREEN STANDARD CODE 2019 CALIFORNIA MECHANICAL CODE 2019 CALIFORNIA PLUMBING CODE 2019 CALIFORNIA ELECTRICAL CODE 2019 CALIFORNIA FIRE CODE 2019 CALIFORNIA ENERGY CODE</p> <p>IN THE EVENT OF CONFLICT, THE MOST RESTRICTIVE CODE SHALL PREVAIL.</p>	<p>CALL BEFORE YOU DIG</p> <p>UNDERGROUND SERVICE ALERT UTILITY NOTIFICATION CENTER OF CALIFORNIA 811 OR 1-800-227-2600</p> <p>CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT 3 DAYS PRIOR TO STARTING CONSTRUCTION.</p>	<p>DO NOT SCALE DRAWINGS</p> <p>CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS & CONDITIONS ON THE JOBS SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.</p>	<p>ELECTRICAL SHEET INDEX</p> <table border="1"> <tr><td>E0.01</td><td>ELECTRICAL SYMBOLS LIST AND ABBREVIATIONS</td></tr> <tr><td>E0.02</td><td>GENERAL NOTES SHEET - 1</td></tr> <tr><td>E0.03</td><td>GENERAL NOTES SHEET - 2</td></tr> <tr><td>E0.04</td><td>GENERAL NOTES SHEET - 3</td></tr> <tr><td>E0.05</td><td>SINGLE LINE DIAGRAM AND LOAD SCHEDULES</td></tr> <tr><td>E1.00</td><td>OVERALL SITE REFERENCE PLAN</td></tr> <tr><td>E1.01</td><td>CONDUIT PATH TO FRONT AND REAR EVCS CHARGING EQUIPMENT</td></tr> <tr><td>E2.00</td><td>ENLARGED FRONT PARKING LOT EVCS POWER PLAN & ELEVATION VIEW</td></tr> <tr><td>E2.01</td><td>ENLARGED REAR PARKING LOT EVCS POWER PLAN & ELEVATION VIEW</td></tr> <tr><td>E3.00</td><td>ELECTRICAL DETAIL SHEET - 1</td></tr> <tr><td>E3.01</td><td>ELECTRICAL DETAIL SHEET - 2</td></tr> <tr><td>E3.02</td><td>ELECTRICAL DETAIL SHEET - 3</td></tr> </table>	E0.01	ELECTRICAL SYMBOLS LIST AND ABBREVIATIONS	E0.02	GENERAL NOTES SHEET - 1	E0.03	GENERAL NOTES SHEET - 2	E0.04	GENERAL NOTES SHEET - 3	E0.05	SINGLE LINE DIAGRAM AND LOAD SCHEDULES	E1.00	OVERALL SITE REFERENCE PLAN	E1.01	CONDUIT PATH TO FRONT AND REAR EVCS CHARGING EQUIPMENT	E2.00	ENLARGED FRONT PARKING LOT EVCS POWER PLAN & ELEVATION VIEW	E2.01	ENLARGED REAR PARKING LOT EVCS POWER PLAN & ELEVATION VIEW	E3.00	ELECTRICAL DETAIL SHEET - 1	E3.01	ELECTRICAL DETAIL SHEET - 2	E3.02	ELECTRICAL DETAIL SHEET - 3
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<p>CIVIL APPLICABLE CODES</p> <p>ALL WORK SHALL COMPLY WITH THE FOLLOWING APPLICABLE CODES:</p> <p>2019 CALIFORNIA BUILDING CODE</p> <p>IN THE EVENT OF CONFLICT, THE MOST RESTRICTIVE CODE SHALL PREVAIL.</p>	<p>CONTRACTOR NOTE</p> <p>CONTRACTOR SHALL COMPLETE, INSTALL PER THE SIGNED AND THE SEALED SET OF DRAWINGS. ANY NECESSARY DEVIATIONS FROM THE DRAWINGS MUST BE SUBMITTED THROUGH AN RFI REQUEST PROCESS WITH ENGINEERING FOR AN APPROVAL PRIOR TO CONTRACTOR PROCEEDING WITH A DEVIATION OF THE SIGNED AND SEALED SET OF DRAWINGS.</p>																										
<p>ELECTRICAL ENGINEER OF RECORD</p> <p>ROBIN Z. O'NEIL PE # E18557 IDS ELECTRICAL ENGINEERS</p>	<p>CIVIL ENGINEER OF RECORD</p> <p>PIETRO M. GAMBINO PE # C55577 IDS CIVIL ENGINEERS</p>	<p>CIVIL SHEET INDEX</p> <table border="1"> <tr><td>C-1</td><td>FRONT AND REAR PARKING SITE PLANS</td></tr> <tr><td>C-2</td><td>DETAILS</td></tr> </table>		C-1	FRONT AND REAR PARKING SITE PLANS	C-2	DETAILS																				
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C-2	DETAILS																										

NOT FOR CONSTRUCTION

TITLE SHEET FOR ELECTRICAL AND CIVIL DRAWINGS

SHEET NUMBER
T1.00

GENERAL ELECTRICAL SYMBOLS (SYMBOLS MAY NOT APPLY)

LIGHTING

	LINEAR FLUORESCENT FIXTURE
	LINEAR FLUORESCENT FIXTURE
	SUSPENDED LINEAR FLUORESCENT FIXTURE
	FLUORESCENT WALL MOUNT FIXTURE
	LINEAR FLUORESCENT STRIP FIXTURE
	LIGHT FIXTURE - RECESSED OR SURFACE
	PENDANT FIXTURE
	WALL MOUNTED LIGHT FIXTURE
	WALL SCONCE
	WALL WASHER
	LETTER REFERS TO FIXTURE TYPE
	MONO-POINT LIGHT FIXTURE
	TRACK LIGHT FIXTURE
	PARKING LOT POLE MOUNTED LIGHT FIXTURE
	SOLLARD LIGHT FIXTURE
	EXIT SIGN - CEILING MOUNTED
	EXIT SIGN - WALL MOUNTED
	EXIT SIGN - ARROWS INDICATE DIRECTION
	EMERGENCY BATTERY UNIT WITH HEADS
	FIXTURE w/ EMERGENCY BATTERY OR GENERATOR
	SINGLE POLE SWITCH, 20A, 120/277V
	TWO POLE SWITCH, 20A, 120/277V
	THREE-WAY SWITCH, 20A, 120/277V
	FOUR-WAY SWITCH, 20A, 120/277V
	DIMMER SWITCH, MIN 2000W, 120/277V
	HP RATED MOTOR SWITCH WITH THERMAL OVERLOAD PROTECTION
	LOWER CASE LETTER DENOTES FIXTURES TO BE CONTROLLED
	KEY SWITCH, 20A, 120/277V
	PUSH BUTTON CONTROL STATION
	OCCUPANCY SENSOR - CEILING
	OCCUPANCY SENSOR - WALL MOUNTED
	OCCUPANCY SENSOR w/ DIMMER - WALL MOUNTED
	LIGHTING CONTACTOR
	TIME CLOCK
	PHOTOCELL

POWER

	SINGLE RECEPTACLE, NEMA 5-20R, 20A, 125V
	DUPLEX RECEPTACLE, NEMA 5-20R, 20A, 125V
	GFCI DUPLEX RECEPTACLE, NEMA 5-20R, 20A, 125V
	DOUBLE DUPLEX RECEPTACLE, NEMA 5-20R, 20A, 125V
	DUPLEX RECEPTACLE / HALF-SWITCHED
	DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER - VERIFY MOUNTING HEIGHT
	GFCI RECEPTACLE, ABOVE COUNTER
	SPECIAL PURPOSE OUTLET (TYPE AS NOTED)
	CLOCK OUTLET NEMA 5-20R, 20A, 125V w/ RECESSED COVER PLATE AT 90° U.N.O.
	DUPLEX RECEPTACLE NEMA 5-20R, 20A, 125V - FLUSH MOUNT CEILING
	FLOOR OUTLET w/ DEVICE AS INDICATED
	COMBINATION FLOOR OUTLET w/ DEVICES AS INDICATED
	JUNCTION BOX
	JUNCTION BOX - WALL MOUNT
	JUNCTION BOX - FLUSH FLOOR MOUNT
	MULTI OUTLET SURFACE RACEWAY w/ NEMA 5-20R, 20A, 125V AT 12" ON CENTER, U.N.O.
	PULLBOX - EXTERIOR OR INTERIOR AS INDICATED
	TELEPHONE TERMINAL CABINET AT 72" TO TOP
	TELEPHONE BACKBOARD
	PANELBOARD - SURFACE MOUNT
	PANELBOARD - FLUSH MOUNT
	SWITCHBOARD OR DISTRIBUTION BOARD
	METER SERVICE PEDESTAL
	NON-FUSED DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	MOTOR CONTROLLER OR STARTER
	COMBINATION CONTROLLER/DISCONNECT SWITCH
	VENDOR FURNISHED COMBINATION CONTROLLER/DISCONNECT SWITCH

SIGNAL

	THERMOSTAT OUTLET AT 54" (HVAC UNIT DESIGNATION)
	ENCLOSED CIRCUIT BREAKER
	RELAY
	TIME SWITCH
	CONTACTOR
	TRANSFORMER
	AUTOMATIC TRANSFER SWITCH
	TELEPHONE OUTLET AT 18"
	DATA OUTLET AT 18"
	COMBINATION TELECOMPUTER OUTLET AT 18"
	TELEPHONE OUTLET ABOVE COUNTER
	TELE DATA OUTLET ABOVE COUNTER
	DATA OUTLET ABOVE COUNTER
	FLUSH FLOOR BOX WITH COMBINATION TELE/ DATA OUTLET
	TELEVISION OUTLET
	TELEVISION CAMERA (CCTV)
	FIRE ALARM HORN/STROKE
	CARD READER
	FLOW SWITCH
	TAMPERS SWITCH
	SMOKE DETECTOR
	FIRE/SMOKE DAMPER
	CARBON MONOXIDE DETECTOR - SPECIFIED BY MECHANICAL ENGINEER
	DUCT MOUNTED SMOKE DETECTOR
	HEAT DETECTOR
	SPEAKER, CEILING OR WALL MOUNTED
	DOOR HOLD OPEN

NOTES: FOR PHONE AND DATA OUTLETS PROVIDE ONE (1) 3/4" C.O RISER UP WALL WITH PULL STRING TO ACCESSIBLE CEILING SPACE.

SINGLE LINE

	CIRCUIT BREAKER
	SERVICE CABLE TERMINATION
	FUSE
	FUSED DISCONNECT SWITCH
	SWITCH
	SURGE SUPPRESSOR
	CURRENT TRANSFORMER
	POTENTIAL TRANSFORMER
	GROUNDING ELECTRODE
	POWER METER
	MOTOR
	GENERATOR
	SHUNT TRIP
	GROUND FAULT INTERRUPTER
	TRANSFER SWITCH
	CONTACT (NORMALLY OPEN)
	CONTACT (NORMALLY CLOSED)
	TIME SWITCH
	CONTROL SWITCH
	PUSH BUTTON

WIRING

	CONDUIT ROUTED UNDERFLOOR / UNDERGROUND
	RACEWAY w/ #12 CONDUCTORS U.N.O.
	RACEWAY TURNED UP
	RACEWAY TURNED DOWN
	HOME RUN TO PANEL BOARD 1/2" w/ #12 CONDUCTORS U.N.O.
	CONDUIT CAP-OFF

MISCELLANEOUS

	EQUIPMENT TAG
	DIAGRAM TAG
	REVISION SYMBOL
	KEYNOTE SYMBOL
	SCHEDULED EQUIPMENT
	FEEDER TAG
	14 kW LEVEL-2 DUAL EV CHARGERS
	50 kW LEVEL-3 DC FAST EV CHARGERS

ABBREVIATIONS

ABBREV.	DESCRIPTION
A	AMPERE
AF	ABOVE FINISHED FLOOR
AF	ARC FAULT AMP FUSE
AFG	ABOVE FINISHED GRADE
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
ARCHL	ARCHITECTURAL
AS	AMP SWITCH
AWG	AMERICAN WIRE GAUGE
BC	BARE COPPER
BLDG	BUILDING
C	CONDUIT
CAB	CABINET
CAT	CATALOG CATEGORY
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLG	CEILING
C.O.	CONDUIT ONLY
COMM	COMMUNICATION
CU	COPPER
DEM	DEMOLITION / DEMOLISH
DISC	DISCONNECT
DN	DOWN
DWG	DRAWING
EA	EACH
ELECT.	ELECTRICAL
ELEV	ELEVATOR
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EQUIP	EQUIPMENT
EXIST	EXISTING
FBO	FURNISHED BY OTHERS
FF	FINISHED FLOOR
FIXT	FIXTURE
FLEX	FLEXIBLE METALLIC CONDUIT (STEEL)
FLUOR	FLUORESCENT
FT	FEET OR FOOT
GFA	GROUND FAULT ALARM
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GRND	ELECTRODRAINING CONDUCTOR
HVAC	HEATING, VENTILATION AND AIR CONDITIONING
HP	HORSEPOWER
IMP	INTERMEDIATE METAL CONDUIT
N	INCHES
BC	INTERNATIONAL RESIDENTIAL CODE
SC	SHORT CIRCUIT AMPERES
SCCR	SHORT CIRCUIT CURRENT RATING
JB / BOX	JUNCTION BOX
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT AMPERE
KV	KILOVOLT
LTS	LIGHTING
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MECH	MECHANICAL
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MTD	MOUNTED
UGFS	UNDERGROUND PULL SECT CN
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NCA	ASSOCIATION
NEMA	ASSOCIATION
NEUT	NEUTRAL
NFC	NATIONAL FIRE CODE
NF	NON-FUSIBLE
NC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NPCO	NEVADA POWER COMPANY
NIS	NOT TO SCALE
PH	PHOTOVOLTAIC PHOTOCELL
PHD	OVERHEAD
P	POLE
PB	PULL BOX
PH	PHASE
PANL	PANEL
PP	POLE POWER
PV	PHOTOVOLTAIC
PVC	POLYVINYL CHLORIDE
PWR	POWER
QTY	QUANTITY
RECEP	RECEPTACLE
REQD	REQUIRED
RSC	RIGID STEEL CONDUIT
(R)	RELOCATED
SD-FD	SCHEDULE
SECT	SECTION
SP	SINGLE POLE
SN	SOLID NEUTRAL
SP-C	SPECIFICATION
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCH GEAR
SYS	SYSTEM
TEMP	TEMPERARY
TELE	TELEPHONE

ABBREVIATIONS

ABBREV.	DESCRIPTION
THHN	THERMOPLASTIC HIGH HEAT RESISTANCE NYLON COATED THERMOSTAT
T-STA	TELEPHONE TERMINAL BACKBOARD
TTB	TELEPHONE TERMINAL CABINET
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UNO	UNLESS NOTED OTHERWISE
UL	UNDERWRITERS LABORATORY
V	VOLT OR VOLTAGE
VA	VOLTA-AMPERE
VD	VOLTA-AMPERE
VP	VAPOR PROOF
W	WATT, WIRE
WCR	WIREMANS CURRENT RATING
WP	UL LISTED WEATHERPROOF NEWMARK
XFR	TRANSFORMER
XPE	X = CROSS-LINKED POLYETHYLENE (XLPE) HH = HIGH HEAT-RESISTANCE W = WATER RESISTANCE TEMP RATING: 90° C IN DRY LOCATIONS AND 75° C IN WET LOCATIONS

CLIENT



PROJECT NAME

CITY OF COSTA MESA
EV CHARGING STATIONS

CONSULTANT



IDS GROUP

1 PFTFFS CANYON ROAD, SUITE 130
IRVINE, CA, 92616
TEL: 949-387-8500, FAX: 949-387-0800

APPROVED BY *Baltazar Mejia*
BALTAZAR MEJIA

INTERIM CITY ENGINEER RCE NO C50330

STAMP



IDS PROJECT # 19X072.00

ISSUE

REV.	DESCRIPTION	DATE
1	50% SD OWNER'S REVIEW	1/20/2020
2	50% DD OWNER'S REVIEW	1/31/2020
3	100% CD SUBMITTAL	2/21/2020

SHEET TITLE

ELECTRICAL SYMBOLS LIST & ABBREVIATIONS

SHEET NUMBER

E0.01

SUBJECT TO INSPECTOR'S REVIEW AND APPROVAL ON SITE

NOT FOR CONSTRUCTION

GENERAL CONSTRUCTION NOTES

1. INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR DRAWINGS PROVIDED BY THE SITE OWNER. CONTRACTORS SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
2. ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS.
3. THE GENERAL CONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
4. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. GENERAL CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF WORK.
5. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS.
6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
7. PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS THE MINIMUM REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS, SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK AND PREPARED BY THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE ENGINEER PRIOR TO PROCEEDING.
10. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFORM TO ALL OSHA REQUIREMENTS AND THE LOCAL JURISDICTION.
11. THE GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER DISCIPLINES.
12. CONSTRUCTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMAN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE.
13. WORK PREVIOUSLY COMPLETED IS REPRESENTED BY LIGHT SHADED LINES AND NOTES. THE SCOPE OF WORK FOR THIS PROJECT IS REPRESENTED BY DARK SHADED LINES AND NOTES. CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY EXISTING CONDITIONS THAT DEVIATE FROM THE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
14. THE CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
15. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
16. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
17. THE GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRADES AND CONTRACTORS TO THE SITE AND/OR BUILDING.
18. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION.
19. THE GENERAL CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES.
20. THE CONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 2-A:10-B:C AND SHALL BE WITHIN 25 FEET OF TRAVEL DISTANCE TO ALL PORTIONS OF WHERE THE WORK IS BEING COMPLETED DURING CONSTRUCTION.
21. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. THE CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS SHALL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, AND D) TRENCHING & EXCAVATION.

GENERAL CONSTRUCTION NOTES CONT.

22. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
23. THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
24. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE FEDERAL AND LOCAL JURISDICTION FOR EROSION AND SEDIMENT CONTROL.
25. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
26. THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH UNIFORM GRADE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 80 PERCENT STANDARD PROCTOR DENSITY IN OPEN SPACE. ALL TRENCHES IN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL PRE-APPROVED BY THE LOCAL JURISDICTION.
27. ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.
28. ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT.
29. THE CONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS-BUILT REDLINES TO THE GENERAL CONTRACTOR UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.
30. THE CONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION.
31. THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE, AND IS NOT FOR HUMAN HABITATION (NO HANDICAP ACCESS REQUIRED).
32. NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE PROPOSED.
33. CONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION. IF CONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE GENERAL CONTRACTOR IMMEDIATELY.
34. THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.

ELECTRICAL NOTES

1. THE ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ANY/ALL ELECTRICAL WORK INDICATED. ANY/ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH DRAWINGS AND ANY/ALL APPLICABLE SPECIFICATIONS. IF ANY PROBLEMS ARE ENCOUNTERED BY COMPLYING WITH THESE REQUIREMENTS, CONTRACTOR SHALL NOTIFY 'CONSTRUCTION MANAGER' AS SOON AS POSSIBLE, AFTER THE DISCOVERY OF THE PROBLEMS, AND SHALL NOT PROCEED WITH THAT PORTION OF WORK, UNTIL THE 'CONSTRUCTION MANAGER' HAS DIRECTED THE CORRECTIVE ACTIONS TO BE TAKEN.
2. THE ELECTRICAL CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE THEMSELVES WITH ANY/ALL CONDITIONS AFFECTING ELECTRICAL AND COMMUNICATION INSTALLATION AND MAKE PROVISIONS AS TO THE COST THEREOF. THE CONDITION OF EXISTING ELECTRICAL EQUIP., LIGHT FIXTURES, ETC., THAT ARE PART OF THE FINAL SYSTEM, SHALL BE VERIFIED BY THE CONTRACTOR, PRIOR TO THE SUBMITTAL OF HIS BID. FAILURE TO COMPLY WITH THIS PARAGRAPH WILL IN NO WAY RELIEVE CONTRACTOR OF PERFORMING ALL WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM.
3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE NEC AND ALL CODES AND LOCAL ORDINANCES OF THE LOCAL POWER COMPANIES HAVING JURISDICTION AND SHALL INCLUDE BUT NOT BE LIMITED TO:
 - A. ILL. UNDERWRITERS LABORATORIES
 - B. CBC - CALIFORNIA ELECTRICAL CODE
 - C. NEMA - NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
 - D. OSHA - OCCUPATIONAL SAFETY AND HEALTH ACT
 - E. SBC - STANDARD BUILDING CODE
 - F. NFPA - NATIONAL FIRE PROTECTION ASSOCIATION
4. DO NOT SCALE ELECTRICAL DRAWINGS, REFER TO SITE PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL EQUIPMENT, BUT CONFIRM WITH 'CONSTRUCTION MANAGER' ANY SIZES AND LOCATIONS WHEN NEEDED.
5. EXISTING SERVICES: THE CONTRACTOR SHALL NOT INTERRUPT EXISTING SERVICES WITHOUT WRITTEN PERMISSION OF THE OWNER.
6. THE CONTRACTOR SHALL PAY FOR ANY/ALL PERMITS, FEES, INSPECTIONS AND TESTING. THE CONTRACTOR IS TO OBTAIN PERMITS AND APPROVED SUBMITTALS PRIOR TO THE WORK BEGINNING OR ORDERING THE EQUIPMENT.
7. THE TERM "PROVIDE" USED IN CONSTRUCTION DOCUMENTS AND SPECIFICATIONS, INDICATES THAT THE CONTRACTOR SHALL FURNISH AND INSTALL.

ELECTRICAL NOTES CONT.

8. THE CONTRACTOR SHALL CONFIRM WITH LOCAL UTILITY COMPANY ANY/ALL REQUIREMENTS SUCH AS THE: LUG SIZE RESTRICTIONS, CONDUIT ENTRY, SIZE OF TRANSFORMERS, SCHEDULED DOWNTIME FOR THE OWNERS' CONFIRMATION, ETC. ANY/ALL CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER, PRIOR TO BEGINNING ANY WORK.
9. CONDUCTORS: CONTRACTOR SHALL USE 98% CONDUCTIVITY COPPER TYPE ONLY. (THWN-2) INSULATION, 600 VOLT, COLOR CODED UNLESS SPECIFIED DIFFERENTLY ON DRAWINGS.
10. ALL (THWN-2) WIRING INSTALLATIONS TO FOLLOW MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS AND SHALL BE COPPER.
11. OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, CAST ALLOY WITH THREADED HUBS IN WET/DAMP LOCATIONS AND SPECIAL ENCLOSURES FOR OTHER CLASSIFIED AREAS.
12. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF THE CONSTRUCTION. CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS FOR THE EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER. CONTRACTOR IS TO PROVIDE ALL ELECTRICAL EQUIPMENT UNLESS OTHERWISE DIRECTED.
13. ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS, WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIONAL AND SUBJECT TO REGULATORY INSPECTION AND APPROVAL BY CONSTRUCTION MANAGER.
14. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
15. CONTRACTOR SHALL GUARANTEE ANY/ALL MATERIALS AND WORK FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM DATE OF ACCEPTANCE.
16. THE CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ANY ADDITIONAL CHARGE AND SHALL INCLUDE THE REPLACEMENT OR THE REPAIR OF ANY OTHER PHASE OF THE INSTALLATION, WHICH MAY HAVE BEEN DAMAGED THEREIN.
17. ADEQUATE AND REQUIRED LIABILITY INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LOSS AND ANY/ALL PROPERTY DAMAGE FOR THE DURATION OF WORK.
18. PROVIDE AND INSTALL CONDUIT, CONDUCTORS, PULL WIRES, BOXES, COVER PLATES AND DEVICES FOR ALL OUTLETS AS INDICATED.
19. TRENCHING AND BACKFILL: THE CONTRACTOR SHALL PROVIDE FOR ALL UNDERGROUND INSTALLED CONDUIT AND/OR CABLES INCLUDING EXCAVATION AND BACKFILLING AND COMPACTION. REFER TO GENERAL SITE WORK NOTES.
20. MATERIALS, PRODUCTS AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW AND SHALL APPEAR ON THE LIST OF U.L. APPROVED ITEMS AND SHALL MEET OR EXCEED THE REQUIREMENTS OF THE NEC, NEMA AND IEEE.
21. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR MANUFACTURERS CATALOG INFORMATION OF ANY/ALL LIGHTING FIXTURES, SWITCHES AND ALL OTHER ELECTRICAL ITEMS FOR APPROVAL BY THE CONSTRUCTION MANAGER PRIOR TO INSTALLATION.
22. ANY CUTTING OR PATCHING DEEMED NECESSARY FOR ELECTRICAL WORK IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY AND SHALL BE INCLUDED IN THE COST FOR WORK AND PERFORMED TO THE SATISFACTION OF THE 'CONSTRUCTION MANAGER' UPON FINAL ACCEPTANCE.
23. THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELS WITH ONLY TYPEWRITTEN DIRECTORIES.
24. DISCONNECT SWITCHES SHALL BE H.P. RATED HEAVY-DUTY, QUICK-MAKE AND QUICK-BREAK ENCLOSURES, AS REQUIRED BY EXPOSURE TYPE.
25. ALL CONNECTIONS EXCEPT THE EV CHARGE CABLE TERMINATION IN THE CHARGE POST SHALL BE MADE WITH A PROTECTIVE COATING OF AN ANTI-OXIDE COMPOUND SUCH AS 'NOALOX' BY IDEAL INDUSTRIAL INC., COAT ALL WIRE SURFACES BEFORE CONNECTING. EXPOSED ALUMINUM & COPPER SURFACES, INCLUDING GROUND BARS, SHALL BE TREATED - NO SUBSTITUTIONS.
26. ALL EXTERIOR ABOVE GROUND CONDUIT SHALL BE RIGID UNLESS SPECIFIED OTHERWISE. ALL BURIED CONDUITS SHALL BE SCH 40 PVC UNLESS SPECIFIED OTHERWISE. RIGID CONDUIT COAT ALL THREADS WITH 'BRITZ ZINC' OR 'GOLD GALV' UL-8 FOR GALVANIZED STEEL. ALL FITTINGS SHALL BE SUITABLE FOR USE WITH THREADED HUBS.
27. RACEWAYS: CONDUIT SHALL BE SCHEDULE 40 PVC, MEETING OR EXCEEDING NEMA TC2 - 1990. THE CONTRACTOR SHALL PLUG AND CAP EACH END OF SPARE AND EMPTY CONDUITS AND PROVIDE TWO SEPARATE PULL STRINGS - 200 LBS TEST POLYETHYLENE CORD. ALL UNDERGROUND CONDUIT BENDS OVER 2" SHALL BE A MINIMUM OF 3 FT. RADIUS.
28. SUPPORT OF ALL ELECTRICAL WORK SHALL BE AS REQUIRED BY NEC.
29. CONNECTORS FOR POWER CONDUCTORS: CONTRACTOR SHALL USE PRESSURE TYPE INSULATED TWIST-ON CONNECTORS FOR NO. 10 AWG AND SMALLER. USE SOLDERLESS MECHANICAL TERMINAL LUGS FOR NO. 8 AWG AND LARGER.
30. THE CONTRACTOR SHALL PLACE TWO LENGTHS OF WARNING TAPE AT A DEPTH OF 12" BELOW GROUND AND DIRECTLY ABOVE ELECTRICAL SERVICE CONDUITS. CAUTION TAPE TO READ "CAUTION BURIED ELECTRIC".
31. WHEN DIRECTIONAL BORING IS REQUIRED, CONTRACTOR SHALL INSTALL A LOOSE TONING WIRE WITHIN INSTALLED CONDUIT TO ALLOW FOR IDENTIFICATION OF UNDERGROUND CONDUITS.
32. ALL BOLTS SHALL BE STAINLESS STEEL.
33. ALL MATERIALS AND EQUIPMENT SUPPLIED AND INSTALLED BY THE CONTRACTOR SHOULD BE NEW AND UNUSED.

CLIENT



PROJECT NAME
**CITY OF COSTA MESA
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IDS PROJECT # 19X072 (X)

REV	DESCRIPTION	DATE
1	50% SD OWNERS REVIEW	1/20/2020
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3	100% CD SUBMITTA	2/21/2020
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SHEET TITLE

GENERAL NOTES SHEET - 1

SHEET NUMBER

E0.02

NOT FOR CONSTRUCTION

SUBJECT TO INSPECTOR'S REVIEW AND APPROVAL ON SITE

REINFORCED CONCRETE NOTES

1. CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI IN 28 DAYS UNLESS OTHERWISE NOTED; CONTINUOUS INSPECTION IS NOT REQUIRED.
SLUMP: 4" MIN/6" MAX.
AIR ENTRAINMENT: 4 1/2% - 7% BY VOLUME
2. REINFORCEMENT SHALL BE A NEW BILLET STEEL DEFORMED BARS CONFORMING TO ASTM SPECIFICATION A615 GRADE 60. MAXIMUM COARSE AGGREGATE SIZE SHALL BE 3/4".
3. REINFORCEMENT SHALL COMPLY WITH THE LATEST EDITION OF ACI-318 FOR MINIMUM CLEARANCES.
4. ALL EMBEDDED ITEMS SHALL BE SECURELY HELD IN POSITION PRIOR TO PLACEMENT OF CONCRETE. ALL CONCRETE SHALL BE READY-MIXED IN ACCORDANCE WITH ASTM C94.
5. MAINTAIN TEMPERATURE OF CAST IN PLACE CONCRETE BETWEEN 50 DEGREES AND 90 DEGREES FAHRENHEIT.
6. DO NOT USE RETEMPERED CONCRETE, OR ADD WATER TO READY-MIX CONCRETE AT THE JOB SITE.
7. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
8. EXCEPT AS DETAILED OR AUTHORIZED. MAKE BARS CONTINUOUS AROUND CORNERS. WHERE PERMITTED, SPLICES MADE BY CONTACT LAPS SHALL BE CLASS "B" TENSION LAPS UNLESS NOTED OTHERWISE.
9. DETAIL BARS IN ACCORDANCE WITH "ACI DETAILING MANUAL - 2004, PUBLICATION SP-66" AND "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318-08.
10. PROVIDE ACCESSORIES NECESSARY TO PROPERLY SUPPORT REINFORCING.

GENERAL SITE WORK NOTES

PART 1 - GENERAL

CLEARING, GRUBBING, STRIPPING, EROSION CONTROL, SURVEY, LAYOUT, SUBGRADE PREPARATION AND FINISH GRADING AS REQUIRED TO COMPLETE THE PROPOSED WORK SHOWN IN THESE PLANS.

1.1 REFERENCES:

- A. DOT (STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION-CURRENT EDITION).
- B. ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS).
- C. OSHA (OCCUPATION SAFETY AND HEALTH ADMINISTRATION).

1.2 INSPECTION AND TESTING:

- A. GENERAL CONTRACTOR SHALL PERFORM ALL WORK IN CONFORMANCE WITH THE PLANS AND SPECIFICATIONS. PERFORM INSPECTIONS BEFORE CONCEALING WORK WITH FOLLOW-ON ACTIVITIES (BACKFILL, CONCRETE POUR, ETC).

1.3 SITE MAINTENANCE AND PROTECTION:

- A. PROVIDE ALL NECESSARY JOB SITE MAINTENANCE FROM COMMENCEMENT OF WORK UNTIL COMPLETION OF THE CONTRACT.
- B. AVOID DAMAGE TO THE SITE AND TO EXISTING FACILITIES, STRUCTURES, TREES, AND SHRUBS DESIGNATED TO REMAIN. TAKE PROTECTIVE MEASURES TO PREVENT EXISTING FACILITIES THAT ARE NOT DESIGNATED FOR REMOVAL FROM BEING DAMAGED BY THE WORK.
- C. KEEP SITE FREE OF ALL PONDING WATER.
- D. PROVIDE EROSION CONTROL MEASURES IN ACCORDANCE WITH STATE DOT, LOCAL PERMITTING AGENCY AND EPA REQUIREMENTS.
- E. PROVIDE AND MAINTAIN ALL TEMPORARY FENCING, BARRICADES, WARNING SIGNALS AND SIMILAR DEVICES NECESSARY TO PROTECT AGAINST THEFT FROM PROPERTY DURING THE ENTIRE PERIOD OF CONSTRUCTION. REMOVE ALL SUCH DEVICES UPON COMPLETION OF THE WORK.
- F. EXISTING UTILITIES: DO NOT INTERRUPT EXISTING UTILITIES SERVING FACILITIES OCCUPIED BY THE OWNER OR OTHERS, EXCEPT WHEN PERMITTED IN WRITING BY THE CONSTRUCTION MANAGER AND THEN ONLY AFTER ACCEPTABLE TEMPORARY UTILITY SERVICES HAVE BEEN PROVIDED.
- G. PROVIDE A MINIMUM 48-HOUR NOTICE TO THE CONSTRUCTION MANAGER AND RECEIVE WRITTEN NOTICE TO PROCEED BEFORE INTERRUPTING ANY UTILITY SERVICE.
- H. SOD PLANTED IN THE FALL MUST ESTABLISH ITS ROOTS BEFORE THE FIRST WINTER FROST. DETERMINE WHEN THE FIRST FROST USUALLY OCCURS. AND PLANT THE SOD NO LATER THAN ONE MONTH BEFORE THE FIRST FROST. IF THE CONSTRUCTION IS FINISHED LATER THAN ONE MONTH BEFORE THE FIRST FROST, USE STRAW UNTIL SOD CAN BE INSTALLED.

GENERAL SITE WORK NOTES CONT.

PART 2 - PRODUCTS

2.1 GRANULAR BACKFILL: SHALL MEET THE FOLLOWING GRADATION:

SIEVE SIZE	TOTAL PERCENT PASSING
1 1/2 INCH (37.5 MM)	100
1 INCH (25.0 MM)	75 TO 100
3/4 INCH (19.0 MM)	80 TO 100
3/8 INCH (9.5 MM)	35 TO 75
NO. 4 (4.75 MM)	30 TO 60
NO. 30 (0.600 MM)	7 TO 30
NO 200 (0.075 MM)	3 TO 15

2.2 GRANULAR BEDDING AND TRENCH BACKFILL: WELL-GRADED SAND MEETING THE GRADATION REQUIREMENTS OF ASTM D2487 (SE OR SW-SM).

2.3 COARSE AGGREGATE FOR ACCESS ROAD SUBBASE COURSE SHALL CONFORM TO ASTM D2940.

2.4 UNSUITABLE MATERIAL: HIGH AND MODERATELY PLASTIC SILTS AND CLAYS (LL>45). MATERIAL CONTAINING REFUSE, FROZEN LUMPS, DEMOLISHED BITUMINOUS MATERIAL, VEGETATIVE MATTER, WOOD, STONES IN EXCESS OF 3 INCHES IN ANY DIMENSION, AND DEBRIS AS DETERMINED BY THE CONSTRUCTION MANAGER. TYPICAL THESE WILL BE SOILS CLASSIFIED BY ASTM AS PT, MH, CH, OH, ML, AND OL.

PART 3 - EXECUTION

3.1 GENERAL:

- A. BEFORE STARTING GENERAL SITE PREPARATION ACTIVITIES, INSTALL EROSION AND SEDIMENT CONTROL MEASURES. THE WORK AREA SHALL BE CONSTRUCTED AND MAINTAINED IN SUCH CONDITION THAT IN THE EVENT OF RAIN THE SITE WILL BE DRAINED AT ALL TIMES.
 - B. BEFORE ALL SURVEY, LAYOUT, STAKING, AND MARKING, ESTABLISH AND MAINTAIN ALL LINES, GRADES, ELEVATIONS AND BENCHMARKS NEEDED FOR EXECUTION OF THE WORK.
 - C. CLEAR AND GRUB THE AREA WITHIN THE LIMITS OF THE SITE. REMOVE TREES, BRUSH, STUMPS, RUBBISH AND OTHER DEBRIS AND VEGETATION RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE SITE AREA TO BE CLEARED.
 - D. REMOVE THE FOLLOWING MATERIALS TO A DEPTH OF NO LESS THAN 12 INCHES BELOW THE ORIGINAL GROUND SURFACE: ROOTS, STUMPS, AND OTHER DEBRIS, BRUSH, AND REFUSE EMBEDDED IN OR PROTRUDING THROUGH THE GROUND SURFACE. RAKE, DISK OR PLOW THE AREA TO A DEPTH OF NO LESS THAN 6 INCHES, AND REMOVE TO A DEPTH OF 12 INCHES ALL ROOTS AND OTHER DEBRIS THEREBY EXPOSED.
 - E. REMOVE TOPSOIL MATERIAL COMPLETELY FROM THE SURFACE UNTIL THE SOIL NO LONGER MEETS THE DEFINITION OF TOPSOIL. AVOID MIXING TOPSOIL WITH SUBSOIL OR OTHER UNDESIRABLE MATERIALS.
 - F. EXCEPT WHERE EXCAVATION TO GREATER DEPTH IS INDICATED, FILL DEPRESSIONS RESULTING FROM CLEARING, GRUBBING AND DEMOLITION WORK COMPLETELY WITH SUITABLE FILL.
 - G. REMOVE FROM THE SITE AND DISPOSE IN AN AUTHORIZED LANDFILL ALL DEBRIS RESULTING FROM CLEARING AND GRUBBING OPERATIONS. BURNING WILL NOT BE PERMITTED.
 - H. PRIOR TO EXCAVATING, THOROUGHLY EXAMINE THE AREA TO BE EXCAVATED AND/OR TRENCHED TO VERIFY THE LOCATIONS OF FEATURES INDICATED ON THE DRAWINGS AND TO ASCERTAIN THE EXISTENCE AND LOCATION OF ANY STRUCTURE, UNDERGROUND STRUCTURE, OR OTHER ITEM NOT SHOWN THAT MIGHT INTERFERE WITH THE PROPOSED CONSTRUCTION. NOTIFY THE CONSTRUCTION MANAGER OF ANY OBSTRUCTIONS THAT WILL PREVENT ACCOMPLISHMENT OF THE WORK AS INDICATED ON THE DRAWINGS.
 - I. SEPARATE AND STOCK PILE ALL EXCAVATED MATERIALS SUITABLE FOR BACKFILL. ALL EXCESS EXCAVATED AND UNSUITABLE MATERIALS SHALL BE DISPOSED OF OFF-SITE IN A LEGAL MANNER.
 - J. DURING EXCAVATION, THE CONTRACTOR SHALL PROVIDE SHORING, SHEETING, AND BRACING AS REQUIRED TO PREVENT CAVING OR SLOUGHING OF EXCAVATION.
- 3.2 BACKFILL:**
- A. AS SOON AS PRACTICAL, AFTER COMPLETING CONSTRUCTION OF THE RELATED STRUCTURE, INCLUDING EXPIRATION OF THE SPECIFIED MINIMUM CURING PERIOD FOR CAST-IN-PLACE CONCRETE, BACKFILL THE EXCAVATION WITH APPROVED MATERIAL TO RESTORE THE REQUIRED FINISHED GRADE.
 - B. PRIOR TO PLACING BACKFILL AROUND STRUCTURES, ALL FORMS SHALL BE REMOVED AND THE EXCAVATION CLEANED OF ALL TRASH, DEBRIS, AND UNSUITABLE MATERIALS.
 - C. DO NOT PLACE FROZEN MATERIAL IN AS BACKFILL.

GENERAL SITE WORK NOTES CONT.

D. BACKFILL BY PLACING AND COMPACTING SUITABLE BACKFILL MATERIAL OR SELECT GRANULAR BACKFILL MATERIAL WHEN REQUIRED IN UNIFORM HORIZONTAL LAYERS OF NO GREATER THAN 8-INCHES LOOSE THICKNESS AND COMPACTED. WHERE HAND OPERATED COMPACTORS ARE USED, THE FILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN LOOSE DEPTH AND COMPACTED.

E. WHENEVER THE DENSITY TESTING INDICATES THAT THE CONTRACTOR HAS NOT OBTAINED THE SPECIFIED DENSITY, THE SUCCEEDING LAYER SHALL NOT BE PLACED UNTIL THE SPECIFICATION REQUIREMENTS ARE MET UNLESS OTHERWISE AUTHORIZED BY THE CONSTRUCTION MANAGER. THE CONTRACTOR SHALL TAKE WHATEVER APPROPRIATE ACTION IS NECESSARY, SUCH AS DISKING AND DRYING, ADDING WATER, OR INCREASING THE COMPACTIVE EFFORT TO MEET THE MINIMUM COMPACTION REQUIREMENTS.

F. THOROUGHLY COMPACT EACH LAYER OF BACKFILL TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCTOR TEST, ASTM D 698.

3.3 TRENCH EXCAVATION:

A. UTILITY TRENCHES SHALL BE EXCAVATED TO THE LINES AND GRADES SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE GENERAL CONTRACTOR. PROVIDE SHORING, SHEETING AND BRACING AS REQUIRED TO PREVENT CAVING OR SLOUGHING OF THE TRENCH WALLS.

B. EXTEND THE TRENCH WIDTH A MINIMUM OF 6 INCHES BEYOND THE OUTSIDE EDGE OF THE OUTERMOST CONDUIT.

C. WHEN SOFT YIELDING, OR OTHERWISE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, EXCAVATE THE REQUIRED TRENCH TO A DEPTH OF NO LESS THAN 12 INCHES BELOW THE REQUIRED ELEVATION, THEN BACKFILL WITH 12" OF GRANULAR BEDDING MATERIAL.

3.4 TRENCH BACKFILL:

A. PROVIDE GRANULAR BEDDING MATERIAL IN ACCORDANCE WITH THE DRAWINGS AND THE UTILITY REQUIREMENTS.

B. NOTIFY THE GENERAL CONTRACTOR 24 HOURS IN ADVANCE OF BACKFILLING.

C. CONDUCT UTILITY CHECK TESTS BEFORE BACKFILLING. BACKFILL AND COMPACT TRENCH BEFORE ACCEPTANCE TESTING.

D. PLACE GRANULAR TRENCH BACKFILL UNIFORMLY ON BOTH SIDES OF THE CONDUITS IN 6-INCH UNCOMPACTED LIFTS UNTIL 12 INCHES OVER THE CONDUITS. SOLIDLY RAM AND TAMP BACKFILL INTO SPACE AROUND CONDUITS.

E. PROTECT CONDUIT FROM LATERAL MOVEMENT, IMPACT DAMAGE, OR UNBALANCED LOADING.

F. ABOVE THE CONDUIT EMBEDMENT ZONE, PLACE AND COMPACT SATISFACTORY BACKFILL MATERIAL IN 8-INCH MAXIMUM LOOSE THICKNESS LIFTS TO RESTORE THE REQUIRED FINISHED SURFACE GRADE.

G. COMPACT FINAL TRENCH BACKFILL TO A DENSITY EQUAL TO OR GREATER THAN THAT OF THE EXISTING UNDISTURBED MATERIAL IMMEDIATELY ADJACENT TO THE TRENCH BUT NO LESS THAN A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCTOR TEST, ASTM D 698.

3.5 FINISH GRADING:

A. PERFORM ALL GRADING TO PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES AND SMOOTH, EVEN SURFACE DRAINAGE OF THE ENTIRE AREA WITHIN THE LIMITS OF CONSTRUCTION. GRADING SHALL BE COMPATIBLE WITH ALL SURROUNDING TOPOGRAPHY AND STRUCTURES.

B. UTILIZE SATISFACTORY FILL MATERIAL RESULTING FROM THE EXCAVATION WORK IN THE CONSTRUCTION OF FILLS, EMBANKMENTS AND FOR REPLACEMENT OF REMOVED UNSUITABLE MATERIALS.

C. REPAIR ALL ACCESS ROADS AND SURROUNDING AREAS USED DURING THE COURSE OF THIS WORK TO THEIR ORIGINAL CONDITION.

3.6 ASPHALT PAVING ROAD:

A. CONTRACTOR RESPONSIBLE FOR RE-STRIPING AND APPLYING SEALCOATING, UNLESS OTHERWISE SPECIFIED.

SUBJECT TO INSPECTOR'S REVIEW AND APPROVAL ON SITE

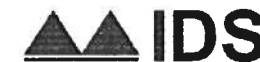
CLIENT



PROJECT NAME

**CITY OF COSTA MESA
EV CHARGING STATIONS**

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IDS PROJECT # 19X072.00

ISSUE

REV	DESCRIPTION	DATE
1	50% SD OWNER'S REVIEW	1/20/2020
2	50% DD OWNER'S REVIEW	1/31/2020
3	100% CD SUBMITTAL	2/21/2020

SHEET TITLE

GENERAL NOTES SHEET - 2

SHEET NUMBER

E0.03

NOT FOR CONSTRUCTION

STRUCTURAL STEEL NOTES

- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS, UNLESS NOTED OTHERWISE: WIDE FLANGE SHAPE: A992, 50ksi
ANGLE AND CHANNEL SHAPE: ASTM A36, 36 ksi
PLATE: ASTM A36, 36ksi
PIPE: ASTM A53 GRADE B, 35 ksi
HSS: ASTM A500 GRADE B, 46ksi
- HIGH-STRENGTH BOLTS SHALL CONFORM TO ASTM A325: ONE HIGH-STRENGTH BOLT ASSEMBLY SHALL CONSIST OF A HEAVY HEX STRUCTURAL BOLT, A HEAVY NUT, A HARDENED WASHER CONFORMING TO ASTM F436. THE HARDENED WASHER SHALL BE INSTALLED AGAINST ELEMENT TURNED IN TIGHTENING. UNLESS NOTED OTHERWISE ON THE DRAWINGS, ALL CONNECTIONS SHALL BE BEARING TYPE CONNECTIONS.
- WELDING ELECTRODES SHALL COMPLY WITH AWS D1.1 USING A5.1 OR A5.5 E70XX AND SHALL BE COMPATIBLE WITH THE WELDING PROCESS SELECTED. WELDERS SHALL BE QUALIFIED AS PRESCRIBED IN AWS D1.1.
- UNLESS NOTED OTHERWISE ON THE DRAWING, ALL ANCHOR BOLTS SHALL CONFORM TO ASTM F1554 WITH HEAVY HEXAGONAL NUT.
- FABRICATE ITEMS OF STRUCTURAL STEEL IN ACCORDANCE WITH AISC SPECIFICATION.
- ALL EXPOSED STRUCTURAL STEEL AND BOLTS SHALL BE HOT DIP GALVANIZED PER ASTM A123.
- SUBMIT FABRICATION AND ERECTION DRAWINGS SHOWING ALL DETAILS, CONNECTIONS, MATERIAL DESIGNATIONS, AND TOP STEEL ELEVATIONS FOR APPROVAL. THE SHOP DRAWINGS WILL BE REVIEWED FOR GENERAL CONFORMANCE TO THE CONTRACT DRAWINGS. SUCH APPROVAL SHALL NOT RELIEVE THE FABRICATOR/CONTRACTOR OF THE RESPONSIBILITY FOR EITHER THE ACCURACY OF THE DETAILED DIMENSIONS IN THE SHOP AND ERECTION DRAWINGS OR THE GENERAL FIT-UP OF PARTS THAT ARE TO BE ASSEMBLED IN THE FIELD.
- PRIMER SHALL BE RED OXIDE-CHROMATE PRIME COMPLYING WITH STEEL STRUCTURES PAINTING COUNCIL (SSPC) PAINT SPECIFICATION NUMBER 11

CONCRETE MASONRY NOTES

- CONCRETE MASONRY UNITS SHALL BE MEDIUM WEIGHT UNITS CONFORMING TO ASTM C90, GRADE N-1, (F'M=1,500 PSI), MEDIUM WEIGHT. (115 PCF)
- MORTAR SHALL BE TYPE "S" ABOVE GRADE, TYPE "M" BELOW GRADE CONFORMING TO ASTM C270. (MINIMUM 1,800 PSI AT 28 DAYS)
- GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS CONFORMING TO ASTM C476.
- ALL CELLS CONTAINING REINFORCING STEEL OR EMBEDDED ITEMS AND ALL CELLS IN RETAINING WALLS AND WALLS BELOW GRADE SHALL BE SOLID GROUTED.
- ALL HORIZONTAL REINFORCEMENT SHALL BE PLACED IN BOND BEAM OR LINTEL BEAM UNITS.
- WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE GROUT POUR 1-1/2" BELOW TOP OF THE UPPERMOST UNIT.
- ALL BOND BEAM BLOCK SHALL BE "DEEP CUT" UNITS.
- PROVIDE INSPECTION AND CLEAN-OUT HOLES AT BASE OF VERTICAL CELLS HAVING GROUT LIFTS IN EXCESS OF 4'-0" OF HEIGHT.
- ALL GROUT SHALL BE CONSOLIDATED WITH A MECHANICAL VIBRATOR.
- CEMENT SHALL BE AS SPECIFIED FOR CONCRETE.
- REINFORCING BARS - SEE NOTES UNDER "REINFORCED CONCRETE NOTES" FOR REQUIREMENTS. REINFORCEMENT SHALL BE PLACED PRIOR TO GROUTING. LAP SPLICES SHALL BE 48 BAR DIAMETERS, MINIMUM.
- PROVIDE ONE BAR DIAMETER (A MINIMUM OF 1/2") GROUT BETWEEN MAIN REINFORCING AND MASONRY UNITS.
- LOW LIFT CONSTRUCTION, MAXIMUM GROUT POUR HEIGHT IS 4 FEET.
- HIGH LIFT GROUTED CONSTRUCTION MAY BE USED IN CONFORMANCE WITH PROJECT SPECIFICATIONS AND SECTION 2104 OF IBC.
- ALL CELLS IN CONCRETE BLOCKS SHALL BE FILLED SOLID WITH GROUT, EXCEPT AS NOTED IN THE DRAWINGS OR SPECIFICATIONS.
- CELLS SHALL BE IN VERTICAL ALIGNMENT, DOWELS IN FOOTINGS SHALL BE SET TO ALIGN WITH CELLS CONTAINING REINFORCING STEEL.
- REFER TO DRAWINGS FOR SURFACE AND HEIGHT OF UNITS, LAYING PATTERN AND JOINT TYPE.
- SAND SHALL BE CLEAN, SHARP AND WELL GRADED, FREE FROM INJURIOUS AMOUNTS OF DUST, LUMPS, SHALE, ALKALI OR ORGANIC MATERIAL.
- ALL MORTAR FIN OBSTRUCTIONS AND DEBRIS SHALL BE CLEANED FROM INSIDE OF CELLS PRIOR TO GROUTING.

CONCRETE SIDEWALK CONSTRUCTION REQUIREMENTS

- PLACING AND FINISHING CONCRETE
THE CONTRACTOR SHALL PROVIDE ADEQUATE TOOLS AND EQUIPMENT TO PRODUCE QUALITY WORKMANSHIP IN PLACING AND FINISHING CONCRETE. THE SIDEWALK AND RAMP SHALL BE FINISHED TO THE TOP OF THE FORMS AND THE SURFACE FINISHED WITH A WOOD OR STEEL FLOAT AND SURFACE TEXTURE SHALL BE A COURSE BROOM FINISH TRANSVERSE TO THE SLOPE OF THE SIDEWALK OR RAMP. NO "PLASTERING" OF THE SURFACE SHALL BE PERMITTED.
- CONTRACTION JOINTS
THE SIDEWALK SURFACE SHALL BE MARKED OFF INTO NOMINAL SQUARES OF DIMENSIONS EQUAL TO THE WIDTH OF THE SIDEWALK WITH A MAXIMUM DISTANCE BETWEEN JOINTS OF SEVEN FEET. SAWING JOINTS, THE CONTRACTOR SHALL BEGIN AS SOON AS THE CONCRETE HARDENS SUFFICIENTLY TO PREVENT EXCESSIVE RAVELING ALONG THE SAW CUT AND SHALL FINISH BEFORE CONDITIONS INDUCE UNCONTROLLED CRACKS, REGARDLESS OF THE TIME OR WEATHER.
- EXPANSION JOINTS
EXPANSION JOINTS SHALL BE CONSTRUCTED AT LOCATIONS WHERE THE SIDEWALK ABUTS EXISTING CONCRETE CURBS, DRIVEWAYS, AND SIMILAR STRUCTURES, AND EVERY TWO HUNDRED FIFTY FEET AND AS SHOWN ON APPROVED PLANS. EXPANSION JOINTS SHALL BE FORMED WITH ONE-HALF INCH PREFABRICATED NON-EXTRUDING FILLER AND SHALL EXTEND THE FULL DEPTH OF THE SLAB.

SIGN POST NOTES

- ACCEPTABLE COLOR SUBSTITUTIONS:

PAINT COLOR SUBSTITUTIONS	
BRAND	COLOR
PANTONE	COOL GREY #7 #A3A19E
BENJAMIN MOORE	FUSION / AF-675 #A6A3A1
BEHR	EQUINOX FF31-1 #9FA29D
SHERWIN-WILLIAMS	STAMPED CONCRETE - 7655 #A2A29B
VALSPAR	STONE MASON GREY #A19C99

- OTHER ACCEPTABLE COLORS CAN BE FOUND ON ENCYCLOPEDIA.COM
- REFER TO INSTALLATION GUIDE FROM MANUFACTURER.
- BOTTOM OF ADA PARKING SIGN SHALL BE LOCATED AT A MINIMUM HEIGHT OF 60"
- D/F NON-ILLUMINATED POLE MOUNT PARKING SIGN FACES AND RETURNS TO BE .090" ALUMINUM PANELS WITH #680-82 RED REFLECTIVE VINYL APPLIED (VERIFY REFLECTIVITY WITH OWNER).
- LOGO TO BE #280-10 REFLECTIVE WHITE VINYL (VERIFY REFLECTIVITY WITH OWNER)
- SIGN, SIGN POST, AND SIGN FASTENERS TO BE OWNER APPROVED AND PROVIDED AND INSTALLED BY CONTRACTOR. CONTRACTOR TO PROVIDE SIGN POST FASTENERS IF REQUIRED AND PAINTED TO MATCH.
- IF PAINT FINISH IS DAMAGED DURING INSTALLATION, CONTRACTOR SHALL REPAINT AS REQUIRED.
- CONTRACTOR SHALL COORDINATE WITH CITY WHEN SPECIAL JURISDICTIONAL/CITY REQUESTS ARE NECESSARY FOR ANY SIGN POST INSTALLATIONS, I.E. POST MATERIAL, PAINT COLORS, HARDWARE, ETC. CONTRACTOR IS RESPONSIBLE FOR ENSURING CITY APPROVES ALL MATERIALS PRIOR TO INSTALLATION.

GROUNDING NOTES

- ALL GROUND BARS SHALL HAVE STAMPED IN TO THE METAL "IF STOLEN DO NOT RECYCLE."
- ALL HARDWARE SHALL BE STAINLESS STEEL 3/8" DIAMETER OR LARGER. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
- FOR GROUND BOND TO STEEL ONLY: INSERT A CADMIUM FLAT WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
- NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUND BAR AND BOLTED ON THE BACK SIDE. INSTALL BLACK HEAT-SHRINKING TUBE, 600 VOLT INSULATION, ON ALL GROUND TERMINATIONS. THE INTENT IS TO WEATHERPROOF THE COMPRESSION CONNECTION.
- SUPPLIED AND INSTALLED BY CONTRACTOR.
- ENSURE THE WIRE INSULATION TERMINATION IS WITHIN 1/8" OF THE BARREL (NO SHINERS).
- CHARGEPOINT CHARGERS HAVE INTERNAL HIGH IMPEDANCE GROUND FAULT PROTECTION (10MΩ).
- EMC - ELECTROMAGNETIC COMPATIBILITY

SUBJECT TO INSPECTOR'S REVIEW AND APPROVAL ON SITE

SUBJECT TO INSPECTOR'S REVIEW AND APPROVAL ON SITE

CLIENT



PROJECT NAME

CITY OF COSTA MESA
EV CHARGING STATIONS

CONSULTANT



IDS GROUP

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RYNE, CA 92658
TEL 949-387-8500 FAX 949-387-0800

APPROVED BY: *Baltazar Meja*
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STAMP



IDS PROJECT # 19X072.00

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3	100% CD SUBMITTAL	2/21/2020

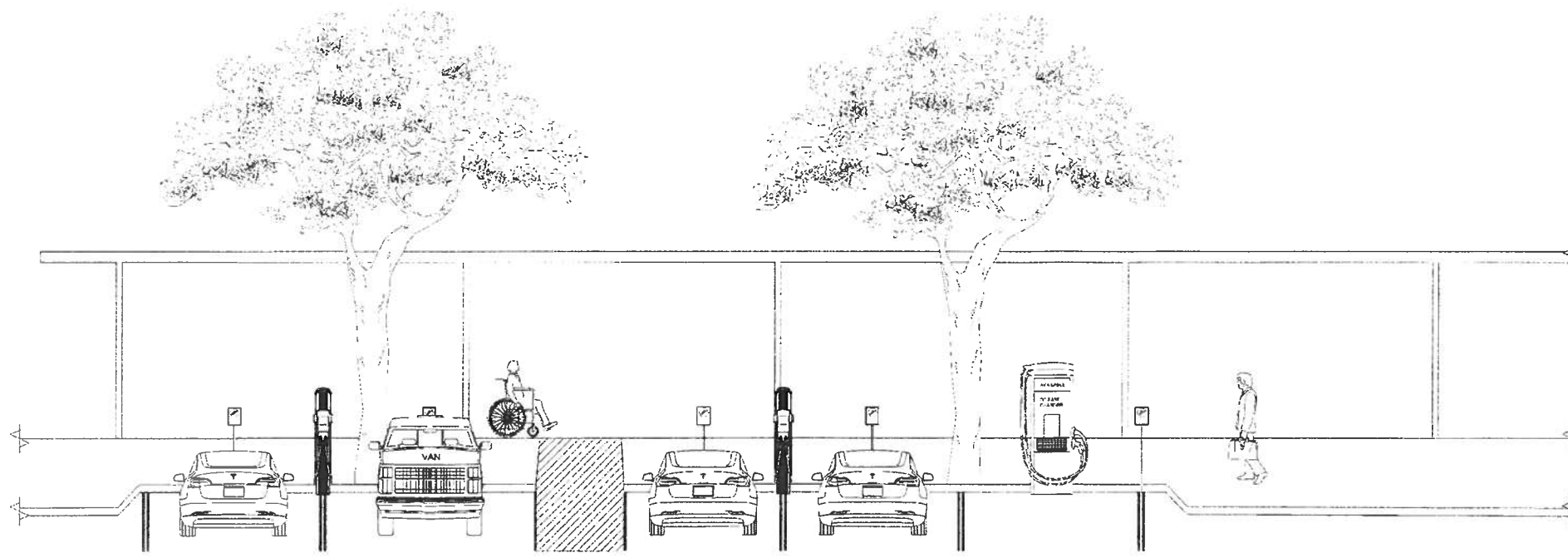
SHEET TITLE

ABBREVIATIONS AND
GENERAL NOTES SHEET - 3

SHEET NUMBER

E0.04

NOT FOR CONSTRUCTION



GENERAL NOTES

1. CONTRACTOR SHALL FIELD COORDINATE WITH OWNER FOR EXACT LOCATIONS FOR NEW EQUIPMENT.
2. CONTRACTOR SHALL REPAIR ASPHALT SURFACE TO MATCH EXISTING CONDITIONS.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSING ANY UNUSED EARTH, ASPHALT AND DISPOSAL FEES.
4. CONTRACTOR SHALL PROVIDE EROSION CONTROL IN ACCORDANCE WITH CITY OF COSTA MESA REQUIREMENTS.
7. CONTRACTOR SHALL PROVIDE DIRECT BORING UNDER EXISTING CONCRETE CURBS AND SIDEWALKS.
8. ANY DISTURBED CONCRETE CURBS OR SIDEWALKS SHALL BE RESTORED TO MATCH EXISTING CONDITIONS.

ST. APPROVED TO REVIEW ON SITE

CLIENT

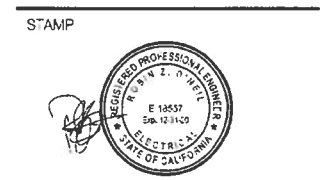


PROJECT NAME
**CITY OF COSTA MESA
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IDS PROJECT # 19X072 CD

ISSUE

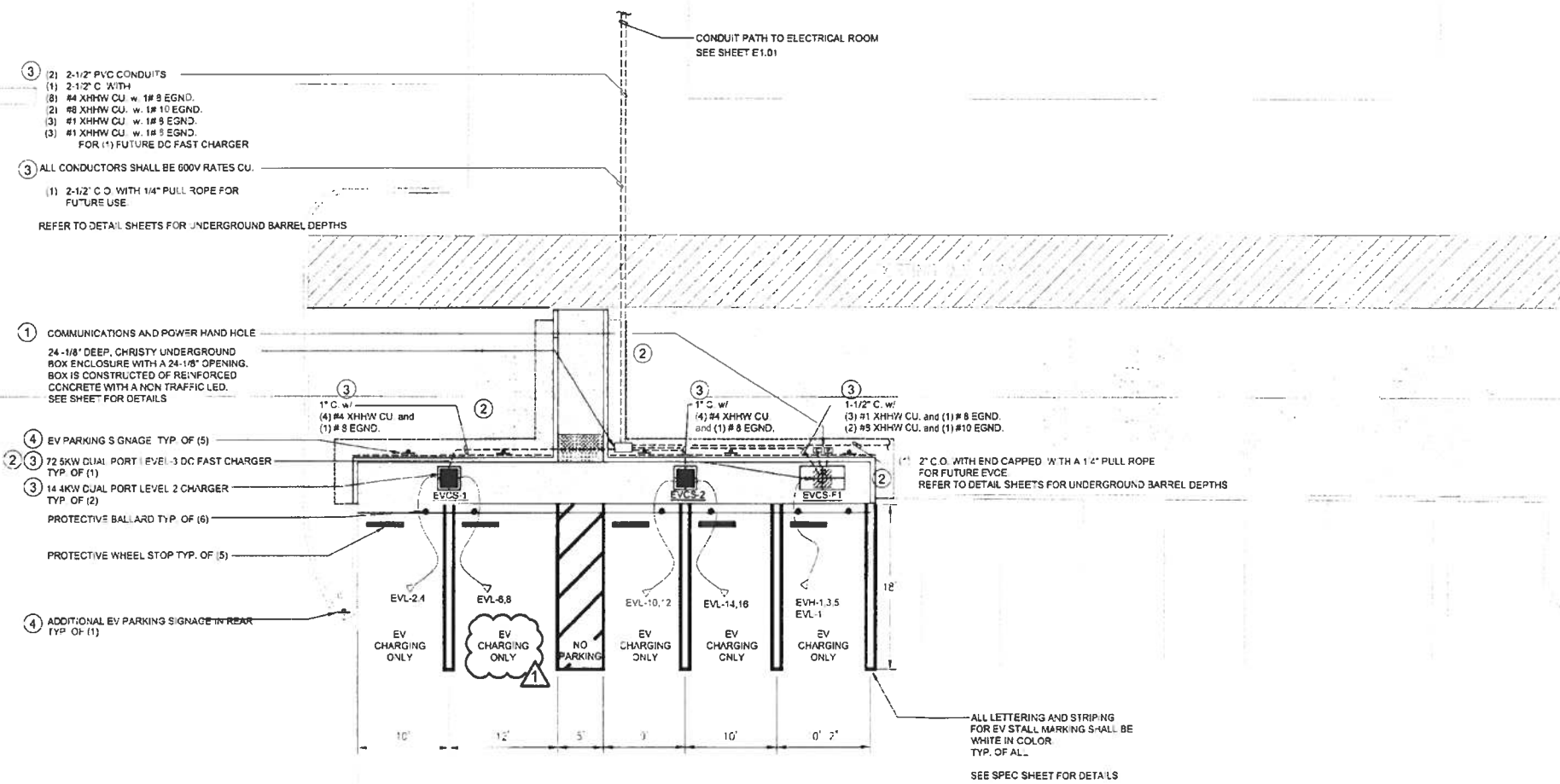
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2	50% DD OWNERS REVIEW	1/31/2020
3	100% CD SUBMITTAL	2/21/2020

PC REVISIONS 03/20/20

FRONT PARKING LOT EVCS ELEVATION 1/4"=1'-0" 2

KEY NOTES

1. HEAVY DUTY CONCRETE HAND HOLE PULL BOX WITH A NON TRAFFIC TYPE COVER.
 - (1) 3" PVC C. FOR COMMUNICATION PULL BOX
 - (1) 2" PVC C. FOR POWER PULL BOX
2. CONTRACTOR SHALL RESTORE LANDSCAPING TO MATCH EXISTING CONDITIONS UPON RESTORING TRENCH AND BACKFILL.
3. UNDERGROUND CONDUIT INSTALLED FOR EVCS. SEE SINGLE LINE DIAGRAM FOR DETAILS. CONDUITS SHALL BE INSTALLED PER NEC ARTICLE 300, TABLE 300.5 FOR MINIMUM COVER REQUIREMENTS. FOR ALL.
4. REFER TO CIVIL DRAWING FOR SIGNAGE DETAILS.
5. PER CEC SECTION 625.42. A LOCK-OPEN DEVICE SHALL BE PLACED ON ALL EVCE THAT IS OVER 60AMPS OR 150VOLTS. THIS SHALL APPLY TO ALL DC FAST CHARGING EQUIPMENT. TO SATISFY THIS REQUIREMENT, A LOCK-OPEN DEVICES CAN BE PLACED ON THE OCPD AT THE PANEL BOARD IN LUE OF A DISCONNECT SWITCH AT OR IN SIGHT OF THE EVCE.



- 2) 2-1/2" PVC CONDUITS
 - (1) 2-1/2" C. WITH
 - (3) #4 XHHW CU. w. 1# 8 EGND.
 - (2) #8 XHHW CU. w. 1# 10 EGND.
 - (3) #1 XHHW CU. w. 1# 8 EGND.
 - (3) #1 XHHW CU. w. 1# 8 EGND.
 FOR (1) FUTURE DC FAST CHARGER
- 3) ALL CONDUCTORS SHALL BE 600V RATES CU.
 - (1) 2-1/2" C.O. WITH 1/4" PULL ROPE FOR FUTURE USE
 REFER TO DETAIL SHEETS FOR UNDERGROUND BARREL DEPTHS

- 1) COMMUNICATIONS AND POWER HAND HOLE
 - 24-1/8" DEEP, CRISTY UNDERGROUND BOX ENCLOSURE WITH A 24-1/8" OPENING. BOX IS CONSTRUCTED OF REINFORCED CONCRETE WITH A NON TRAFFIC LED. SEE SHEET FOR DETAILS

- 4) EV PARKING SIGNAGE TYP. OF (5)
- 2) 72.5KW DUAL PORT LEVEL-3 DC FAST CHARGER TYP. OF (1)
- 3) 14.4KW CUAL PORT LEVEL 2 CHARGER TYP. OF (2)
- PROTECTIVE BALLARD TYP. OF (6)
- PROTECTIVE WHEEL STOP TYP. OF (5)

- 4) ADDITIONAL EV PARKING SIGNAGE IN REAR TYP. OF (1)

ALL LETTERING AND STRIPING FOR EV STALL MARKING SHALL BE WHITE IN COLOR TYP. OF ALL
SEE SPEC SHEET FOR DETAILS



ENLARGED FRONT PARKING LOT EVCS POWER PLAN 1/8"=1'-0" 1



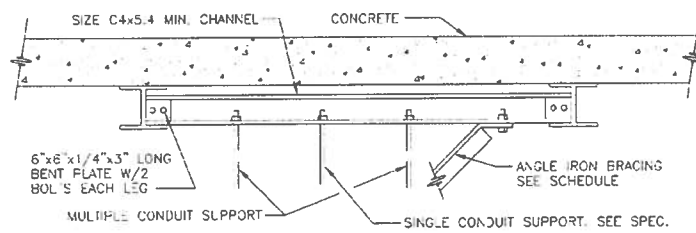
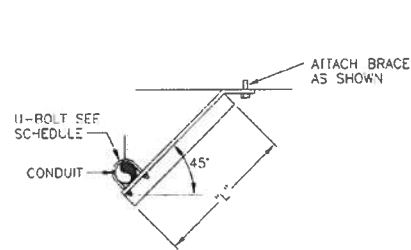
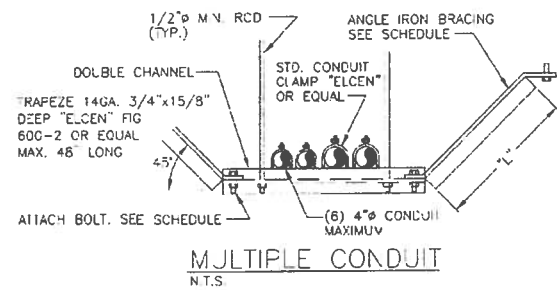
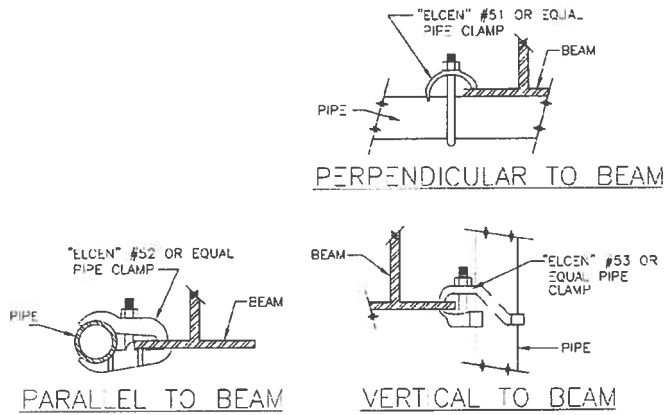
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SHEET TITLE

ENLARGED FRONT PARKING LOT EVCS POWER PLAN & ELEVATION VIEW

SHEET NUMBER

E2.00



MAX. SPACING OF BRACES SCHEDULE
N.T.S.

CONDUIT SIZE	MAX. SPACING OF BRACES SCHEDULE	
	TRANSVERSE BRACE (PERPENDICULAR TO CONDUIT)	LONGITUDINAL BRACE (IN THE DIRECTION OF CONDUIT)
1" - 1 1/2"	40' O.C.	100' O.C.
2" - 4"	40' O.C.	100' O.C.

ANGLE IRON BRACING SIZE SCHEDULE
N.T.S.

LENGTH "L"	ANGLE SIZE
TO 5'	1/8"x1 1/2"x1 1/2"
5' TO 6'-7"	1/8"x2"x2"
6'-7" TO 8'-0"	3/16"x2 1/2"x2 1/2"
8'-0" TO 9'-0"	3/16"x2 1/2"x2 1/2"

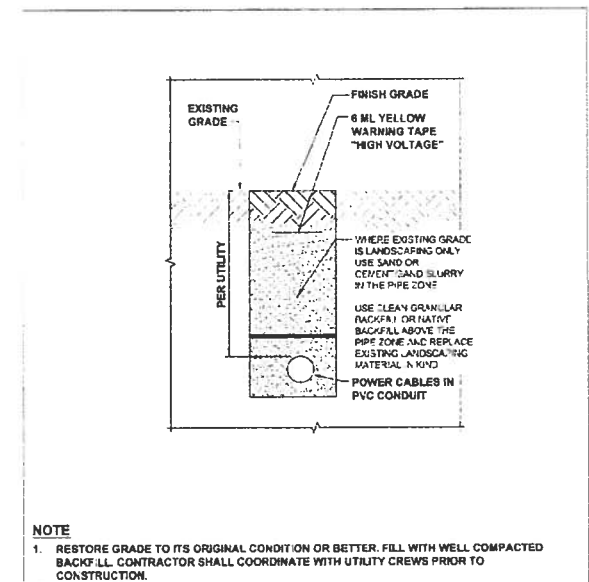
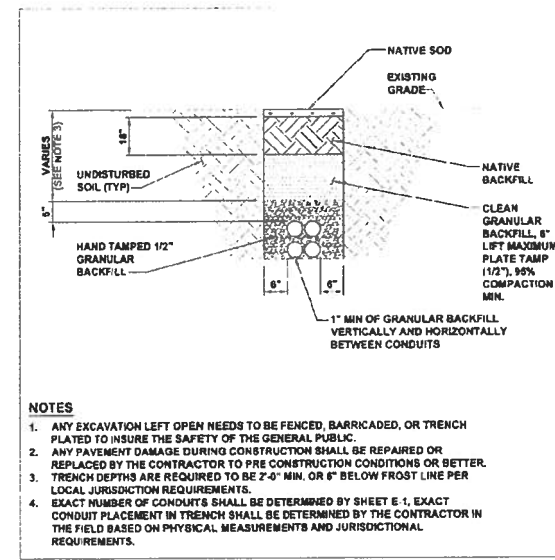
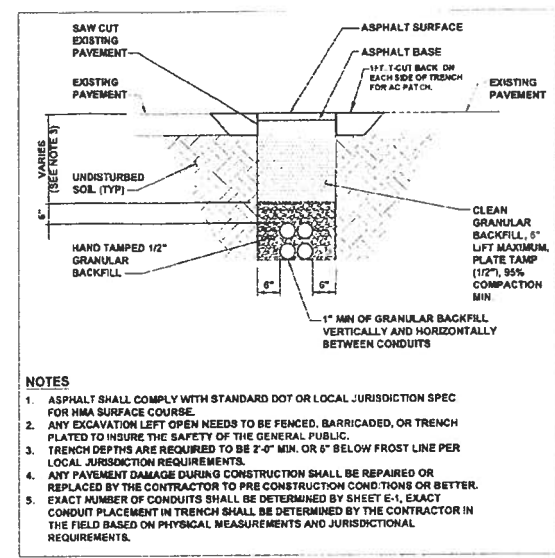
BRACE BOLT SCHEDULE

CONDUIT SIZE	ATTACH BOLT	U BOLT
1" TO 2 1/2" INCL.	3/8"	3/8"
3" - 4" INCL.	1/2"	1/2"

NOTES

- COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING
- 2014 NEC 250.121 EXCEPTION: A WIRE-TYPE EQUIPMENT GROUNDING CONDUCTOR INSTALLED IN COMPLIANCE WITH 250.6(A) AND THE APPLICABLE REQUIREMENTS FOR BOTH THE EQUIPMENT GROUNDING CONDUCTOR AND THE GROUNDING ELECTRODE CONDUCTOR IN PARTS II, III, AND VI OF THIS ARTICLE SHALL BE PERMITTED TO SERVE AS BOTH AN EQUIPMENT GROUNDING CONDUCTOR AND A GROUNDING ELECTRODE CONDUCTOR.

GROUNDING NOTES NO SCALE C



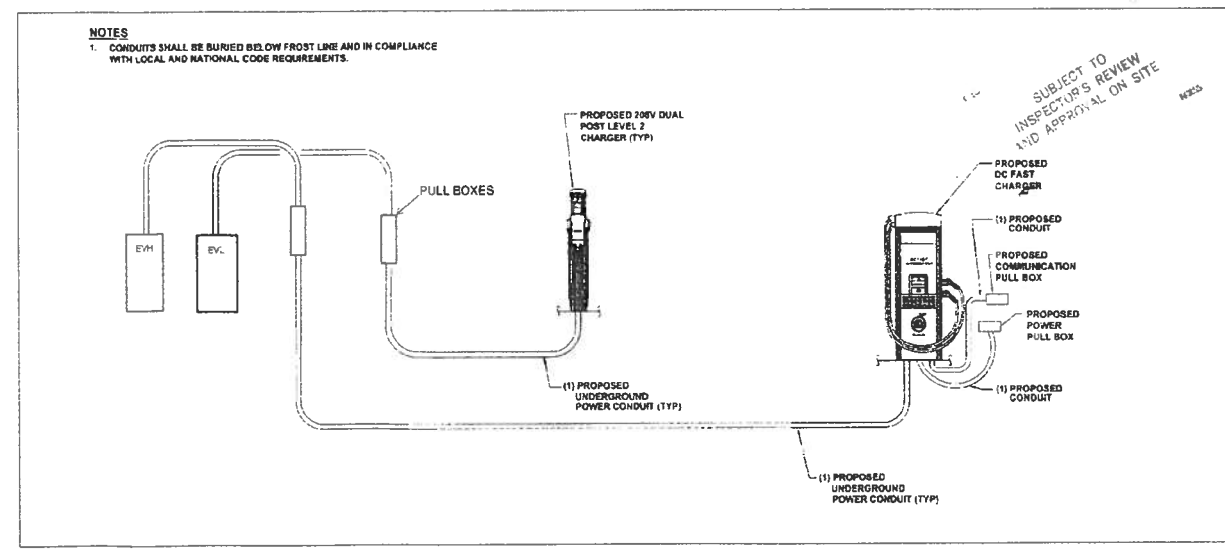
NOTES

- ANY EXCAVATION LEFT OPEN NEEDS TO BE FENCED, BARRICADED, OR TRENCH PLATED TO INSURE THE SAFETY OF THE GENERAL PUBLIC.
- ANY PAYEMENT DAMAGE DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR TO PRE CONSTRUCTION CONDITIONS OR BETTER.
- TRENCH DEPTHS ARE REQUIRED TO BE 2'-0" MIN. OR 6" BELOW FROST LINE PER LOCAL JURISDICTION REQUIREMENTS.
- EXACT NUMBER OF CONDUITS SHALL BE DETERMINED BY SHEET E-1. EXACT CONDUIT PLACEMENT IN TRENCH SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD BASED ON PHYSICAL MEASUREMENTS AND JURISDICTIONAL REQUIREMENTS.

NOTE

- RESTORE GRADE TO ITS ORIGINAL CONDITION OR BETTER. FILL WITH WELL COMPACTED BACKFILL. CONTRACTOR SHALL COORDINATE WITH UTILITY CREWS PRIOR TO CONSTRUCTION.

UNDERGROUND CONDUIT DETAIL NO SCALE B



NOTES

- CONDUITS SHALL BE BURIED BELOW FROST LINE AND IN COMPLIANCE WITH LOCAL AND NATIONAL CODE REQUIREMENTS.

SUBJECT TO INSPECTOR'S REVIEW AND APPROVAL ON SITE

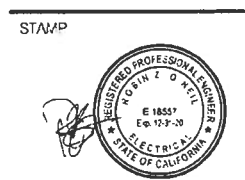
CAR CHARGER CONDUIT ELEVATION NO SCALE A



PROJECT NAME
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ISSUE
ISSUE PROJECT # 19X072 00

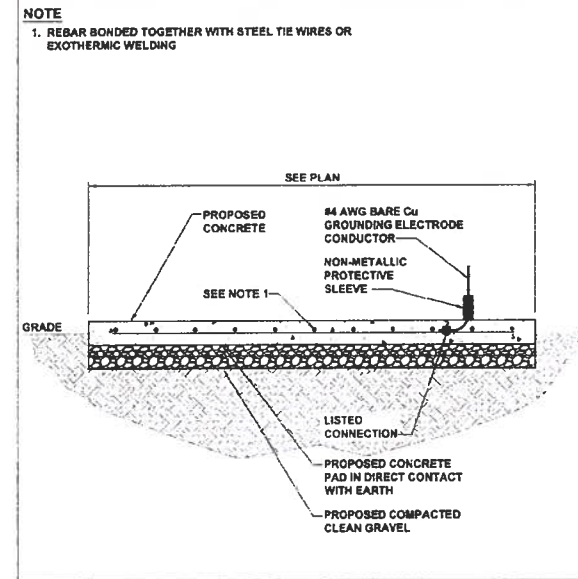
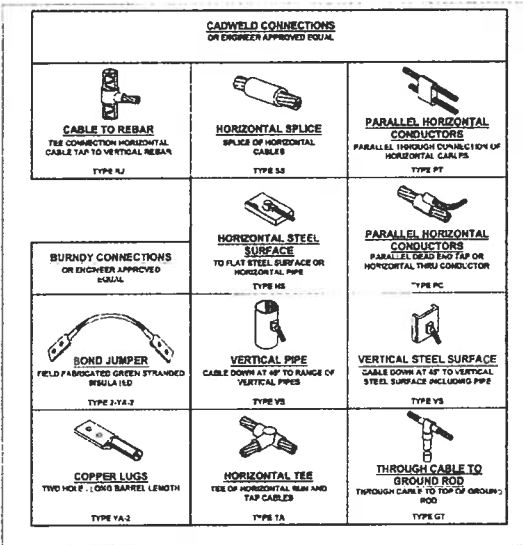
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3	100% CD SUBMITTAL	2/21/2020

SHEET TITLE

ELECTRICAL DETAIL SHEET - 1

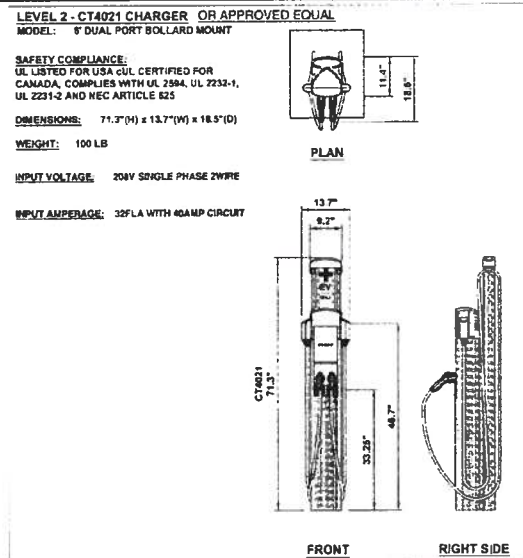
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E3.00

NOT FOR CONSTRUCTION

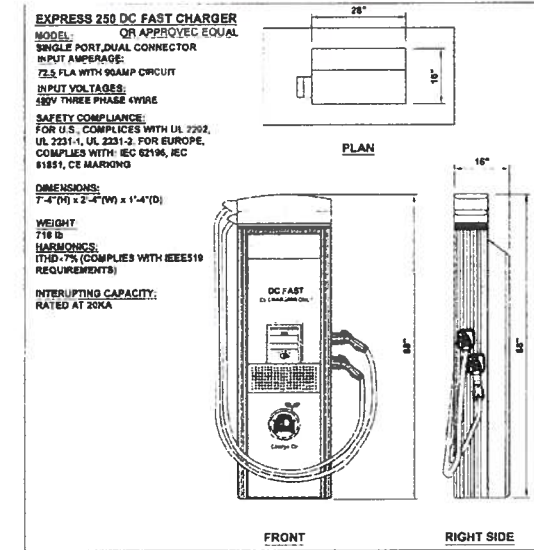


CADWELD CONNECTION DETAIL NO SCALE F

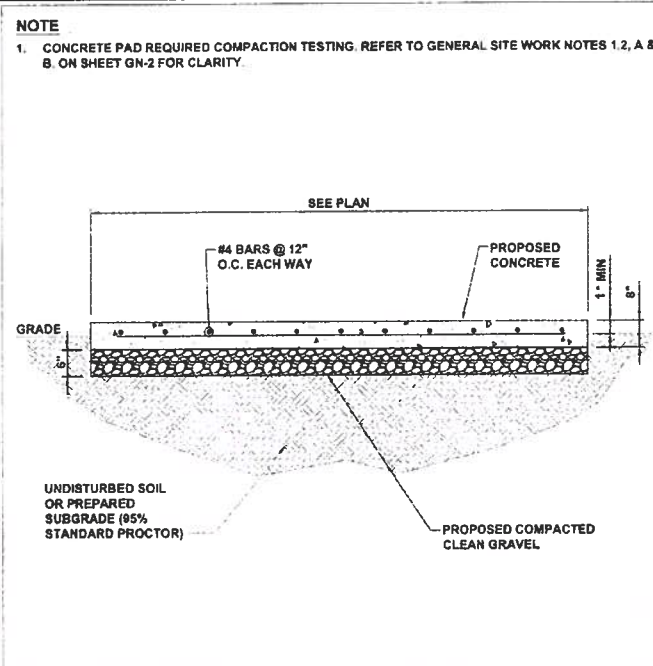
CONCRETE ENCASED ELECTRODE DETAIL NO SCALE C



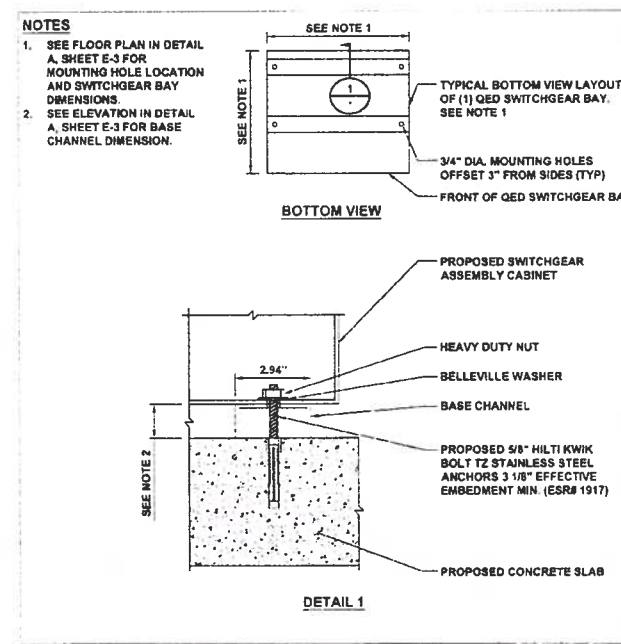
DUAL PORT LEVEL 2 CHARGER NO SCALE E



50KW DC FAST CHARGER DETAIL NO SCALE B



CONCRETE PAD DETAIL NO SCALE D



SWITCHGEAR ANCHOR ROD INSTALLATION DETAIL NO SCALE A

CLIENT

PROJECT NAME
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STAMP

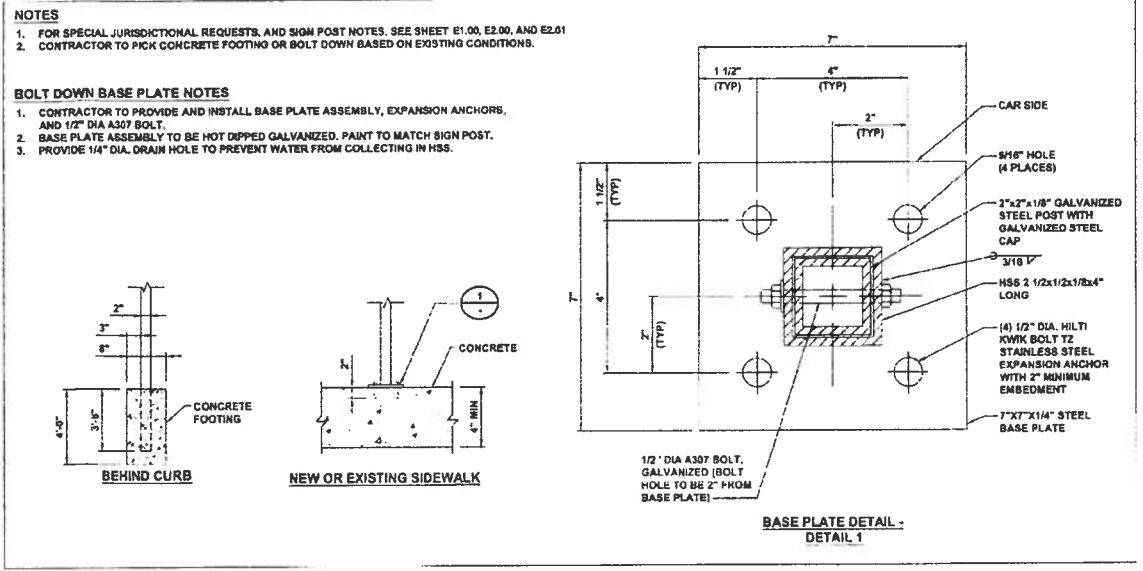
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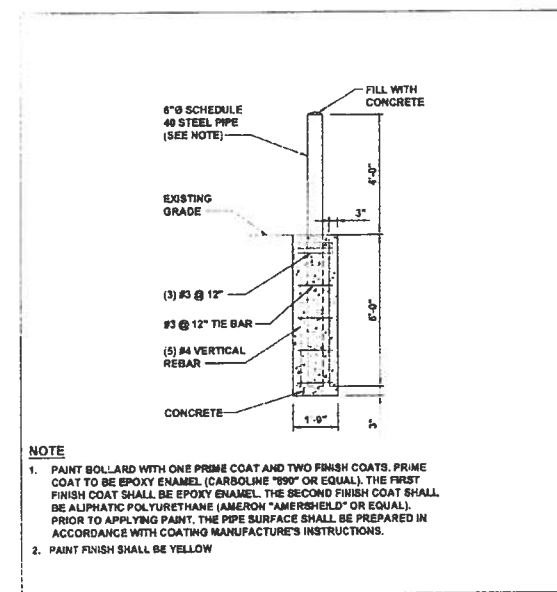
SHEET TITLE
ELECTRICAL DETAIL SHEET - 2

SHEET NUMBER
E3.01

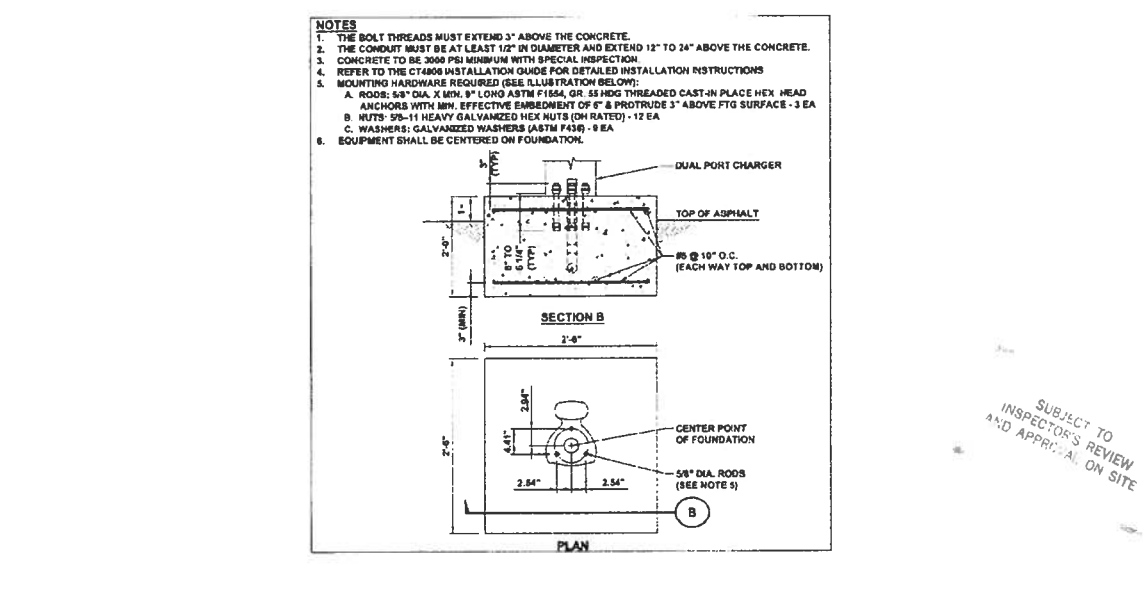
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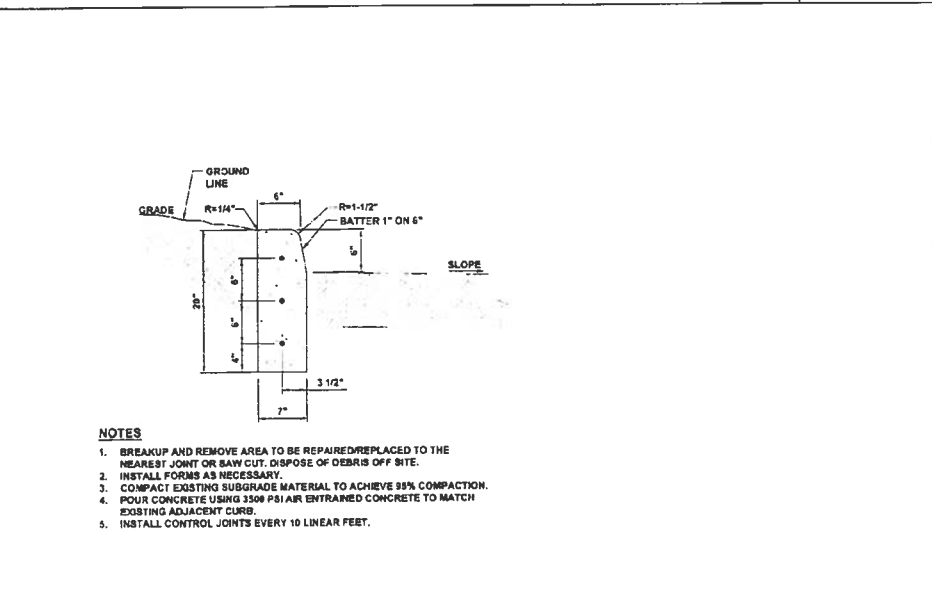
SIGN POST INSTALLATION DETAIL NO SCALE C



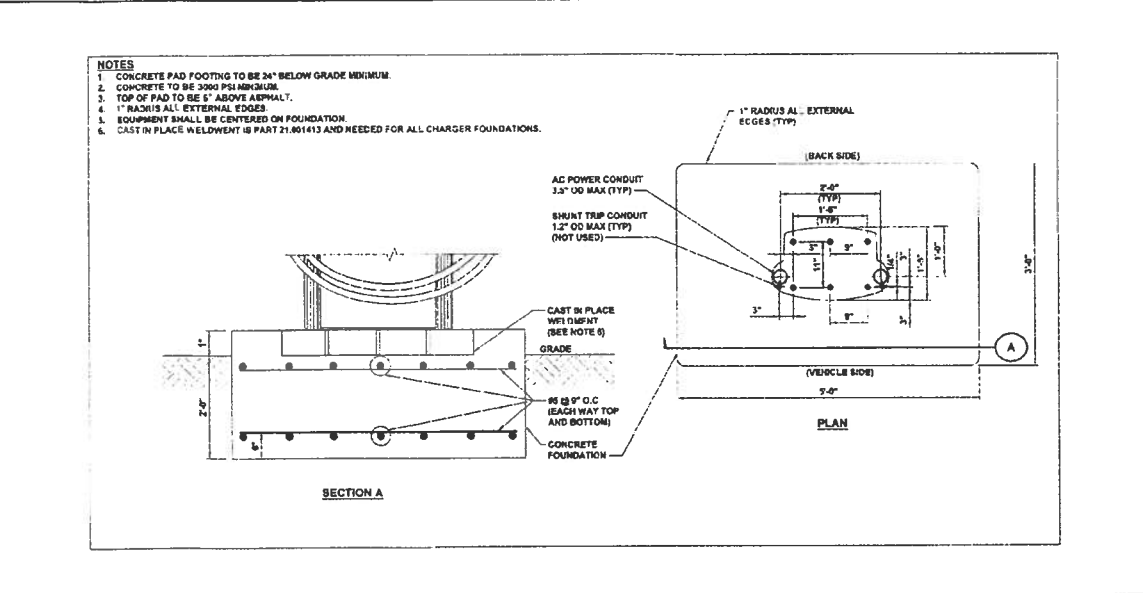
CONCRETE BOLLARD DETAIL NO SCALE E



DUAL PORT LEVEL 2 CHARGER FOUNDATION DETAIL NO SCALE B



STRAIGHT CURB DETAIL NO SCALE D



62.5 DC FAST CHARGER FOUNDATION DETAIL NO SCALE A



CLIENT
PROJECT NAME
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STAMP

IDS PROJECT # 19X0/2.00

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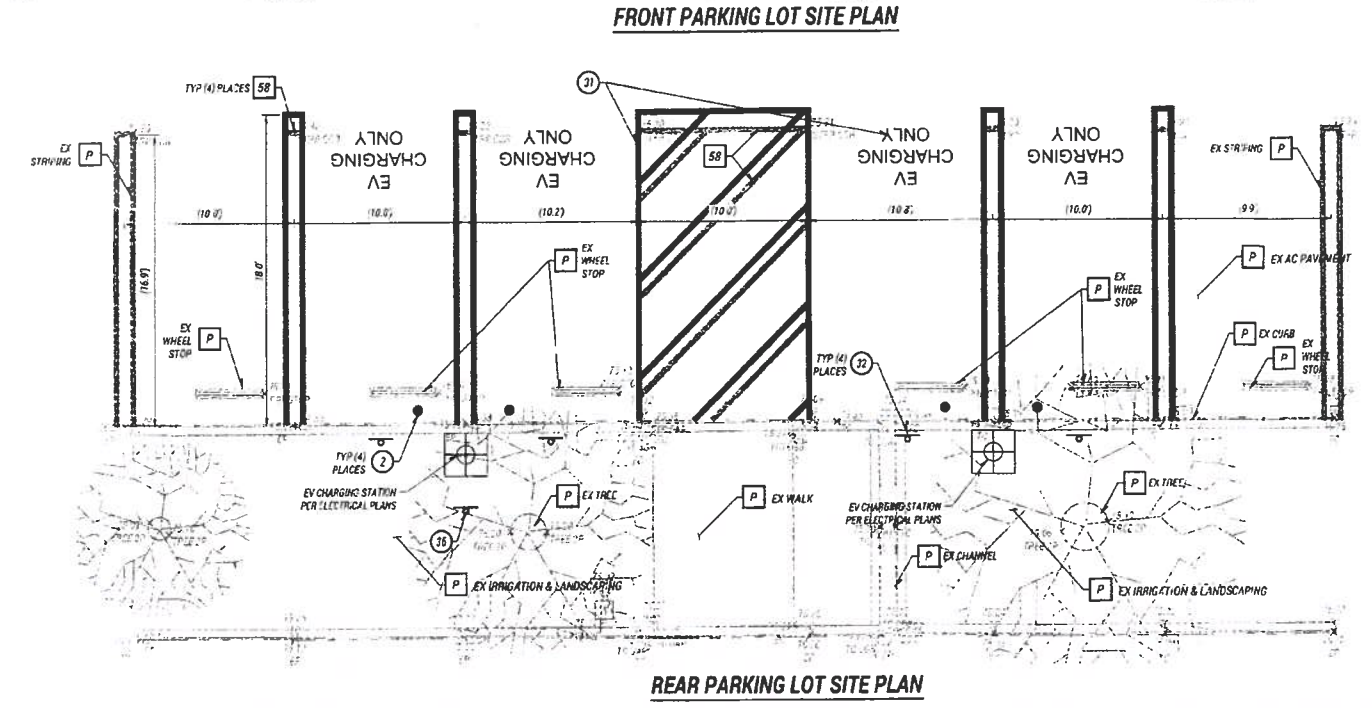
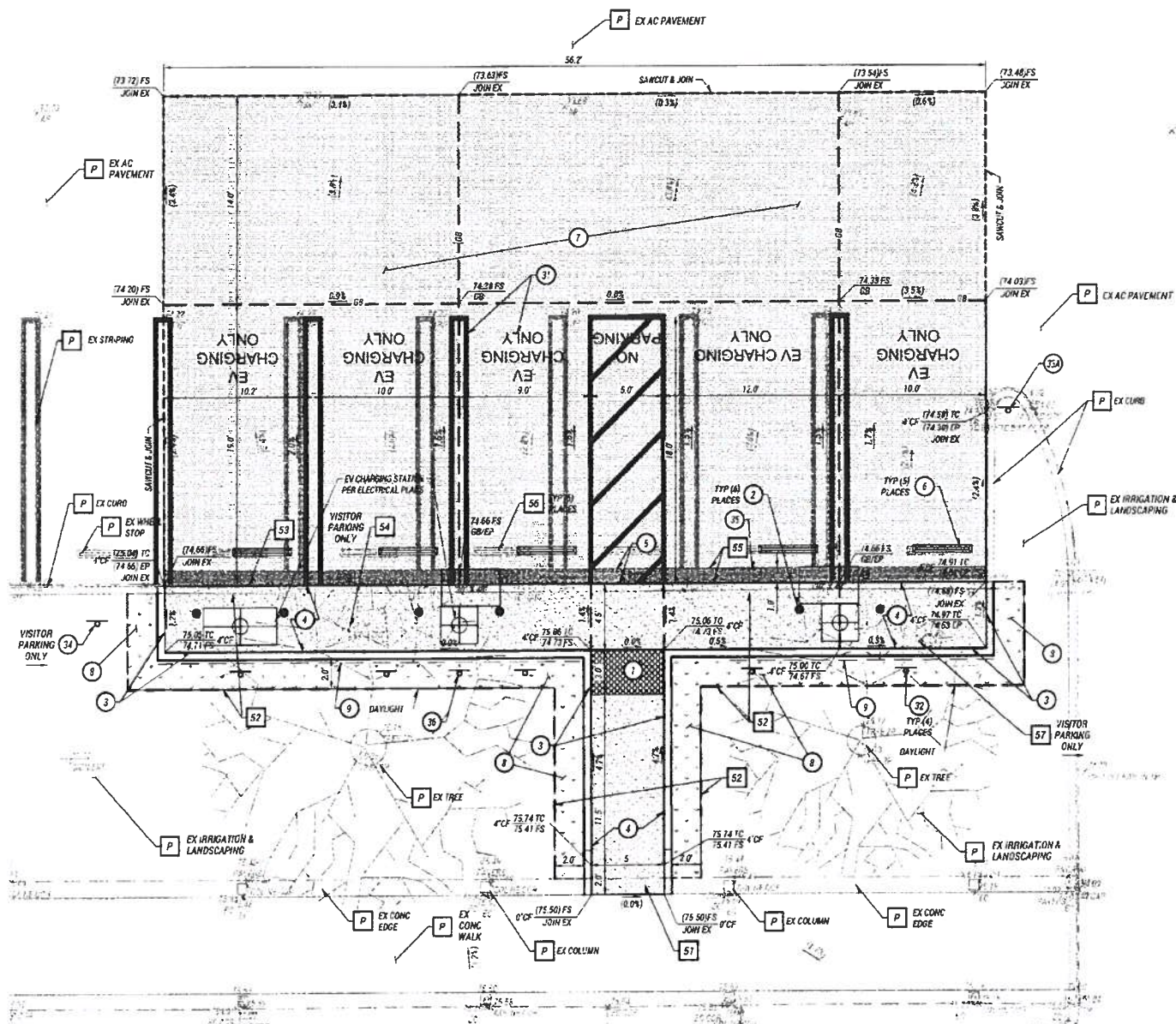
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ELECTRICAL DETAIL SHEET - 3

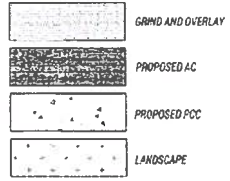
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E3.02

NOT FOR CONSTRUCTION

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LEGEND



ABBREVIATIONS

ZP	TWO POINT	GB	GRADE BREAK
AC	ASPHALT CONCRETE	M/N	MINIMUM
AP	ASPHALT PAVEMENT	O/C	ON CENTER
BOR	BEGINNING OF CURBS RETURN	PCC	PORTLAND CEMENT CONCRETE
BLOG-COR	BUILDING CORNER	PRK	PARKING
CF	CURB FACE	PS	PARKING STRIPING
CL	CENTER LINE	SDG	SLAB ON GRADE
CHB	CRUSHED MISCCELLANEOUS BASE	SOPWC	STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION
C/O	CLEAN CUT	SSPWC	STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION
COR	CORNER	STRP	STRIPING
CRV	CURVE	TC	TOP OF CURB
EC	END OF CURVE	TYF	TYPICAL
EDR	END OF CURB RETURN	UNO	UNLESS NOTED OTHERWISE
EG	EXISTING GROUND	WM	WATER METER
EP	EDGE OF PAVEMENT		
EV	ELECTRIC VEHICLE		
EX	EXISTING		
EXT	EXTENSION		
FL	FLOW LINE		
FS	FINISHED SURFACE		

DISPOSITION NOTES

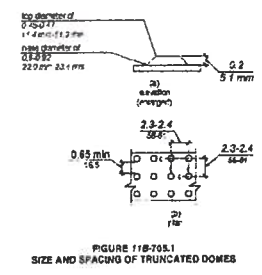
- P PROTECT IN PLACE ITEM AS NOTES ON PLAN

DEMOLITION NOTES

- S1 REMOVE & DISPOSE OF EXISTING CONCRETE
- S2 REMOVE & DISPOSE OF EXISTING IRRIGATION AND LANDSCAPING
- S3 REMOVE & DISPOSE OF EXISTING PCC CURB
- S4 REMOVE & DISPOSE OF EXISTING POST, SALVAGE SIGN TO CITY YARD
- S5 REMOVE & DISPOSE OF ASPHALT PAVEMENT AND BASE
- S6 REMOVE & DISPOSE OF EXISTING WHEEL STOP
- S7 REMOVE & DISPOSE OF EXISTING SIGN & PCST, SALVAGE SIGN FOR RELOCATION
- S8 REMOVE EXISTING STRIPING (BY SANDBLASTING)

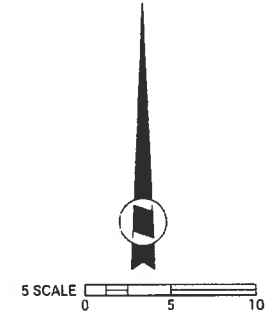
CONSTRUCTION NOTES

- SITE IMPROVEMENTS**
- 1 INSTALL ARIAR-TILE CAST-IN-PLACE TRUNCATED WARNING DOMES (3x WIDTH OF WALK)
 - 2 INSTALL CONCRETE BOLLARD PER DETAIL E ON SHEET E3.02 OF ELECTRICAL PLANS
 - 3 CONSTRUCT A1-6 CURB OVER 6" CMB PER SPPWC STD 120.2, CF=4"
 - 4 CONSTRUCT 4" PCC WALK OVER 4" CMB PER CITY OF COSTA MESA STD PLAN 412
 - 5 CONSTRUCT FULL DEPTH AC PAVEMENT (TYPE III-C2 PG 64-10), LESS OVERLAY (INCLUDE TOP SURFACE WITH OVERLAY)
 - 6 INSTALL CONCRETE WHEEL STOP PER DETAIL 6 ON SHEET C-2
 - 7 CONSTRUCT 1" MIN COLD MILL AND 2" MIN AC OVERLAY (HEADER CUT EDGES)
 - 8 RESTORE EXISTING LANDSCAPING AND IRRIGATION (REGRADE TO MATCH EXISTING)
 - 9 FURNISH AND INSTALL 36" ROOT BARRIER
- SIGNING AND STRIPING**
- 10 INSTALL NEW STRIPING AND MARKING AS SHOWN AND PER DETAIL 31 ON SHEET C-2 (SEAL PRIOR TO STRIPING AND MARKING)
 - 11 INSTALL NEW SIGN R-113A(CA) PER DETAIL 32 ON SHEET C-2 AND POST PER DETAIL C ON SHEET E3.02 OF ELEC PLANS
 - 12 INSTALL NEW SIGN G-66-21(CA) MOD (TYPE A) PER DETAIL 33 ON SHEET C-2 AND POST PER DETAIL C ON SHEET E3.02 OF ELEC PLANS
 - 13 INSTALL SALVAGED SIGN AND NEW POST PER DETAIL C ON SHEET E3.02 OF ELEC PLANS
 - 14 INSTALL NEW POST AND VAN ACCESSIBLE SIGN PER DETAIL 35 ON SHEET C-2 (70 SQUARE INCHES)
 - 15 INSTALL NEW SIGN R-112(CA) PER DETAIL 36 ON SHEET C-2 AND POST PER DETAIL C ON SHEET E3.02 OF ELEC PLANS



**DIVISION OF BUILDING SAFETY
CITY OF COSTA MESA
REVIEWED FOR CODE COMPLIANCE**

This set of plans and specifications MUST be used on the job as submitted. It is intended to make any changes or additions on same without written permission of the Division of Building and Safety, City of Costa Mesa. The contractor shall be responsible for obtaining all necessary permits and approvals of the jurisdiction of any City of Costa Mesa Ordinance and/or State law. These permits shall be obtained and returned to the City of Costa Mesa within 100 days of issuance. Work is not complete until all permits are closed per the US BOPC 105.1 within 100 days of issuance.



CLIENT



PROJECT NAME

**CITY OF COSTA MESA
EV CHARGING STATIONS**

CONSULTANT



1 PETERS CANYON ROAD, SUITE 130
IRVINE, CA 92609
TEL: 949-387-8500 FAX: 949-387-0800

APPROVED BY: *Baltazar Mejia*
BALTAZAR MEJIA

INTERIM CITY ENGINEER RCE NO C50330

STAMP



IDS PROJECT # 19X072.C0

ISSUE

REV	DESCRIPTION	DATE
1	50% SD OWNERS REVIEW	1/20/2020
2	50% DD OWNERS REVIEW	1/31/2020
3	100% CD SUBMITTAL	2/21/2020

SHEET TITLE

**FRONT & REAR PARKING
SITE PLANS**

SHEET NUMBER

C-1

NOT FOR CONSTRUCTION

CLIENT



PROJECT NAME
CITY OF COSTA MESA
EV CHARGING STATIONS

CONSULTANT
IDS
IDS GROUP
1 PETERS CANYON ROAD, SUITE 130
IRVINE, CA 92606
TEL 949.387.9500 FAX 949.387.0830

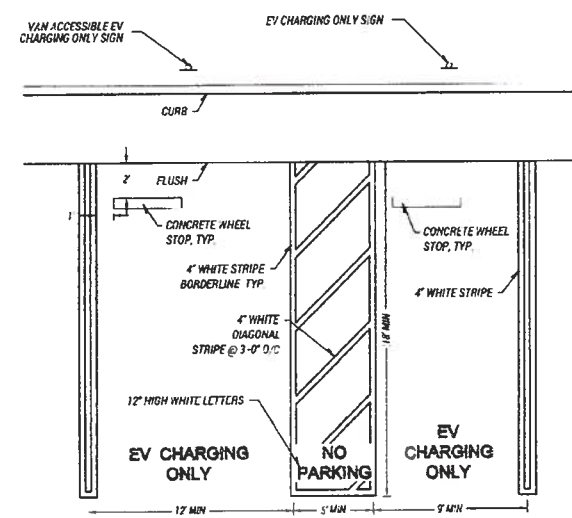
APPROVED BY *Baltazar Mejia*
BALTAZAR MEJIA
INTERIM CITY ENGINEER PCE NO. C50330

STAMP
 Baltazar Mejia
DIVISION OF BUILDING SAFETY
CITY OF COSTA MESA
REVIEWED FOR CODE COMPLIANCE
IDS PROJECT # 19X072.C0

ISSUE

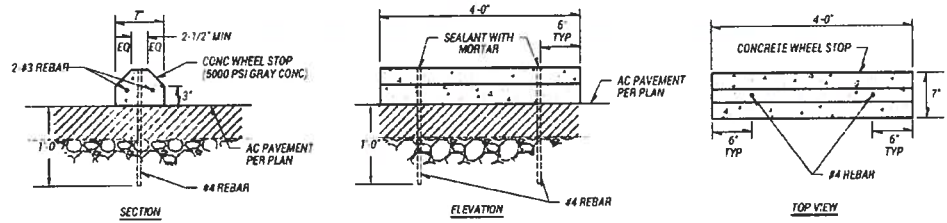
REV	DESCRIPTION	DATE
1	50% SD OWNER'S REVIEW	1/20/2020
2	50% DD OWNER'S REVIEW	1/31/2020
3	100% CD SUBMITTAL	2/21/2020

SHEET TITLE
DETAILS
SHEET NUMBER
C-2

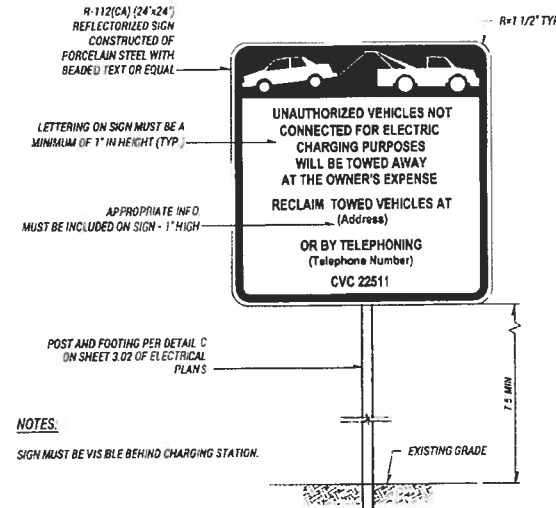


NOTE:
1. STRIPING AND MARKING SHALL BE PER CBC 11B-502, AND SSPWC SECTIONS 214 & 314

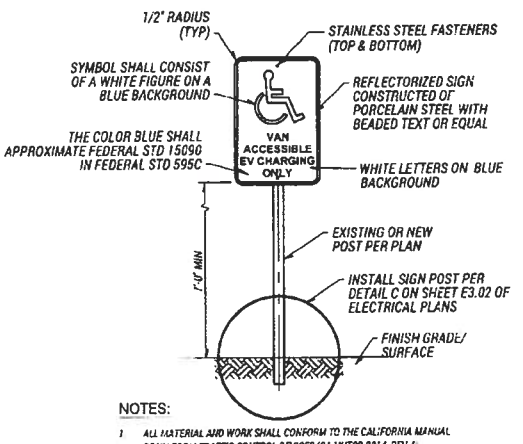
TYPICAL STRIPING & MARKING DETAIL 31
FOR VAN ACCESSIBLE AND EV CHARGING
NTS



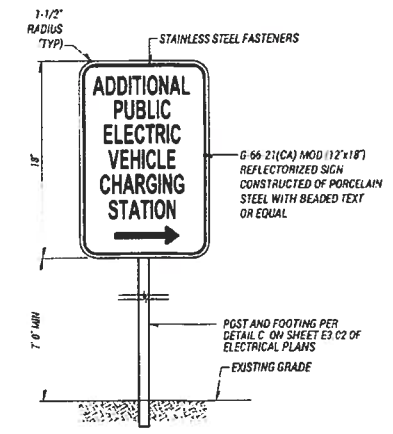
CONCRETE WHEEL STOP 6
NTS



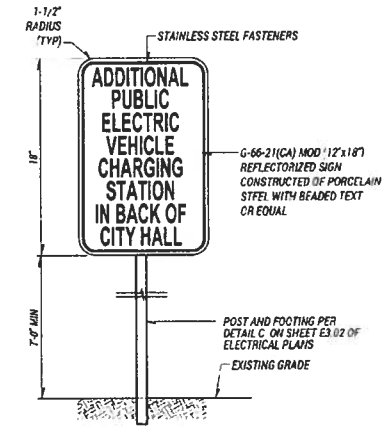
R-112(CA) SIGN DETAIL 36
NTS



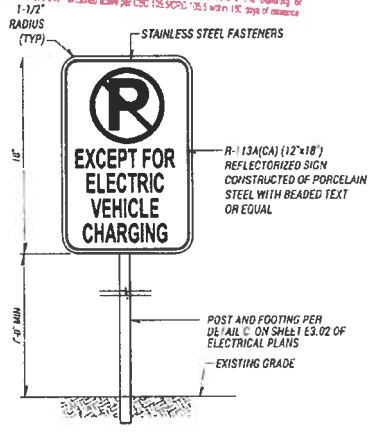
VAN ACCESSIBLE SIGN DETAIL 35
NTS



G-66-21(CA) MOD SIGN DETAIL 33B
NTS



G-66-21(CA) MOD SIGN DETAIL 33A
NTS



R-113A(CA) SIGN DETAIL 32
NTS

S:\PROJECTS\2019\Shared\19X072.C0 Costa Mesa EV Charging Stations\02_Civil\01_Base\19X072.C0C-06.dwg



05' 00" - 03' 20"

NOT FOR CONSTRUCTION

EXHIBIT C

ADDENDA



CITY OF COSTA MESA

P.O. BOX 12000 77 FAIR DRIVE CALIFORNIA 92626 1200

FROM THE DEPARTMENT OF PUBLIC SERVICES/ENGINEERING DIVISION

DATE: APRIL 29, 2020

TO: ALL PROSPECTIVE BIDDERS

SUBJECT: ADDENDUM NO. 1 – CITY HALL ELECTRIC VEHICLE (EV) CHARGING STATIONS, CITY PROJECT NO. 20-09

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 bobby.fouladi@costamesaca.com. **A COPY WILL NOT BE SENT BY MAIL.**

Received by: *Alan Sayce*

Company: ALAN SAYCE, VICE PRESIDENT - AMTEK CONSTRUCTION

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

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

<u>BID SUBMITTAL TIME/ DATE:</u>	10:00 A.M., Tuesday, May 26, 2020	NO CHANGE
<u>BID SUBMITTAL LOCATION:</u>	77 Fair Drive Costa Mesa, CA 92626	NO CHANGE
<u>BID OPENING TIME/ DATE:</u>	10:00 A.M., Thursday, May 28^T, 2020	NO CHANGE
<u>BID OPENING LOCATION:</u>	Due to COVID-19 safety measures there will not be a public bid opening. The City Clerk will open all bids and distribute the bid results.	NO CHANGE

NEW PRE-RECORDED VIDEO OF PRE-BID JOB WALK:

Hyperlink → <https://www.youtube.com/watch?v=ggh6vklQL8E>

In consideration of the recent COVID-19 pandemic, a video of the pre-bid job walk has been digitally recorded. The pre-recorded video shows the existing conditions where the electric vehicle charging stations and their infrastructure are proposed at City Hall. Prospective bidders are required to click the link above and view the pre-recorded job walk video.

Addendum No. 1
Project and Specifications No. 20-09

To qualify to bid on the project, prospective bidders are required to sign that they have received this addendum thereby acknowledging they have viewed the video in the hyperlink provided in Addendum No. 1.

Please acknowledge receipt of this Addendum No.1 and the Video of the Pre-bid Job Walk on the Proposal Page "P-4".

Sincerely,

A handwritten signature in black ink, appearing to read "B. Fouladi". The signature is written in a cursive style with a large initial "B" and a long horizontal stroke extending to the right.

Bobby Fouladi, P.E.
Associate Engineer



CITY OF COSTA MESA

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

FROM THE DEPARTMENT OF PUBLIC SERVICES/ENGINEERING DIVISION

DATE: MAY 6, 2020

TO: ALL PROSPECTIVE BIDDERS

SUBJECT: ADDENDUM NO. 2 – CITY HALL ELECTRIC VEHICLE (EV) CHARGING STATIONS, CITY PROJECT NO. 20-09

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 bobby.fouladi@costamesaca.com. **A COPY WILL NOT BE SENT BY MAIL.**

Received by: _____

Company: ALAN SAYCE, VICE PRESIDENT, AMTEK CONSTRUCTION

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

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

BID SUBMITTAL TIME/ DATE: 10:00 A.M., Tuesday, May 26, 2020 NO CHANGE

BID SUBMITTAL LOCATION: 77 Fair Drive Costa Mesa, CA 92626 NO CHANGE

BID OPENING TIME/ DATE: 10:00 A.M., Thursday, May 28th, 2020 NO CHANGE

BID OPENING LOCATION: Due to COVID-19 safety measures there will not be a public bid opening. The City Clerk will open all bids and distribute the bid results. NO CHANGE

PRE-RECORDED VIDEO OF PRE-BID JOB WALK: NO CHANGE

Hyperlink → <https://www.youtube.com/watch?v=ggh6vk1QL8E>

SPECIFICATION CORRECTION: Replace page SP-25 of the current specifications with the attached revised page SP-25.

THE SPECIFICATION CORRECTION: Corrects Section 6-7 on page SP-25 of the Project Specifications. A revised page SP-25 is included in this addendum as **Attachment 1.**

Addendum No. 1
Project and Specifications No. 20-09

Please acknowledge receipt of this Addendum No.1 and the Video of the Pre-bid Job Walk on the Proposal Page "P-4".

Sincerely,

Bobby Fouladi, P.E.
Associate Engineer

Attachments:
1- (Revised) Page SP-25 of Volume 1 Specifications (1 page)

Prior to commencing any work, the Contractor shall carefully excavate and determine precise locations and depths of all utility service lines, utility mainlines, irrigation systems and electrical systems, within the project site which may affect or be affected by the Contractor's operations. The Contractor shall not be compensated for any delays or extra work brought about by his failure to perform the above-mentioned work. The Contractor shall remove any abandoned underground utility lines encountered during construction. The Contractor shall be responsible for any damage to existing utilities.

Section 6-1 Construction Schedule and Commencement of Work

The Contractor shall prepare and submit to the Engineer a written schedule of his work operations for the proposed project. The schedule shall be submitted for approval at the pre-construction conference. The Contractor's designated project superintendent shall be present at the pre-construction meeting.

Section 6-7 - Time of Completion

The Contractor shall begin work on the project within ten (10) working days after the contract has been issued by the City. Said work shall be diligently prosecuted to completion before the expiration of **Fourty-Five (45) working days** beginning on the 10th working day after the award of the contract or the first day of commencement of the work, whichever occurs first.

Section 6-9 – Liquidated Damages

The Contractor shall pay to the City of Costa Mesa the sum of \$1300.00 per day, for each and every calendar day's delay in finishing the work in excess of the number of working days prescribed above.

Section 7-8 – Water Pollution Control

Stormwater Best Management Practices (BMPs)

All work, submittals, materials, calculations, analysis, plans and all other items as necessary to develop and implement Best Management Practices and Water Pollution Control in accordance with the approved City plan and as required by law, and shall comply with all requirements of the Water Quality Act, including requirements established and enforced by the state and local Regional Water Quality Control Board, and the City stormwater quality permit requirements. Contractor shall not discharge or permit to be discharged to any street, channel, river, storm drain, or any appurtenances thereof, any non-rain water or other liquid from the project site or from operations pertaining to the project site without first obtaining a valid National Pollution Prevention Discharge Elimination System (NPDES) permit unless the discharge is specifically exempt or conditionally exempt. Contractor shall implement all necessary Best Management Practices (BMP's) to ensure that any conditionally exempt discharge meets all current requirements of Water Quality Control Board and the City.

Erosion and Sediment Control Plans

ADDENDUM No 2
ATTACHMENT 1

Special Provisions



CITY OF COSTA MESA

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

FROM THE DEPARTMENT OF PUBLIC SERVICES/ENGINEERING DIVISION

DATE: MAY 8, 2020

TO: ALL PROSPECTIVE BIDDERS

SUBJECT: ADDENDUM NO. 3 – CITY HALL ELECTRIC VEHICLE (EV) CHARGING STATIONS, CITY PROJECT NO. 20-09

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 bobby.fouladi@costamesaca.gov. **A COPY WILL NOT BE SENT BY MAIL.**

Received by: _____

Company: ALAN SAYCE, VICE PRESIDENT, AMTEK CONSTRUCTION

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

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

BID SUBMITTAL TIME/ DATE: 10:00 A.M., Tuesday, May 26, 2020 NO CHANGE

BID SUBMITTAL LOCATION: 77 Fair Drive Costa Mesa, CA 92626 NO CHANGE

BID OPENING TIME/ DATE: 10:00 A.M., Thursday, May 28^T, 2020 NO CHANGE

BID OPENING LOCATION: Due to COVID-19 safety measures there will not be a public bid opening. The City Clerk will open all bids and distribute the bid results. NO CHANGE

PRE-RECORDED VIDEO OF PRE-BID JOB WALK: NO CHANGE

Hyperlink → <https://www.youtube.com/watch?v=ggh6vk1QL8E>

REVISED E-MAIL ADDRESS: Please send acknowledgment of all published addendums to bobby.fouladi@costamesaca.gov.

SPECIFICATION CORRECTION: Replace page SP-23 of the project specifications provided in Addendum No. 2 with the attached 2nd revision of page SP-23. Page SP-25 will remain as originally published.

Addendum No. 1
Project and Specifications No. 20-09

REVISED E-MAIL ADDRESS: Previous addendums listed the incorrect email address to send acknowledgment of receipt of addendum. Please send acknowledgment of receipt of all previous addendums to bobby.fouladi@costamesaca.gov.

THE SPECIFICATION CORRECTION: Addendum No. 2 mistakenly referenced page SP-25. This Addendum No. 3 is a second revision to Section 6-7 on page SP-23 of the Project Specifications. Page SP-25 will remain as originally published. A corrected page SP-23 and the originally published page SP-25 is included in this addendum as **Attachment 1**.

Please acknowledge receipt of each and all addendums on the Proposal Page "P-4".

Sincerely,



Bobby Fouladi, P.E.
Associate Engineer

Attachments:

- 1- (2nd Revision) Page SP-23 and (Original) Page SP-25 (2 pages)

Prior to commencing any work, the Contractor shall carefully excavate and determine precise locations and depths of all utility service lines, utility mainlines, irrigation systems and electrical systems, within the project site which may affect or be affected by the Contractor's operations. The Contractor shall not be compensated for any delays or extra work brought about by his failure to perform the above-mentioned work. The Contractor shall remove any abandoned underground utility lines encountered during construction. The Contractor shall be responsible for any damage to existing utilities.

Section 6-1 Construction Schedule and Commencement of Work

The Contractor shall prepare and submit to the Engineer a written schedule of his work operations for the proposed project. The schedule shall be submitted for approval at the pre-construction conference. The Contractor's designated project superintendent shall be present at the pre-construction meeting.

Section 6-7 - Time of Completion

Upon award by City Council, the Contractor shall submit all compliance documents and begin work on the project within ten (10) working days after date of execution the contract and as directed by the City via a Notice to Proceed for Construction. Said work shall be diligently prosecuted to completion before the expiration of **Forty-Five (45) working days** beginning on the 10th working day after the notice to proceed or the first day of commencement of the work, whichever occurs first.

Section 6-9 – Liquidated Damages

The Contractor shall pay to the City of Costa Mesa the sum of \$1300.00 per day, for each and every calendar day's delay in finishing the work in excess of the number of calendar days prescribed above.

Section 7-8 – Water Pollution Control Stormwater Best Management Practices (BMPs)

All work, submittals, materials, calculations, analysis, plans and all other items as necessary to develop and implement Best Management Practices and Water Pollution Control in accordance with the approved City plan and as required by law, and shall comply with all requirements of the Water Quality Act, including requirements established and enforced by the state and local Regional Water Quality Control Board, and the City stormwater quality permit requirements. Contractor shall not discharge or permit to be discharged to any street, channel, river, storm drain, or any appurtenances thereof, any non-rain water or other liquid from the project site or from operations pertaining to the project site without first obtaining a valid National Pollution Prevention Discharge Elimination System (NPDES) permit unless the discharge is specifically exempt or conditionally exempt. Contractor shall implement all necessary Best Management Practices (BMP's) to ensure that any conditionally exempt discharge meets all current requirements of Water Quality Control Board and the City.

Erosion and Sediment Control Plans

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.

Section 7-13 Laws to be observed

The Contractor shall comply with and meet all applicable SCAQMD, OSHA, NPDES and EPA requirements as specified. The Contractor shall be responsible to obtain those necessary manuals and publications.

Section 9-1.2.1 Weight Ticket Requirements for Payment

The Contractor shall submit all weight tickets or volumes of all materials used in the construction to the Engineer for checking and verification prior to any payment. Failure to do so will postpone the payment to the Contractor, until the matter is resolved satisfactorily.

The weight or volume from submitted tickets must correspond to the work done in the field; if not, the City shall reject the work without compensation to the Contractor, and/or the Contractor shall be directed to replace that work at no additional costs to the City.

Section 9-3.3 Delivered Materials

The cost of materials and equipment delivered, but not incorporated in said work, will not be included in the progress payment estimate unless otherwise provided in these specifications. All materials shall be nontoxic and shall not contain asbestos and hazardous substances as established by applicable laws.

Section 9-3.2.1 Record Documents: Requirements for Partial and Final Payment

The Contractor shall record, on the set of contract documents maintained at the job site, deviations which have been made from the Contract Documents or

Special Provisions



CITY OF COSTA MESA

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

FROM THE DEPARTMENT OF PUBLIC SERVICES/ENGINEERING DIVISION

DATE: MAY 18, 2020

TO: ALL PROSPECTIVE BIDDERS

SUBJECT: ADDENDUM NO. 4 – CITY HALL ELECTRIC VEHICLE (EV) CHARGING STATIONS, CITY PROJECT NO. 20-09

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 bobby.fouladi@costamesaca.gov. **A COPY WILL NOT BE SENT BY MAIL.**

Received by: *Alan Sayce*

Company: ALAN SAYCE, VICE PRESIDENT, AMTEK CONSTRUCTION

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

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

- BID SUBMITTAL TIME/ DATE:** 10:00 A.M., Tuesday, May 26, 2020 NO CHANGE
- BID SUBMITTAL LOCATION:** 77 Fair Drive Costa Mesa, CA 92626 NO CHANGE
- BID OPENING TIME/ DATE:** 10:00 A.M., Thursday, May 28^T, 2020 NO CHANGE
- BID OPENING LOCATION:** Due to COVID-19 safety measures there will not be a public bid opening. The City Clerk will open all bids and distribute the bid results. NO CHANGE

PRE-RECORDED VIDEO OF PRE-BID JOB WALK: NO CHANGE
Hyperlink → <https://www.youtube.com/watch?v=ggh6vkiQL8E>

REVISED E-MAIL ADDRESS: Please send acknowledgment of all published addendums to bobby.fouladi@costamesaca.gov.

PRE BID RFI LOG: City's Pre-Bid RFI LOG with questions and responses.

REVISED PLAN E0.04 Plan note regarding project signage revised.

Addendum No. 4
Project and Specifications No. 20-09

THE PRE-BID RFI LOG: Addresses all RFI(s) to date. The RFI Log with both the RFI questions and responses is included in this addendum as **Attachment 1**

REVISED PLAN E0.04: Contractor will provide and install project signage per the plans and specifications.

Please acknowledge receipt of each and all addendums on the Proposal Page "P-4".

Sincerely,



Bobby Fouladi, P.E.
Associate Engineer

Attachments:

- 1- Pre-Bid RFI Log (2 pages)
- 2- Revised Plan E0.04 (24x36 plan sheet)

ID	RFI DATE	INTERPRETATION REQUESTED	RESPONSE
1	5/11/2020	Call out for meter install looks like we are using power that is already metered. Is this a sub meter installation?	Yes, this is a sub-meter, metering the EVCS only.
2	5/13/2020	<p>(1) Will the Contractor be responsible for the demolition detailed in the notes on sheet C-1? The job walk video states that others will be performing demolition of the parking lot. What is the delineation of scope here?</p> <p>(2) Will the Contractor be responsible for installing the wheel stops and providing striping and marking for the EV stalls?</p> <p>(3) Will the Contractor be responsible for the installation detailed in the notes on sheet C-1? The redesigning of the demolished parking lot?</p> <p>(4) Will we need to remove the plumbing and fill the doorway for the electrical panels as per the video job walk?</p> <p>(5) Will the Contractor need to provide Traffic control?</p> <p>(6) Will the Contractor need to provide a BMPS or a SWPPP?</p> <p>(7) Will the Contractor need to provide Asphalt and concrete for the parking lot?</p> <p>(8) Will the Contractor need to construct Curb and Sidewalk?</p> <p>(9) Will the Contractor need to restore Existing landscape and irrigation?</p> <p>(10) Will the Contractor be responsible for the sandblasting removal of existing striping?</p> <p>(11) Will the sign post, and sign fasteners be provided by the owner and installed by Contractor?</p>	<p>The contract scope includes everything in the contract documents, plans, and specs. The project will be awarded to one prime contractor who will in turn hire all the subcontractors they need to complete this job in its entirety. If you are bidding on this job as a prime contractor then all of the scope you have questioned is included in the contract scope. If awarded, as the prime contractor you would be responsible for hiring sub-contractors to complete all of the contract work that you are not able to self-perform.</p> <p>If you are a subcontractor then I would advise that you team up with a prime contractor and then clarify what is in your scope with that prime contractor.</p> <p>Reference section 3-2 Self-Performance of the latest GreenBook Specifications</p>

20-09 PRE-BID RFI LOG

ATTACHMENT 1
ADDENDUM 1

3	5/14/2020	The spec states contractor will provide sign, signpost and Fasteners. Plans state the owner will provide. Please confirm who is supplying signage and signage materials.	The plans are revised per Addendum No. 4 The contractor shall provide and install signs, signposts, and fasteners per the contract plans and specifications.
4	5/18/2020	Is the City of Costa Mesa performing all of the zero curb and new walkway work?	The contract scope includes everything detailed in the contract plans and specs. The awarded contractor will be responsible for sub-contracting or self performing all of the zero curb and new walkway work.



CITY OF COSTA MESA

P.O. BOX 12003 77 FAIR DRIVE CALIFORNIA 92628-1200

FROM THE DEPARTMENT OF PUBLIC SERVICES/ENGINEERING DIVISION

DATE: MAY 21, 2020

TO: ALL PROSPECTIVE BIDDERS

SUBJECT: ADDENDUM NO. 5 – CITY HALL ELECTRIC VEHICLE (EV) CHARGING STATIONS, CITY PROJECT NO. 20-09

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 bobby.fouladi@costamesaca.gov. **A COPY WILL NOT BE SENT BY MAIL.**

Received by: _____

Company: ALAN SAYCE, VICE PRESIDENT , AMTEK CONSTRUCTION

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

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

BID SUBMITTAL TIME/ DATE: 10:00 A.M., Tuesday, June 2, 2020 **REVISED**

BID SUBMITTAL LOCATION: 77 Fair Drive Costa Mesa, CA 92626 **NO CHANGE**

BID OPENING TIME/ DATE: 10:00 A.M., Thursday, June 4, 2020 **REVISED**

BID OPENING LOCATION: Due to COVID-19 safety measures there will not be a public bid opening. The City Clerk will open all bids and distribute the bid results. **NO CHANGE**

PRE-RECORDED VIDEO OF PRE-BID JOB WALK: **NO CHANGE**

Hyperlink → <https://www.youtube.com/watch?v=ggh6vk1QL8E>

REVISED E-MAIL ADDRESS: Please send acknowledgment of all published addendums to bobby.fouladi@costamesaca.gov.

Addendum No. 5
Project and Specifications No. 20-09

Please acknowledge receipt of each and all addendums on the Proposal Page "P-4".

Sincerely,

A handwritten signature in black ink, appearing to read "Bobby Fouladi". The signature is written in a cursive style with a large initial "B".

Bobby Fouladi, P.E.
Associate Engineer

EXHIBIT D

BONDS

THE FINAL PREMIUM IS
PREDICATED ON THE
FINAL CONTRACT AMOUNT

Bond Number 024246772
Premium: \$4,124.00

**FAITHFUL PERFORMANCE BOND
PUBLIC WORK**

(The premium charge on this bond is \$ 4,124.00, being at
the rate of \$ 14.40/\$11.52 per thousand of the contract price)

KNOW ALL MEN BY THESE PRESENTS:

THAT, WHEREAS the CITY OF COSTA MESA, 77 Fair Drive, Costa Mesa, California 92626, has
entered into a contract dated September 1st, 2020, which is hereby incorporated by reference
herein, with Amtek Construction
hereinafter designated as the "Principal," for the work described as follows:
City Hall Electric Vehicle (EV) Charging Stations, City Project No. 20-09

_____ ; and
WHEREAS, said Principal is required by the terms of said contract to furnish a bond for the
faithful performance of said contract.

NOW, THEREFORE, We the Principal, and The Ohio Casualty Insurance Company,
a corporation organized and existing under the laws of the State of New Hampshire
and duly authorized to transact business under the laws of the State of California, as Surety, are held and
firmly bound unto the CITY OF COSTA MESA in the penal sum of Three Hundred Thirty-Three Thousand One
and 40/100 Dollars (\$ 333,001.40), lawful money of the United States, for the payment of
which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and
successors, jointly and severally, firmly by these presents.

The Condition Of This Obligation Is Such, That, if the above bounden Principal, his or its heirs,
executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and
truly keep and perform the covenants, conditions and agreements in the said contract and any alteration
thereof made as therein provided, or his or their part, to be kept and performed at the time and in the
manner therein specified, and in all respects according to their true intent and meaning, and shall
indemnify and save harmless the CITY OF COSTA MESA, its officers and agents, as therein stipulated,
then this obligation shall become null and void; otherwise it shall be and remain in full force and virtue.

And the said Surety, for value received, hereby stipulates and agrees that no change, extension of
time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the
specifications accompanying the same shall in any wise affect its obligations on this bond, and it does
hereby waive notice of any such change, extension of time, alteration or addition to the terms of the
contract or the work or to the specifications.

IN WITNESS WHEREOF, We have hereunto set our hands and seals this 4th
day of August, 2020.

Amtek Construction
[Signature]
The Ohio Casualty Insurance Company

City of Costa Mesa Form -- Public Work 2/00

[Signature]
Dwight Reilly, Attorney-In-Fact

ACKNOWLEDGMENT

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

State of California
County of Orange)

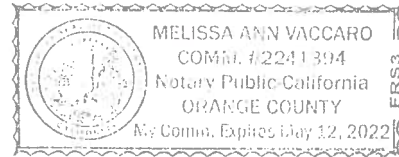
On 8/4/2020 before me, Melissa Ann Vaccaro, Notary Public
(insert name and title of the officer)

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

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

WITNESS my hand and official seal.

Signature Melissa Ann Vaccaro (Seal)
Melissa Ann Vaccaro





This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Bond No. 024246772

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: 8202806 - 969561

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Arturo Ayala, Daniel Huckabay, Frank Morones, R. Nappi, Dwight Reilly, Shauna Rozelle Ostrom, Ben Stong, Michael D. Stong

all of the city of Orange state of CA each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 31st day of December, 2019.



Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: [Signature]
David M. Carey, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

State of PENNSYLVANIA
County of MONTGOMERY ss

On this 31st day of December, 2019 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.



COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Upper Merion Twp., Montgomery County
My Commission Expires March 28, 2021
Member, Pennsylvania Association of Notaries

By: [Signature]
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV - OFFICERS: Section 12. Power of Attorney.

Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII - Execution of Contracts: Section 5. Surety Bonds and Undertakings.

Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation - The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization - By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 4th day of August, 2020.



By: [Signature]
Renee C. Llewellyn, Assistant Secretary

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

CIVIL CODE § 1189

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

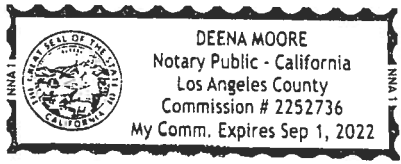
State of California)
County of ORANGE)
On 8/20/2020 before me, DEENA MOORE, NOTARY
Date Here Insert Name and Title of the Officer
personally appeared ALAN SAYCE, VICE PRESIDENT

Name(s) of Signer(s)
Alan Sayce

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

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

WITNESS my hand and official seal.



Signature [Signature]
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

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

Description of Attached Document

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

Capacity(ies) Claimed by Signer(s)

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

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

THE FINAL PREMIUM IS
PREDICATED ON THE
FINAL CONTRACT AMOUNT

Executed In Three Separate Counterparts

Bond Number 024246772

**LABOR AND MATERIAL BOND TO ACCOMPANY CONTRACT
PUBLIC WORK**

KNOW ALL MEN BY THESE PRESENTS:

THAT, WHEREAS the CITY OF COSTA MESA, 77 Fair Drive, Costa Mesa, California 92626, has awarded to Amtek Construction hereinafter designated as the "Contractor," a contract which is hereby incorporated by reference herein, for the work described as follows: City Hall Electric Vehicle (EV) Charging Stations, City Project No. 20-09

WHEREAS, said Contractor is required by the provisions of Chapter 7, Division 3, Title 15, Sections 3247-3248, Civil Code to furnish a bond in connection with said contract, as hereinafter set forth.

NOW, THEREFORE, We Amtek Construction the undersigned Contractor, as Principal, and The Ohio Casualty Insurance Company a corporation organized and existing under the laws of the State of New Hampshire and duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto the CITY OF COSTA MESA in the penal sum of Three Hundred Thirty-Three Thousand One and 40/100 Dollars (\$ 333,001.40), said sum being not less than one-half of the estimated amount payable by the said CITY OF COSTA MESA under the terms of the contract, for which payment well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

The Condition Of This Obligation Is Such, That, if said Contractor, his or its heirs, executors, administrators, successors or assigns, or sub-contractors, shall fail to pay for any materials, provisions, provender or other supplies or teams, implements or machinery used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts due under the Unemployment Insurance Code with respect to such work or labor performed under the above contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Contractor and sub-contractors pursuant to Section 13020 of the Unemployment Insurance Code with respect to such work and labor, the surety or sureties herein will pay for the same in an amount not exceeding the sum specified in this bond, otherwise the above obligation shall be void. In case suit is brought upon this bond, the said Surety will pay a reasonable attorney's fee to be fixed by the court. This bond shall inure to the benefit of any and all persons, companies and corporations entitled to file claims under Section 3181 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond. And the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any wise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

IN WITNESS WHEREOF, We have hereunto set our hands and seals this 4th day of August, 2020.

Amtek Construction
[Signature]
The Ohio Casualty Insurance Company

City of Costa Mesa Form - Public Work 2/00

[Signature]
Dwight Reilly, Attorney-In-Fact

ACKNOWLEDGMENT

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

State of California
County of Orange)

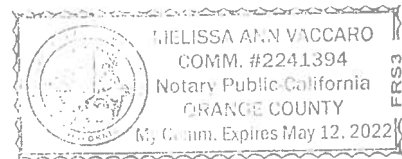
On 8/4/2020 before me, Melissa Ann Vaccaro, Notary Public
(insert name and title of the officer)

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

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

WITNESS my hand and official seal.

Signature Melissa Ann Vaccaro (Seal)
Melissa Ann Vaccaro





This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Bond No. 024246772

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: 8202806 - 969561

POWER OF ATTORNEY

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all of the city of Orange state of CA each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 31st day of December, 2019.



Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: David M. Carey, Assistant Secretary

State of PENNSYLVANIA
County of MONTGOMERY

On this 31st day of December, 2019 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.



COMMONWEALTH OF PENNSYLVANIA
Notary Seal
Teresa Pastella, Notary Public
Upper Merion Twp - Montgomery County
My Commission Expires March 29, 2021
Member, Pennsylvania Association of Notaries

By: Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV - OFFICERS: Section 12. Power of Attorney.

Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII - Execution of Contracts: Section 5. Surety Bonds and Undertakings.

Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

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I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 4th day of August, 2020.



By: Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

CIVIL CODE § 1189

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

State of California)
County of ORANGE)
On 8/20/2020 before me, DEENA MOORE, NOTARY
Date Here Insert Name and Title of the Officer
personally appeared ALAN SAYCE, VICE PRESIDENT

Name(s) of Signer(s)

Alan Sayce

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.



DM

Signature _____

Signature of Notary Public

Place Notary Seal Above

OPTIONAL

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

Description of Attached Document

Title or Type of Document: _____ Document Date: _____

Number of Pages: _____ Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____

Corporate Officer — Title(s): _____

Partner — Limited General

Individual Attorney in Fact

Trustee Guardian or Conservator

Other: _____

Signer Is Representing: _____

Signer's Name: _____

Corporate Officer — Title(s): _____

Partner — Limited General

Individual Attorney in Fact

Trustee Guardian or Conservator

Other: _____

Signer Is Representing: _____

EXHIBIT E

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:

SUBJECT	POLICY NUMBER	EFFECTIVE DATE	PAGE
DRUG-FREE WORKPLACE	100-5	8-8-89	2 of 3

1. The dangers of drug abuse in the workplace;
 2. Contractor's and/or sub-grantee's policy of maintaining a drug-free workplace;
 3. Any available drug counseling, rehabilitation and employee assistance programs; and
 4. The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;
- C. Making it a requirement that each employee to be engaged in the performance of the contract be given a copy of the statement required by subparagraph A;
- D. Notifying the employee in the statement required by subparagraph 1 A that, as a condition of employment under the contract, the employee will:
1. Abide by the terms of the statement; and
 2. Notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after such conviction;
- E. Notifying the City of Costa Mesa within ten (10) days after receiving notice under subparagraph 1 D 2 from an employee or otherwise receiving the actual notice of such conviction;
- F. Taking one of the following actions within thirty (30) days of receiving notice under subparagraph 1 D 2 with respect to an employee who is so convicted:
1. Taking appropriate personnel action against such an employee, up to and including termination; or
 2. Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health agency, law enforcement, or other appropriate agency;

SUBJECT	POLICY NUMBER	EFFECTIVE DATE	PAGE
DRUG-FREE WORKPLACE	100-5	8-8-89	3 of 3

- 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.