

AGENDA ITEM 3



REQUEST FOR FINANCE COMMISSION ACTION

MEETING DATE: AUGUST 3, 2020

TITLE: ACCEPTANCE OF SOUTHERN CALIFORNIA INCENTIVE PROJECT GRANT AND APPROVAL OF SPECIFICATIONS, CONTRACT DOCUMENTS AND FUNDING FOR ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC CENTER



Director of Public Works and Transportation

RECOMMENDED ACTION

1. Recommend City Council approve the construction specifications and contract documents for Electric Vehicle Charger Installation at Irvine Civic Center Capital Improvement Project, 361908.
2. Recommend City Council authorize the Director of Public Works and Transportation to approve and accept a Southern California Incentive Project grant award in the amount of \$140,000.
3. Recommend City Council approve a budget adjustment appropriating \$140,000 in Southern California Incentive Project grant funds and \$106,000 of Air Quality Management District AB 2766 funds, to the Electric Vehicle Charger Installation at Irvine Civic Center Capital Improvement Project, 361908, for two DC fast chargers at Irvine Civic Center.
4. Recommend City Council authorize staff to solicit competitive bids and award the construction contract to the lowest responsive and responsible bidder, in accordance with the City's purchasing policies and procedures, within the approved project budget.

EXECUTIVE SUMMARY

Electric vehicle (EV) ownership and usage is growing. To provide a charging option that is convenient for City employees and members of the public, the City plans to install eight Level 2 charging stalls and two DC fast charging stalls as part of the Electric Vehicle Charger Installation at Irvine Civic Center Capital Improvement Project (CIP), #361908 (Attachment 1).

The approved CIP budget is \$440,653 for installation of Level 2 chargers. With the addition of two DC fast chargers to the project scope, additional funds in the amount of \$246,000 are needed, resulting in a total project cost of \$686,653. To help offset some of the added cost, staff secured Southern California Incentive Project (SCIP) grant funds in the amount of \$140,000. An additional appropriation of \$106,000 is requested from the Air Quality Management District (AQMD) AB 2766 fund (Attachment 2).

In addition to authorization for acceptance of the grant funds and approval of a budget adjustment, staff will also be seeking City Council approval of the project plans and associated documents and authorization to proceed with soliciting competitive bids for construction and award of a contract to the lowest responsive and responsible bidder, in accordance with the City's purchasing policies and procedures. If the recommended actions are approved by the City Council, construction is anticipated to begin in October 2020 with completion slated for February 2021.

COMMISSION/BOARD/COMMITTEE RECOMMENDATION

None

ANALYSIS

Electric vehicle ownership and usage is growing annually. Nearly eight percent of the vehicles purchased in California in 2019 were electric vehicles. It is expected that the percentage of electric vehicle ownership will continue to grow.

Fueling electric vehicles requires charging locations that are placed conveniently at home or workplaces for slow charging and at public gathering points for fast charging. Most electric vehicle owners charge their vehicle at home at night but then may need to extend their range by charging during the day. Providing Level 2 electric chargers at the workplace allows employees to fully charge or extend the range of the vehicle while at work. Level 2 chargers can add 25 to 30 miles of range per hour and fully charge a vehicle in eight hours. For those needing more range, DC fast chargers allow a vehicle to be charged much more quickly. These chargers provide 250 miles of added range per hour, providing 60 miles of range in about 15 minutes.

To provide charging that is convenient for City employees and members of the public, the City plans to install four dual-port Level 2 chargers, allowing for eight vehicles to charge at a time. Two DC fast chargers will also be installed to provide quick charging for two vehicles at a time.

The installation of the electric vehicle chargers requires the addition of a new dedicated electrical line, transformer and meter; an upgrade to the splice box that will run power to the system; conduit; striping and signage of the stalls; purchase and installation of chargers including 5 years of network services and maintenance on the chargers. Southern California Edison (SCE) has already approved the new electrical line. Specific parking stalls at Irvine Civic Center will be assigned for electric vehicle charging only. Two stalls for DC fast charging and six stalls for Level 2 charging will be located adjacent to the San Diego Creek Trail. In anticipation of increased demand in the future, the system is designed to accommodate eight additional Level 2 charging stalls at this location. In addition, two ADA stalls for Level 2 charging will be located near the entrance to Public Safety. See Attachment 1 for Vicinity Map.

The approved CIP budget of \$440,653 provides for the installation of Level 2 chargers funded with Mobile Source Air Pollution Reduction Review Committee (MSRC) grant and AQMD AB 2766 funds. Recently, staff secured SCIP grant funds for two DC fast chargers for \$ 140,000 to support up to 75 percent of the project costs and identified \$106,000 of unallocated AQMD AB 2766 funds for the 25 percent required match and to assist with other funding needs associated with the project. With the addition of two DC fast chargers to the project the total revised project budget is \$686,653.

The amount allotted for design engineering on this project is \$63,222. The construction contract cost estimate (including equipment and five years of network services and maintenance) is \$536,551. A budget allowance of \$51,880 for construction contingency is included, as well as \$35,000 for construction engineering, as shown in the Project Funding Summary, Attachment 4. The City's construction contracting policies and procedures limit the award of the construction contract by staff to a maximum of 10 percent over the engineer's estimate. These policies also restrict the use of the construction contingency only for unforeseen circumstances that may arise and are necessary to complete the work within the approved project scope and budget.

In addition to authorization for acceptance of the grant funds and approval of a budget adjustment, staff will be seeking City Council approval to proceed with soliciting competitive bids for construction and award of a contract to the lowest responsive and responsible bidder, in accordance with the City's purchasing policies and procedures. A copy of the Notice Inviting Bids, Proposal, Contract, and Special Provisions is included as Attachment 3. If the recommended actions are approved by the City Council, construction is anticipated to begin in October 2020 with completion slated for February 2021.

ENVIRONMENTAL REVIEW

Pursuant to Section 4 of the City of Irvine California Environmental Quality Act (CEQA) Procedures and Article 19 of the State of California CEQA Guidelines, the proposed project has been found to be categorically exempt from the requirements of CEQA, under State Guideline Section 15301 (b), Existing Facilities. A Notice of Exemption will be filed with the County within five days of City Council approval.

ALTERNATIVES CONSIDERED

The Commission could recommend City Council revise the project to include only Level 2 chargers to reduce project costs or to not construct the project. These alternatives are not recommended because the proposed improvements will provide a benefit to City employees and the public, will support the purchase and use of electric vehicles, and are being funded 69 percent with grant funds.

FINANCIAL IMPACT

Accepting the Southern California Incentive Project grant will provide funding to provide two additional EV charging units to the project. The total cost estimate for this project is \$682,368. A total of \$59,223 (of \$63,222 total) for Design Engineering has been spent to date. Funding for purchase of equipment and construction is available through grants totaling \$470,490, or 69 percent of the total project cost. The remaining City match of \$216,163 is available through AQMD AB 2766 funding.

On December 11, 2018, City Council adopted a resolution approving the acceptance of an EV charging fee of up to 50 cents per kilowatt hour along with a connection fee of 50 cents per use at public charging stations on City property. These fees would fully offset the cost of electricity used by the service.

REPORT PREPARED BY Mike Davis, Transit and Active Transportation Programs

ATTACHMENTS

1. Vicinity Map
2. Budget Adjustments for EV Charger Infrastructure Project
3. Notice Inviting Bids, Proposal, Contract, and Special Provisions for Electric Vehicle Charger Installation at Irvine Civic Center
4. Project Funding Summary

VICINITY MAP





CITY OF IRVINE BUDGET ADJUSTMENT REQUEST FORM

Department: Public Works
 Requestor: Mike Davis

Finance Comm. Date: August 3, 2020
 City Council Date: August 11, 2020

Approval Exception (A - O): _____
 (see Financial Policies - Budget Adjustment)

Reason Code: 0016 CIP Revenue - Outside

Finance Use Only - Batch Record Number	
GL	_____
JL	_____
Posting Date	_____
Posted by	_____ /date

Explanation for Request:

Increase revenues and appropriate \$140,000 from SCIP grant award to CIP 361908 and allocate an additional \$106,000 in AB2766 funding to procure electric vehicle charging stations.

Approvals:

Department Approval _____ Date _____

Budget Office Approval _____ Date _____

Fiscal Services Approval _____ Date _____

City Manager Approval _____ Date _____

REVENUES AND TRANSFERS-IN

Fund #	Account Number				Amount Increase or (Decrease)
	GL		JL		
	Org Key	Object Code	Job Key	Object Code	
260	5553156099	6762	3619085310	6762	140,000
260	5591591599	7130	3619085310	7130	106,000
Subtotal					246,000

EXPENDITURES AND TRANSFERS-OUT

Fund #	Account Number				Amount Increase or (Decrease)
	GL		JL		
	Org Key	Object Code	Job Key	Object Code	
260	5553156099	5800	3619085310	5820	(6,778)
260	5553156099	5800	3619085310	5840	199,594
260	5553156099	5800	3619085310	5870	18,184
260	5553156099	5800	3619085310	5850	35,000
130	3091591599	8260			106,000
Subtotal					352,000

CHANGE TO FUND BALANCE

Fund #	Account Number				Amount Increase or (Decrease)
	GL		JL		
	Org Key	Object Code	Job Key	Object Code	
130	3000000099	2001			(106,000)
Subtotal					(106,000)

Fund Balance Entry Required



CITY OF IRVINE

ORANGE COUNTY, CALIFORNIA

**NOTICE INVITING BIDS, PROPOSAL,
CONTRACT AND SPECIAL PROVISIONS
FOR**

**ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC CENTER
CIP 361908
BID NO. 21-1814**

CITY OF IRVINE
1 CIVIC CENTER PLAZA
P.O. BOX 19575
IRVINE, CALIFORNIA 92623-9575

AUGUST 2020

ATTACHMENT 3

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC
CENTER
CIP 361908

THE SPECIAL PROVISIONS CONTAINED HEREIN HAVE BEEN PREPARED BY OR
UNDER THE DIRECTION OF:

Robin Z O'Neil, Electrical Engineer, License #18557
IDS Group, Inc.

APPROVED BY:

Steven Carrillo, P. E.
City Engineer

73170
R.C.E. No.

TABLE OF CONTENTS

	<u>PAGE</u>
NOTICE INVITING BIDS	NIB – i
INSTRUCTIONS TO BIDDERS, PROPOSAL REQUIREMENTS AND CONDITIONS ...	1
BIDDER'S PROPOSAL	12
SCHEDULE OF WORK.....	13
INSTRUCTIONS FOR ENTERING ELECTRONIC BIDS	16
INFORMATION REQUIRED OF BIDDERS	18
THE CITY OF IRVINE RESERVES THE RIGHT TO REJECT ALL BIDS	22
LIST OF SUBCONTRACTORS.....	24
NON-COLLUSION DECLARATION-CONTRACTOR.....	25
FORM OF BID BOND	26
FALSE CLAIMS	28
CIVIL LITIGATION AND ARBITRATION HISTORY	29
CRIMINAL CONVICTIONS	30
VIOLATION OF LAW OR A SAFETY REGULATION.....	31
CONSTRUCTION CONTRACT (SAMPLE).....	32
PERFORMANCE BOND (SAMPLE)	38
PAYMENT BOND (SAMPLE).....	40
SPECIAL PROVISIONS.....	42
PART 1 - GENERAL PROVISIONS	43
SECTION 1 - TERMS, DEFINITIONS, ABBREVIATIONS, UNITS OF MEASURE AND SYMBOLS	43
SECTION 2 - SCOPE AND CONTROL OF THE WORK.....	45
SECTION 3 - CHANGES IN WORK	57
SECTION 4 - CONTROL OF MATERIALS	61
SECTION 5 - UTILITIES.....	66
SECTION 6 - PROSECUTION, PROGRESS AND ACCEPTANCE OF THE WORK	72
SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR	80
SECTION 8 - FACILITIES FOR AGENCY PERSONNEL	118
SECTION 9 - MEASUREMENT AND PAYMENT.....	119
PART 2 - CONSTRUCTION MATERIALS.....	125
SECTION 201 – CONCRETE, MORTAR, AND RELATED MATERIALS	125
SECTION 214 – TRAFFIC STRIPING, CURB AND PAVEMENT MARKINGS AND PAVEMENT MARKERS.....	126
PART 3 - CONSTRUCTION METHODS	127
SECTION 300 – EARTHWORK.....	127
SECTION 314 – TRAFFIC STRIPING, CURB AND PAVEMENT MARKINGS, AND PAVEMENT MARKERS.....	132
PART 6 – TEMPORARY TRAFFIC CONTROL	134
SECTION 600 – ACCESS.....	134
SECTION 601 – WORK AREA TRAFFIC CONTROL	137
PART 8 – LANDSCAPE AND IRRIGATION MATERIALS	146
SECTION 800 – MATERIALS	146
SECTION 801 – INSTALLATION.....	151
APPENDICES	160
APPENDIX A	161
TECHNICAL SPECIFICATIONS.....	<i>See Separate Attachment</i>
APPENDIX B	162
EV CHARGER SPECIFICATIONS.....	Error! Bookmark not defined.
APPENDIX C	163
STANDARD PLANS	<i>See Separate Attachment</i>

CITY OF IRVINE, CALIFORNIA
NOTICE INVITING BIDS
BID NO. 21-1814

NOTICE IS HEREBY GIVEN that sealed bids with online bid price submittal will be received by the Purchasing Agent of the City of Irvine, California, for furnishing all labor services, materials, tools, equipment, supplies, transportation, utilities, and all other items and facilities necessary therefore, as provided in the contract documents for **Electric Vehicle Charger Installation at Irvine Civic Center** together with appurtenances thereto, in strict accordance with the specifications on file at the Department of Public Works and Transportation, 1 Civic Center Plaza, Irvine, California 92606-5207.

DATE OF OPENING BIDS: Bid prices for each line item of the Schedule of Work must be entered and all other required documents for the bid proposal packet (pages 12-41) must be uploaded to the BidsOnline system in accordance with the instructions beginning on page 1 no later than **XX:XX** a.m. on **Month Date, 20XX** at which time bids will be publicly read aloud at 1 Civic Center Plaza, Irvine, California 92606-5207. No late bids will be accepted. No other method of bid submittal will be accepted.

LOCATION OF THE WORK: The work to be performed hereunder is located in the City of Irvine, County of Orange, at **1 Civic Center Plaza, Irvine, CA.**

DESCRIPTION OF WORK: The work to be performed shall include, but not be limited to:

Provide a new Southern California Edison electrical service @600A, 480V, 3 Phase, 4 Wire to include an outdoor type pad mounted transformer and an outdoor type (SCE) metered pad mounted distribution board and transformer; Provide SCE primary conduit as directed by SCE; Provide parking lot and site landscape saw cutting and trenching for underground distribution for new electrical service and electrical vehicle charging stations; patch and repair to match existing conditions; Provide and install four electrical vehicle charging stations, dual port Level 2 type and two DC Fast charging stations; Provide future conduit stub-ups for future EV charging stations; Provide one ADA Accessible Level 2 EV Dual-port charging station (suitable for two ADA parking stalls; and other items not mentioned here, but are required by the plans and the Special Provisions. The Engineer's construction cost estimate (including equipment with 5-year network services and maintenance contract) for the project above is \$686,653.

LICENSE REQUIREMENT: **Prime Contractor must possess a valid Class C-10 license. Contractor must have experience with both Electric Vehicle level 2 and DC fast charger installation and be Chargepoint certified. A contractor with Class A license will be required for the Civil portion.** At the time of submitting the bid, the Bidder shall be licensed as a contractor in accordance with the provisions of California Business and Professions Code Chapter 9, Division 3.

DEBARRED CONTRACTORS: The City of Irvine Municipal Code Section 2-12-101 *et seq.* sets forth procedures to debar Contractors from bidding or performing work on City of Irvine contracts at any tier, whether prime, subcontractor, etc. Accordingly, certain Contractors have been debarred and are listed on the City's website at

www.cityofirvine.org/purchasing. Click on the link which states: "For a list of Debarred Contractors, please [click here](#)."

COMPLETION OF WORK AND LIQUIDATED DAMAGES: All work shall be completed in a total of Sixty **(60) Working Days** from the date specified in the Notice to Proceed. Liquidated damages shall be **Six Hundred Dollars (\$600)** per Calendar Day, for each and every Calendar Days delay in finishing the work in excess of the number of Working Days prescribed above.

AWARD OF CONTRACT: The award of the Contract, if it is awarded, will be to the lowest responsive and responsible Bidder whose bid complies with all the requirements prescribed. The City reserves the right, after opening bids, to reject any or all bids, to waive any informality in a bid, to make awards in the interest of the City, and to reject all other bids.

PROPOSAL GUARANTEE AND BONDS: Each bid shall be accompanied by a scanned copy of a certified or cashier's check or corporate surety bond issued by a surety company, admitted to do business in the State of California, on the form furnished by the City as guarantee that bidder will, if an award is made to him in accordance with the terms of his bid, promptly secure Workers' Compensation insurance and liability insurance, execute a contract in the required form, and furnish satisfactory bonds for the faithful performance of the contract ("Performance Bond") and for the payment of claims of materialmen and laborers thereunder ("Payment Bond"). Said check or bidder's bond shall be in an amount of not less than ten percent (10%) of the amount of the bid. **Bidders with the apparent three lowest responsive bids shall deliver an original hard copy of the certified check, cashier's check or surety bond to the Receptionist for the Purchasing Agent at 1 Civic Center Plaza, Irvine, CA, 92606 within two business days of the bid opening date. Failure to submit the original check or bidder's bond shall result in the bid being declared non-responsive.** The Performance and Payment Bonds shall be not less than one hundred percent (100%) of the total amount of the bid price named in the contract. Only bonds issued by companies admitted to do business in the State of California will be accepted in accordance with the Code of Civil Procedure Section 995.311. Failure to submit acceptable Payment and Performance Bonds as required shall result in a rejection of the bid and a forfeiture of the proposal guarantee.

PREVAILING RATES OF WAGES: **Prevailing wage requirements apply to public works projects with a value exceeding \$1,000.00. The definition of "public works" is found at Labor Code Section 1720, et seq.**

The CITY is subject to the provisions of law relating to public contracts in the State of California. It is agreed that all provisions of law applicable to public contracts are a part of this Agreement to the same extent as though set forth herein, and will be complied with by CONTRACTOR. CONTRACTOR shall abide by all applicable Sections of the California Labor Codes including Sections 1770 -1781, *et seq.* In accordance with the provisions of Section 1773 of the California Labor Code, the general prevailing rates of per diem wages and holiday and overtime work in the locality in which the Work is to be performed shall be in accordance with the rates posted on the Department of Industrial Relations website, found at <http://www.dir.ca.gov/dir/databases.html>. The CONTRACTOR, and any subcontractor under him, shall pay not less than the specified prevailing rates of wages to all workers employed in the execution of this Agreement.

The CITY reminds all contractors and subcontractors of the adoption of Senate Bill 96 – Amendments to California Prevailing Wage Law Requires Additional Measures by Public Agencies, Contractors and Subcontractors, and encourages them to understand and comply with the requirements as set forth on the Department of Industrial Relations (DIR) website at <http://www.dir.ca.gov/Public-Works/PublicWorks.html>. All contractors and subcontractors who plan to bid on a public works project when the project is for construction, alteration, demolition, installation, or repair work with a value exceeding \$25,000.00 must first be registered and pay an annual fee with the DIR. Additionally, all contractors and subcontractors who plan to bid on public works projects involving maintenance work with a value exceeding \$15,000.00 must first be registered and pay an annual fee with the DIR. The CITY requires all contractors and subcontractors to be registered with the DIR prior to submitting a bid meeting these parameters. Subject to the exceptions set forth in Labor Code Section 1725.5, bids from contractors that are not currently registered will be deemed nonresponsive. Further, the CITY will not award a contract to and no contractor or subcontractor will be allowed to work on a CITY public works project meeting these parameters unless they are registered with the DIR pursuant to Labor Code Section 1725.5. Please visit the DIR website for further information.

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.

LABOR REGULATIONS: The Contractor shall comply with all applicable requirements of the California Labor Code and the City of Irvine Municipal Code.

PLANS AND SPECIFICATIONS: A full set of bid documents consisting of Notice Inviting Bids, Proposal, Contract, Special Provisions and Contract Plans are available for inspection without charge at the Department of Public Works and Transportation, second floor, 1 Civic Center Plaza, Irvine, California 92606-5207.

To obtain a copy of the bid documents, please visit the City of Irvine’s website at www.cityofirvine.org/purchasing. Click on the “[Supplier Registration and Bid Opportunities](#)” link, and review the information about our online system. Next, click on the “[BidsOnline](#)” link. If you are not currently registered with the City of Irvine, please click on the “[New Vendor Registration](#)” button and then complete the electronic supplier registration process, including selecting Category Code(s) describing the goods and/or services you provide, as well as entering your Contractors State License information. After registering your firm, click on the “[Bid Opportunities](#)” button to view and download the Bid Documents. Interested firms must be registered on the City’s website and download the Bid Documents in order to submit a bid. Firms must also check the website periodically for addenda information as failure to download any and all addenda will result in bid disqualification.

SECURITY FOR COMPLETION OF WORK: The Contract Documents establish a provision for monthly progress payments based upon the percentage of work completed

as determined by the Engineer. The City will retain a portion of each progress payment as security for completion of the balance of the work. At the request and expense of the successful bidder, the City will pay the amount so retained upon compliance with the requirements of California Public Contract Code § 22300 and the provisions of the Contract Documents, Special Provisions Subsection 9-3.2.2 pertaining to "Substitution of Securities."

PROJECT ADMINISTRATION: All questions relative to this project prior to opening bids shall be prepared in writing and transmitted to the attention of Mike Davis, Transit and Active Transportation, by email to mdavis@cityofirvine.org, with a copy to Brian D. Brown, Senior Buyer, bbrown@cityofirvine.org. No inquiries will be accepted later than five (5) business days prior to the bid opening date as this would not allow time to respond to all plan holders. No phone inquiries will be accepted.

CITY OF IRVINE

Published by: Irvine World News
Publication Date: **August XX**, 2020 and **August XX**, 2020

INSTRUCTIONS TO BIDDERS, PROPOSAL REQUIREMENTS AND CONDITIONS

1. CONTRACT DOCUMENTS: The Contract Documents shall consist of:

- a) Permits and Agreements
- b) Contract
- c) Addenda
- d) Instructions to Bidders, Proposal Requirements and Conditions
- e) Special Provisions
- f) Contract Plans
- g) Standard Plans
- h) Standard Specifications
- i) Reference Specifications,

all of which are on file at the City of Irvine in the Department of Public Works and Transportation, Project Management Division, Operations Support Facility, 6427 Oak Canyon, Bldg. 1, Irvine, California, and are hereby referred to and made a part hereof.

2. BID PROPOSALS: To be considered, bids shall be made in accordance with the following instructions:

- a) For the convenience of bidders, the "SCHEDULE OF WORK" has been posted on the City's BidsOnline system. Bidders must enter their unit price information online in accordance with the INSTRUCTIONS FOR ENTERING ELECTRONIC BIDS included herein. Unit prices must be entered online and then the extended prices and total bid price will be automatically calculated.
- b) Bids shall be submitted only on bid items stated in the Bid Documents; bids on other bases will not be considered. Bids that are not submitted on the prescribed forms, and in accordance with the INSTRUCTIONS FOR ENTERING ELECTRONIC BIDS may be rejected.
- c) Unless called for, additive bids will not be considered.
- d) Pursuant to the provisions of Public Contract Code § 4101 to 4108, inclusive, every Bidder shall set forth in its bid:
 - 1) The Bidder shall list the name, license number, and location of the place of business of each subcontractor performing work in an amount in excess of one-half of one percent (1/2%) of the prime contractor's total bid, or, in the case of bids or offers for the construction of streets or highways, including bridges, in excess of one-half of one percent (1/2%) of the prime contractor's total bid or ten thousand dollars (\$10,000), whichever is greater.
 - 2) The bid item numbers and the percentage of the bid item subcontracted.

- e) In the event additive bids are called for and the Bidder intends to use different or additional subcontractors on the additive(s), the Bidder shall fill out additional forms of the list of subcontractors and shall identify such forms with relation to whether they apply to the base or additive bids.
- f) If the Bidder fails to specify a subcontractor for any portion of the work to be performed under the contract in excess of one-half of one percent (1/2%) of the Bidder's total bid, or, in the case of bids or offers for the construction of streets or highways, including bridges, in excess of one-half of one percent (1/2%) of the Bidder's total bid or ten thousand dollars (\$10,000), whichever is greater, the Bidder agrees to perform that portion of work himself. The successful Bidder shall not, without the consent of the City, either:
 - 1) Substitute any person, firm or corporation as subcontractor in place of the subcontractor designated in the original bid, or
 - 2) Permit any subcontract to be assigned or transferred or allow the work to be performed by anyone other than the original subcontractor listed in the bid.
- g) If required in the Notice Inviting Bids, bids shall be accompanied by a certified or cashier's check or an acceptable corporate bid bond on the form furnished by the City for an amount not less than ten percent (10%) of the bid, made payable to the order of the City of Irvine. The check or bid bond shall be a guarantee that the Bidder will enter into a contract and provide all required insurance and bonds if awarded the work; and in case of refusal or failure to enter into the contract, the check or bid bond shall be forfeited. The City will return Bidder's check if the project is not awarded to Bidder.

Only bonds issued by companies admitted to do business in the State of California will be accepted, in accordance with Code of Civil Procedure § 995.311 and Insurance Code § 12090.
- h) Before submitting a bid, bidders shall carefully examine the work site, the Contract Documents and the form of Contract and shall fully inform themselves about all existing conditions and limitations. Bidders shall include in their bids a sum to cover the cost of all work included in the Contract.
- i) Bid prices must be entered and the bid proposal packet must be uploaded to the BidsOnline System on or before the day and hour set for the bid opening in the Notice Inviting Bids. No other method of bid submittal will be accepted. Bidders with the three apparent lowest responsive bids shall deliver an original hard copy of the certified check, cashier's check or surety bond to the Receptionist for the Purchasing Agent at 1 Civic Center Plaza, Irvine, CA, 92606 within two business days of the bid opening date.
- j) A bid may be considered non-responsive if it does not comply with the requirements set forth in these bid documents. A responsive bid is one that complies with the solicitation in all acceptability and material respects and contains no material defects.

3. WITHDRAWAL OF BIDS: Bids may be withdrawn at any time before the bid deadline, by going back into the BidsOnline system and selecting "Withdraw."

4. **INTERPRETATION OF DRAWINGS AND DOCUMENTS; REQUESTS FOR CLARIFICATION:** If any person contemplating submitting a bid for the proposed Contract is in doubt as to the true meaning of any part of the plans and specifications, or other proposed Contract Documents, or finds discrepancies in, or omissions from, the drawings or specifications, he shall submit to the Purchasing Agent a written request for all interpretations or corrections thereof via email to the project manager and purchasing staff prior to the deadline for submitting questions, as set forth in the Notice Inviting Bids section herein. Any clarification or correction of the proposed documents will be made only by Addendum duly issued, with notice provided to all firms who downloaded the bid documents from the City's website. The City is not responsible for any other explanations or interpretations of the proposed documents.

5. **ADDENDA TO THE CONTRACT DOCUMENTS:** Any addenda issued during the time of bidding, or forming a part of the Contract Documents after the Bidder has downloaded the bid documents from the City's website, shall be taken into account in the bid and shall be made a part of the Contract.

Addenda may be issued by the City of Irvine for any reason, including but not limited to, clarifying or correcting the Notice Inviting Bids, Special Provisions, Plans, or Bid.

Bidders will be notified of such Addenda during the period of advertising either by email or posting on the City's website, provided however, each Bidder shall be solely responsible for obtaining any such Addenda.

The Bidder shall acknowledge the receipt of Addenda on the City's BidsOnline system.

6. **BIDDER RESPONSIVENESS:** Failure of the Bidder to provide requested information in a complete and accurate manner may be considered non-responsive resulting in rejection of the bid. The use of "N/A" or "n/a" in response to any request for information without an explanation as to why that abbreviation is being used may render the bid non-responsive.

7. **BIDDER RESPONSIBILITY:** Bidders are hereby notified that, in accordance with the City of Irvine Municipal Code § 2-12, the City may make a determination that the Contractor is non-responsive if the hearing officer finds evidentiary support that the Bidder has committed any of the following: (1) violated a term of a contract, present or past, with the City or other entity; (2) committed an act or omission which negatively reflects on the Contractor's quality, fitness, or capacity to perform a contract with the City or any other entity or engaged in a pattern or practice which negatively reflects on the same; (3) committed an act or omission which evidences a lack of business integrity or business honesty; (4) made or submitted a false claim against the City or any other entity; or (5) received a fine or citation for performing work in an unsafe manner; or (6) violated a condition, rule, regulation, permit, or standard applicable to a contract with the City or any other entity. In arriving at his or her determination, the hearing officer may consider Bidder's past conduct on City projects or on any other public or private projects upon which Bidder performed work.

8. **BIDDER DEBARMENT:** Bidders are hereby notified that, in accordance with the City of Irvine Municipal Code § 2-12, the City may make a determination that the Bidder shall be debarred if the hearing officer finds evidentiary support that the Bidder has committed any of the following: (1) violated a term of a contract, present or past, with the City or other entity; (2) committed an act or omission which negatively reflects on the Contractor's quality, fitness, or capacity to perform a contract with the City or any entity or engaged in a pattern or practice which negatively reflects on the same; (3) committed an act or omission which evidences a lack of business integrity or business honesty; (4) made or submitted a false claim against the City or any other entity; (5) received a fine or citation for performing work in an unsafe manner; or (6) violated a condition, rule, regulation, permit, or standard applicable to a contract with the City or any other entity. In arriving at his or her determination, the hearing officer may consider past conduct of the Contractor on City projects or on any other public or private projects which Contractor performed work.
9. **OPENING BIDS:** Bids will be publicly opened and read at the time and place set in the Notice Inviting Bids.
10. **BID PROTEST PROCEDURES:**
 - a) **BASIS FOR PROTEST:** It is the policy of the City to ensure that free and open competition takes place in all procurement activities. If, in the course of a procurement action, an interested party has reason to believe that these conditions do not exist, the interested party may file a protest in accordance with the provisions of these procedures with the City of Irvine Purchasing Agent requesting a review of the claim and a timely resolution of the issue. Any bidder on a project for which it submitted a timely bid may protest the contract award for that project; however, subcontractors, suppliers or other third parties may not protest contract awards. Moreover, complaints about alleged ambiguity of the bid documents and/or estimates are not appropriate subject matters for bid protests.
 - b) **BID PROTEST CONTENTS:** The bid protest shall be submitted in writing via email to the attention of the Purchasing Agent. The written protest shall include:
 - 1) The solicitation number and project description.
 - 2) The name, address, phone number, and email address of the protesting party.
 - 3) A detailed statement of all the legal and factual grounds for the protest and all relevant, supporting documentation (including all written documentation). The grounds for protest must be fully supported.
 - 4) Statement of the form of relief requested from the City.
 - 5) Signature of an authorized representative of the protesting party.
 - c) **DEADLINE TO SUBMIT BID PROTESTS:** Bid protests must be filed within five (5) business days after the deadline for receiving bids.

- d) **WHERE TO FILE:** All protests are to be directed to the City of Irvine Purchasing Agent. Protests must be submitted in writing via email to: purchasing@cityofirvine.org. A copy of the email must also be sent to the project manager whose email address is set forth in the bid documents. (A document is considered filed on a particular calendar day when it is received via email by the City of Irvine Purchasing Agent by 5:00 p.m., Pacific Standard Time, on that calendar day.) Although not required, in addition to submitting a protest via email, an original protest letter may be sent via United States Postal Service to: Attn: Purchasing Agent, City of Irvine, P.O. Box 19575, Irvine, CA 92623-9575.
- e) **BID PROTEST REVIEW:** Upon receipt, the Purchasing Agent shall consider the protest and may give notice of the protest and its basis to other persons including bidders involved in or affected by the protest. A protest shall be dismissed for failure to comply with any of the requirements set forth in the "Bid Protest Contents" section above. The Purchasing Agent shall review all material submitted with the protest. No additional material will be accepted for consideration from the protesting party unless specifically requested by the Purchasing Agent. If additional material is requested, it must be submitted by the requested date. The Purchasing Agent shall respond to the protesting party via email within ten (10) business days after receipt of the protest. Final determinations shall be binding, except as otherwise provided below.
- f) **RECONSIDERATION OF PROTEST DECISION:** A protesting party may request the Purchasing Agent's reconsideration of a decision prior to contract award only if one or both of the following conditions are met:
- 1) New information becomes available that was not previously known, or could not have been reasonably known, at the time of the original protest; and/or
 - 2) The Purchasing Agent's decision contains an error of law.
- Any request for reconsideration of a protest decision must be submitted in writing via email to the Purchasing Agent within three (3) business days from the date of issuance of the initial decision. The request must include a detailed explanation of the basis for reconsideration as set forth above. The Purchasing Agent shall respond to the request for reconsideration within seven (7) business days from receipt of the request.
- g) **CONTRACT AWARD:** At its discretion, the City may delay the execution of any proposed agreement pending the resolution of a protest unless one or both of the following conditions are present:
- 1) The project or service being procured is urgently required; and/or
 - 2) Failure to make prompt award will otherwise cause undue harm to the City.
- h) **REMEDIES:** There shall be no limitation on remedies selected by the City. Nothing contained herein shall be considered to either act as a limitation on the City's choice of remedies or confer any right upon any interested party to a remedy. In determining the appropriate remedy, the City shall consider all the circumstances surrounding the solicitation, the contract

selection, and/or the contract award, including, but not limited to: the seriousness of any deficiency found to exist in the contracting process; the effect of the action of the competitive process; any urgency surrounding the contract requirement; and the effect that implementing the remedy will have on the City's overall ability to accomplish its mission. If the City determines that the award or proposed award was not made in accordance with the applicable City statutes, regulations, policies, and procedures, the City may, in its sole discretion, grant any of the following or any other remedy it deems appropriate: If pre-award, reject all bids and issue a new solicitation, make a new contractor selection or award a contract consistent with applicable statutes, regulations, policies, and procedures; or if post-award, refrain from extending the term of the contract or awarding task orders under an existing task order agreement; or at its sole discretion, take no further action.

11. **AWARD OR REJECTION OF BIDS AND EXECUTION OF CONTRACT:** The award of the Contract will be as of the date specified in the Notice of Award issued by the City. The award of the Contract shall not constitute a binding obligation on City until the Contract has been lawfully executed by all parties and the Contractor has submitted all required insurance certificates and bonds to the City.

The Contractor shall not commence work in advance of the execution of the Contract, the delivery of the bonds and insurance certificates, as specified above and purchase order issuance.

The award of the Contract, if it is awarded, will be to the responsive and responsible Bidder who submitted the lowest Bid complying with these Proposal Requirements and Conditions and with the Notice Inviting Bids. The lowest bid shall be the lowest bid price on the base contract without consideration of the Additive Bid Items. Such award, if made, will be made within ninety (90) Calendar Days after the opening of the proposals. The ninety (90) Calendar Days period shall be subject to extension for such further period as may be agreed upon in writing between the City and the Bidder(s) concerned. All bids will be compiled on the basis of the estimated quantities of work to be done as shown in the Proposal. However until an award is made, the City of Irvine reserves the right to reject any and all bids or to waive any informality in bids received, if doing so is deemed to best serve the interest of the City.

12. **CONTRACT AND BONDS:** The Contract, which the successful Bidder, as Contractor, will be required to execute, is included in the Contract Documents and should be carefully examined by the Bidder.

The successful Bidder, simultaneously with his execution of the Contract, will be required to furnish a Payment Bond and a Performance Bond. Said bonds shall be in the form of the two (2) sample bonds included in these Contract Documents and based upon conditions specified in the Standard Specifications Section 2-4, "Contract Bonds," and as specified in the Special Provisions and shall be secured from a surety company satisfactory to the City.

Only bonds issued by companies admitted to do business in the State of California will be accepted, in accordance with Code of Civil Procedure § 995.311 and Insurance Code § 12090. Failure to submit acceptable Payment and Performance Bonds as required shall result in rejection of bid and forfeiture of the proposal guarantee.

All alterations, extensions of time, extra and additional work, and other changes authorized by the Contract Documents will be made without securing the consent of the surety or sureties on the Contract bonds.

The Contract shall be signed by the successful Bidder, and delivered to the City together with the Contract bonds within ten (10) days of the date specified in the Notice of Award issued by the City, not including Saturdays, Sundays, and legal holidays. The Contractor shall submit insurance certificates electronically in accordance with 7-3 of the Standard Specifications and as set forth in the Contract Documents. The executed Contract, together with the required bonds, will be filed with the Clerk of the City of Irvine.

Failure of the lowest responsive and responsible Bidder to execute the Contract and file acceptable insurance certificates and bonds as provided herein within ten (10) days of award of the Contract, not including Saturdays, Sundays and legal holidays, shall be just cause for the forfeiture of the bid bond. The successful Bidder may file with the City a written notice, signed by the Bidder or his authorized representative, specifying that the Bidder will refuse to execute the Contract if presented to him. The filing of such notice shall have the same force and effect as the failure of the Bidder to execute the Contract and furnish acceptable certificates of insurance and bonds within the time herein before prescribed.

13. SPECIAL NOTICE: Bidders are required to inform themselves fully of the conditions relating to construction and labor under which the Work will be performed, and the Contractor must employ, so far as possible, such methods and means in the carrying out of this work as will not cause any interruption or interference with any other contractor.
14. 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 as prime contractor for the same work.
15. BIDS TO BE LEFT ON DEPOSIT: No Bidder may withdraw its bid for a period of ninety (90) Calendar Days after the time set for opening thereof. However, the City will return all certified checks within fifteen (15) days, not including Saturdays, Sundays, and legal holidays, after the award of the Contract or rejection of the bids, as the case may be, to respective Bidders whose bids are not accepted.
16. NON-COLLUSION DECLARATION: All Bidders shall submit with their bids an executed non-collusion declaration on the form provided in the bidding documents. Failure to provide completed form shall result in the bid being deemed non-responsive.

The U.S. Department of Transportation (DOT) provides a toll-free hotline to report

bid rigging activities. Use the hotline to report bid rigging, bidder collusion, and other fraudulent activities. The hotline number is 800-424-9071. The service is available 24 hours 7 days a week and is confidential and anonymous. The hotline is part of the DOT's effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General.

17. **SUBSTITUTIONS:** Where the Specifications or drawings specify any material, product, thing, or service by one or more brand names, whether or not "or equal" is added, and a Bidder wishes to propose the use of another item as being equal, he shall request approval therefor as set forth in 4-1.6 of the Standard Specifications and Special Provisions.
18. **REPORTING SUSPECTED IMPROPRIETY, GROSS WASTE, FRAUD AND OTHER ACTS:** Any City and/or Great Park official, employee, and/or contractor who suspects any type of impropriety relating to purchasing or contracting activities, or gross waste, fraud, or abuse of City and/or Great Park funds or resources, a gross abuse of authority, a specified and substantial danger to public health or safety due to any act or omission of any City and/or Great Park official, employee, or contractor, or the use of a City and/or Great Park office or position, or of City and/or Great Park resources for personal gain, should report the act by calling the City's Integrity Line at 866-428-1509. All such reports shall remain anonymous if desired by the reporting party. Suspected fraudulent activities include bid rigging, product substitution, theft, overcharging, false certifications and representations, and the like. Any allegations of bribery, kickbacks, gratuities, and conflicts of interest involving City employees should also be reported.
19. **ASSIGNMENT OF CONTRACT:** No assignment by the Contractor of any Contract to be entered into hereunder or of any part thereof, or of funds to be received thereunder by the Contractor, will be recognized by the City unless such assignment has had the prior written approval of the City and the surety has been given due notice of such assignment in writing.
20. **OTHER REQUIREMENTS:** Before entering into a Contract, the Bidder to whom the Contract has been awarded shall satisfy all insurance requirements per Section 7-3 of the Standard Specifications and Special Provisions and such insurance shall be maintained in full force and effect at its own expense during the life of this Contract.

Upon request, the successful Bidder shall furnish to the City a statement of its financial condition and previous construction experience or such other evidence of his qualifications.

21. **LABOR CODE:**

PUBLIC WORKS CONTRACTOR REGISTRATION PROGRAM

All contractors and subcontractors who plan to bid on a public works project (the definition of "public works" is found at Labor Code Section 1720, *et seq.*) when the project is for construction, alteration, demolition, installation, or repair work with a value exceeding \$25,000.00 must first be registered and pay an annual

fee with the DIR. Additionally, all contractors and subcontractors who plan to bid on public works projects involving maintenance work with a value exceeding \$15,000.00 must first be registered and pay an annual fee with the DIR. The CITY requires all contractors and subcontractors to be registered with the DIR prior to submitting a bid meeting these parameters. By submitting a bid for City of Irvine Department of Public Works and Transportation project, the contractor acknowledges the above requirements and agrees to maintain a valid Department of Industrial Relations (DIR) Public Works Contractor registration during the term of this project.

- a) 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.
- b) Pursuant to Labor Code Section 1771.4, all bidders are hereby notified that this project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

In addition to the requirement for submittal of certified payroll records to the City, contractors and subcontractors shall furnish electronic certified payroll records to the Labor Commissioner (State of California, Division of Labor Standards Enforcement).

Contractors and subcontractors shall be responsible for complying and staying current with all DIR requirements and regulations. More information can be found at <http://www.dir.ca.gov/Public-Works/PublicWorks.html>.

Attention is directed to Labor Code § 1735 of which reads as follows:

No discrimination shall be made in the employment of persons upon public works because of the race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status, or sex of such persons, except as provided in the Government Code §12940, and every contractor for public works violating this section is subject to all the penalties imposed for a violation of this chapter.

The Contractor shall abide by the provisions of the California Labor Code § 1770-1781, *et seq.* In accordance with the provisions of the California Labor Code § 1773, the general prevailing rates of per diem wages and holiday and overtime work in the locality in which the work is to be performed has been obtained from the Director of the Department of Industrial Relations, a copy of which is on file in the office of the City Clerk of the City of Irvine and will be made available to any interested party upon request. The Contractor shall post a copy of the prevailing rate of per diem wages at the job site. The Contractor, and any subcontractor under him, shall pay not less than the specified prevailing rates of wages to all workers employed in the execution of the contract.

Failure to comply with the subject sections will subject the Contractor to penalty and forfeiture provisions of the Labor Code § 1775.

In accordance with of the Labor Code § 1773.1, the Contractor must make travel and subsistence payments to each worker employed in the execution of the Contract.

The City will not recognize any claim for additional compensation because of the payment by the Contractor of any wage rate in excess of the prevailing wage rate set forth in the Contract. The possibility of wage increases is one of the elements to be considered by the Contractor in determining his bid, and will not under any circumstances be considered as the basis of a claim against the City on the Contract.

The Contractor shall familiarize itself with the provisions of the Labor Code § 1777.5 regarding employment of apprentices, and shall be responsible for compliance therewith, including compliance by his subcontractors.

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

The Contractor and subcontractors shall comply with Labor Code § 1810 and § 1811 which stipulates that eight hours labor constitutes a legal day's work, and § 1812 which stipulates that the Contractor and subcontractors shall keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed by him in connection with the work performed under the terms of the Contract. Failure to comply with these sections of the Labor Code will subject the Contractor to penalty and forfeiture provisions of the Labor Code § 1813.

22. RESERVATION OF RIGHTS:

The City reserves the right to:

- a) Disqualify any Bidder in accordance with the instructions herein.
- b) Reject any bids, at its discretion, including bids found to be conditional or incomplete, contain irregularities, contain any interlineations or alterations, or found to be not responsive to this Invitation for Bids (IFB).
- c) Investigate the qualifications of any Bidder under consideration.
- d) Require confirmation or clarification of information furnished by the Bidder.
- e) Require additional evidence of Bidder's ability to perform the Work described in these bid documents.
- f) Contact the submitted references to confirm information provided in the bid.
- g) Postpone or cancel the entire IFB or a portion thereof.

- h) Postpone the bid opening or award for its own convenience.
- i) Award a Contract in part or in combination of items.
- j) Issue subsequent IFB.
- k) Seek the assistance of outside technical experts to review the bids.
- l) Disqualify a bid upon evidence of collusion, with intent to defraud, or other illegal practices on the part of the Bidder.
- m) Waive any errors or informalities in any bid to the extent permitted by law.
- n) Require bidder to provide proof as to the equality, substitutability, and compatibility of any items proposed as alternates or equals.
- o) Determine, at the City's sole discretion, the equality, substitutability, and compatibility of any items proposed as alternates or equals.
- p) Exercise any other rights under the City's charter or municipal code.

The City has no obligation to consider any bid unless it is responsive to this IFB and conforming in all respects to the Form of Contract. This IFB does not commit the City to enter into a Contract.

CITY OF IRVINE

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC
CENTER
CIP 361908
BID NO. 21-1814

BIDDER'S PROPOSAL

HONORABLE MAYOR AND MEMBERS OF THE CITY COUNCIL
CITY HALL
IRVINE, CALIFORNIA

THE UNDERSIGNED, HAVING CAREFULLY EXAMINED ALL OF THE CONTRACT DOCUMENTS; PERMITS ISSUED BY JURISDICTIONAL REGULATORY AGENCIES; CONTRACT; CONTRACT ADDENDA; INSTRUCTIONS TO BIDDERS; PROPOSAL REQUIREMENTS AND CONDITIONS; SPECIAL PROVISIONS; THE PLANS (AS A, B, AND C); STANDARD PLANS; STANDARD SPECIFICATIONS; REFERENCE SPECIFICATIONS; AND ALL OTHER INFORMATION PROVIDED BY THE AGENCY FOR THE CONSTRUCTION LISTED ABOVE IN AND FOR THE CITY OF IRVINE, IS FAMILIAR WITH THE CONDITIONS, HAVING PERSONALLY VISITED THE SITE OF THE WORK, AND HEREBY PROPOSES TO FURNISH ALL LABOR, MATERIALS AND EQUIPMENT, AND ALL INCIDENTAL WORK NECESSARY TO DELIVER ALL THE IMPROVEMENTS COMPLETE, IN PLACE AND IN STRICT CONFORMITY WITH THE CONTRACT DOCUMENTS, FOR THE UNIT PRICES NAMED IN THE FOLLOWING SCHEDULE OF WORK, ENTERED THROUGH THE BIDSONLINE SYSTEM.

Bidder's Company Name (please print or type)

Signature of Bidder

Print Name

CITY OF IRVINE

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC
 CENTER
 CIP 361908
 BID NO. 21-1814

SCHEDULE OF WORK

All applicable sales taxes, State and/or Federal taxes, and any other special taxes, patent rights or royalties are included in the prices quoted in this Proposal.

BID ITEM NO.	BID ITEM DESCRIPTION	UNIT	EST. QTY.
1	CHARGER EQUIPMENT (4 DUAL PORT LEVEL 2 TYPE [CHARGEPOINT CT400 7.2KW OR EQUIVALENT]; 2 DC FAST CHARGING [CHARGEPOINT CPE250 62.5KW OR EQUIVALENT]; NETWORK SERVICE [5 YEARS], AND MAINTENANCE AGREEMENTS [5 YEARS; INCLUDING PLUGS, GRAFFITI, GUARANTEED RESPONSE TIME]	LS	1
2	ABOVE GROUND CONDUIT/FEEDER TERMINATION @ AND MSEV FOR 10 CIRCUITS	LS	1
3	TRENCHING IN LANDSCAPE ZONE	LF	130
4	BACKFILL IN LANDSCAPE ZONE	LF	130
5	CONDUITS MSVE TO CHARGING STATION – IN COMMON TRENCH	LF	570
6	WIRE – FEEDERS TO CHARGE STATIONS	LF	1710
7	TRENCHING IN BLACKTOP ZONE	LF	285
8	BACKFILL IN BLACKTOP ZONE	LF	285
9	STEEL TRENCH COVER PLATE – TRAFFIC BEARING	LF	285
10	PATCH AC PAVEMENT	LF	285
11	CONDUITS MSVE TO CHARGING STATION – IN COMMON TRENCH	LF	740
12	WIRE – FEEDERS TO CHARGE STATIONS (#3 WIRE)	LF	2220
13	INSTALL EV CHARGING STATIONS – INCLUDE CONCRETE FOOTING	EA	4

CITY OF IRVINE

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC
 CENTER
 CIP 361908
 BID NO. 21-1814

BID ITEM NO.	BID ITEM DESCRIPTION	UNIT	EST. QTY.
14	FINAL TERMINATION AND EV CHARGING STATIONS EV	POINTS	8
15	START UP AND TESTING	LS	1
16	PATCH LANDSCAPE AND REPAIR IRRIGATION - ALLOWANCE	LS	1
17	BOLLARDS	EA	17
18	TRANSFORMER/SWITCHGEAR AREA CLEARING, EXCAVATION & GRADING	SF	400
19	EDISON TRANSFORMER PAD – PRECAST (10 X 8); FURNISH AND INSTALL	EA	1
20	CIP CONCRETE PAD FOR MSEV	SF	61
21	MSEV METERED (SCE) EQUIPMENT (FURNISHED AND INSTALLED)	LS	1
22	TRENCHING IN LANDSCAPE ZONE	LF	300
23	TRENCHING IN BLACKTOP ZONE	LF	55
24	BACKFILL IN LANDSCAPE ZONE	LF	300
25	STEEL TRENCH COVER PLATE – TRAFFIC BEARING	LF	55
26	PATCH AC PAVEMENT	LF	55
27	CONDUIT: EDISON PB TO TRANSFORMER	LF	355
28	CONDUIT: TRANSFORMER MSVE	LF	10
29	WIRE: FEEDER EDISON PB TO EDISON TRANSFORMER - EXCLUDED (BY EDISON)		
30	WIRE: FEEDER TRANSFORMER TO MSVE – EXCLUDED (BY SCE)	LF	0
31	RECONNECT STREET STRIPING LINES BROKEN DUE TO TRENCHING	LS	1
32	MOBILIZATION	LS	1
33	EROSION AND SEDIMENT CONTROL	LS	1
34	TEMPORARY TRAFFIC CONTROL	LS	1
35	CLEAR & GRUB	LS	1
36	SAWCUT AND REMOVE VARIABLE HEIGHT CURB (0 INCH)	LF	65
37	SAWCUT AND REMOVE SIDEWALK, 8	SF	443

CITY OF IRVINE

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC
 CENTER
 CIP 361908
 BID NO. 21-1814

BID ITEM NO.	BID ITEM DESCRIPTION	UNIT	EST. QTY.
	FOOT WIDE		
38	SAWCUT AND REMOVE AC PAVEMENT	SF	42
39	SAWCUT AND REMOVE CURB RAMP	EA	2
40	REMOVE TREE	EA	2
41	REMOVE SIGN	EA	3
42	REMOVE PAVEMENT MARKINGS	SF	880
43	CONSTRUCT VARIABLE HEIGHT TRANSITION P.C.C. CURB	LF	16
44	CONSTRUCT 0 INCH HEIGHT P.C.C. CURB	LF	14
45	CONSTRUCT 6 INCH HEIGHT P.C.C. CURB	LF	140
46	CONSTRUCT P.C.C. SIDEWALK, 8 FOOT WIDE	SF	450
47	ADA ACCESS RAMPS	EA	2
48	CONSTRUCT FULL DEPTH AC PAVEMENT	SF	130
49	INSTALL SIGN	EA	4
50	PAVEMENT MARKINGS	SF	1000
51	INSTALL WHEEL STOP	EA	2
52	SLURRY SEAL	SF	1000
53	LANDSCAPE AND IRRIGATION	SF	170
54	CONSTRUCT 1 INCH DIAMETER WEEP HOLE THROUGH CURB	EA	11

CITY OF IRVINE

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC CENTER CIP 361908 BID NO. 21-1814

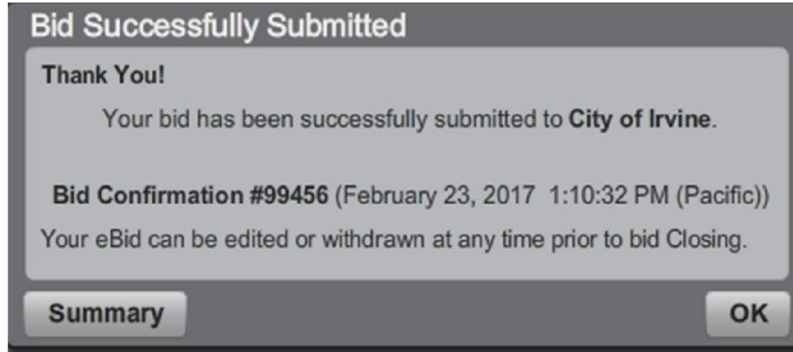
INSTRUCTIONS FOR ENTERING ELECTRONIC BIDS

In order to access the BidsOnline system and ensure successful online submission of your bid prices, follow these steps:

- a) Go to <https://www.planetbids.com/portal/portal.cfm?CompanyID=15927#>
- b) On the Vendor Portal page, log into the system (lower right hand corner of screen) with your assigned user name and password. (You must be registered in order to download documents and submit a bid.)
- c) Click on "Bid Opportunities" and then on the Bid # and Description that you wish to bid on. The selected bid will open to allow you to access all tabs, documents, and the pricing sheet.
- d) Click on the "Documents & Attachment" tab to be sure you have downloaded all documents that are part of this bid.
 - *If you have not already downloaded all bid documents, you must download them now, in order to submit your bid. The screen will indicate which documents you've already downloaded.*
- e) Click on the tab "Addenda & Emails" to be sure you have read and acknowledged all addenda that have been issued for this bid.
 - *The screen will display "yes" or "no" next to each addendum to indicate whether you have viewed and acknowledged it. If you have not previously acknowledged an addendum, do so now by clicking on the addendum to open and read it, then click on the "Acknowledge" button on the lower left hand corner of screen.*
- f) To begin entering your bid, click on "Place eBid" on the lower right corner of the screen. The bid "Terms and Conditions" will pop up with a button for you to click "Accept" to acknowledge your agreement to the terms of the bid.
- g) Enter the Respondee information on the "Detail" tab.
- h) Click the "Attach" button on the "Attachments" tab, browse to your scanned Bid Submittal Documents, and upload all Bid Submittal Documents as a single PDF file.
- i) Go to the "Line Items" tab and enter your unit prices on each line. The system will calculate the extended costs and grand total for you.
- j) When you have finished entering all pricing and attachments, click on the "Save" button. This saves your bid as a draft for you to review or revise as needed anytime up to the bid submittal deadline. When you are ready to submit your bid, click the "Submit" button. You will receive a confirming message that looks like this:

CITY OF IRVINE

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC
CENTER
CIP 361908
BID NO. 21-1814



Note: E-Bids are sealed and cannot be viewed by the City until the closing date and time. As noted in the screen print above, if you need to withdraw your bid, you may do so any time before the bid deadline, by going back into the system and selecting "withdraw".

Please begin entering your bid in sufficient time to complete and submit it prior to the stated deadline. The official closing time for the bid is determined, and controlled, by the electronic clock in the bid management system. Once the deadline is reached, the system will not allow any bids to be submitted, and any in process that are not completed will be rejected. The amount of time required to enter and submit your bid depends on the complexity of the bid and the processing speed of your server and internet connections.

Technical Support

In the event you encounter technical difficulties during the uploading process, please contact the Planet Bids, BidsOnline system team as shown below (M-F from 8 a.m. to 5 p.m.):

support@planetbids.com or call 818-992-1771, ext. 0

Bid prices must be entered and the bid proposal packet must be uploaded to the BidsOnline system no later than the date and time indicated in the Notice Inviting Bids. No late bids will be accepted. No other method of bid submittal will be accepted.

CITY OF IRVINE

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC
CENTER
CIP 361908
BID NO. 21-1814

INFORMATION REQUIRED OF BIDDERS

In determining the lowest “responsible” bidder, consideration will be given to the general competency of the bidder in regard to the work covered by the Bid Proposal. To this end, each proposal shall be supported by a statement of the Bidder’s experience on this form. **Failure of the Bidder to provide requested information in a complete and accurate manner shall render the bid non-responsive.** Additionally, the City reserves the right to disqualify or refuse to consider a proposal if a Bidder is determined to be non-responsible in accordance with Irvine Municipal Code § 2-12-103 “Determination of Contractor Non-Responsibility.”

The Bidder shall supply the following information. Use additional sheets as necessary.

1. Contact person name: _____ Email: _____
Address: _____
Telephone: (____) _____ Fax: (____) _____
2. Type of firm (Individual, Partnership, or Corporation): _____
3. State Contractor’s License Number and Classification: _____
4. DIR Registration Number: _____ Expiration Date _____
5. Number of years your firm has operated as a contractor: _____
6. Number of years your firm operated under its present business name: _____
7. List the **names and addresses** of all principals or officers authorized to bind your firm.

Name:	Address:

8. List any project(s) your firm has **failed to complete** within the last five years due to a termination of contract. For each project, list the type of project, client’s name, contact person, current telephone number, email address, and provide a brief description of the grounds for the termination.

CITY OF IRVINE

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC CENTER
 CIP 361908
 BID NO. 21-1814

Check appropriate box: None See list below

Type of Project	Client Name	Contact Person	Contact Phone No. and email address
Description:			

Type of Project	Client Name	Contact Person	Contact Phone No. and email address
Description:			

Type of Project	Client Name	Contact Person	Contact Phone No. and email address
Description:			

9. List projects of similar nature to the **Electric Vehicle Charger Installation at Irvine Civic Center** your firm is **currently** constructing. For each project, list the type of project, contract amount, client's name, contact person, current telephone number, email address, and a brief description.

Check appropriate box: None See list below

Type of Project	Contract Amount	Client Name	Contact Person	Contact Phone No. and email address
Description:				

Type of Project	Contract Amount	Client Name	Contact Person	Contact Phone No. and email address
Description:				

CITY OF IRVINE

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC CENTER
 CIP 361908
 BID NO. 21-1814

Type of Project	Contract Amount	Client Name	Contact Person	Contact Phone No. and email address
Description:				

10. List projects of a similar nature to the **Electric Vehicle Charger Installation at Irvine Civic Center** your firm has **completed** within the last five years. For each project, list the type of project, contract amount, date of completion, client's name, contact person, current telephone number, email address, and a brief description.

Check appropriate box: None See list below

Type of Project	Contract Amount	Date of Completion	Client Name	Contact Person	Contact Phone No. and email address
Description:					

Type of Project	Contract Amount	Date of Completion	Client Name	Contact Person	Contact Phone No. and email address
Description:					

Type of Project	Contract Amount	Date of Completion	Client Name	Contact Person	Contact Phone No. and email address
Description:					

CITY OF IRVINE

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC CENTER
 CIP 361908
 BID NO. 21-1814

11. List the name of the person(s) (**A MINIMUM OF ONE**) who inspected the site of the proposed work for your firm.

Name:	Date of Inspection:

12. Complete the following in conformance with Labor Code Section 1725.5:

Name of Subcontractor	Registered with DIR?	DIR Registration No.
	Yes ___ No ___	
	Yes ___ No ___	
	Yes ___ No ___	
	Yes ___ No ___	
	Yes ___ No ___	
	Yes ___ No ___	
	Yes ___ No ___	
	Yes ___ No ___	
	Yes ___ No ___	
	Yes ___ No ___	
	Yes ___ No ___	
	Yes ___ No ___	

13. If requested by the City, the Bidder shall furnish a notarized financial statement, financial data, or other information and references sufficiently comprehensive to permit an appraisal of its current financial condition or ability to perform the work.

Failure to furnish information upon request will render the bid nonresponsive.

All of the above statements regarding Contractor's experience and financial qualifications are submitted in conjunction with the Bid Proposal, as a part thereof, and the truthfulness and accuracy of the information is guaranteed by the Bidder.

CITY OF IRVINE

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC
CENTER
CIP 361908
BID NO. 21-1814

THE CITY OF IRVINE RESERVES THE RIGHT TO REJECT ALL BIDS

The undersigned understands the contract time limit allotted for the completion of the work required by the Contract is **Sixty (60) Working Days**.

The undersigned agrees, if awarded the Contract, to sign the Contract and furnish the necessary insurance certificates and bonds within ten (10) days of the date specified in the Notice of Award of Contract, not including Saturdays, Sundays, and legal holidays, and to begin work within ten (10) Working Days from the date specified in the City's Notice to Proceed. Contract time accounting shall begin on the date shown in the Notice to Proceed.

Accompanying this Bid Proposal is **(check appropriate box)**:

Cashier's Check **Certified Check** **Bid Bond**

Sign Here if Individual:

Signature: _____

Print Name: _____

Address: _____

Affix notary's acknowledgement

(Signature blocks continue on the following page)

Sign Here if Co-Partnership:

CITY OF IRVINE

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC
CENTER
CIP 361908
BID NO. 21-1814

Co-Partnership Name of Firm: _____

Address: _____

Members Signing:

Signature: _____ Print Name: _____

Address: _____

Signature: _____ Print Name: _____

Address: _____

Affix notary's acknowledgement

Sign Here if Corporation:

Name of Corporation: _____

Address: _____

Officers of Corporation Signing:

Signature: _____ Print Name: _____

Address: _____

Signature: _____ Print Name: _____

Address: _____

If executed by other than President and Secretary of the Corporation, attach a certified copy of resolution authorizing signature on behalf of the Corporation.

Affix notary's acknowledgement

CITY OF IRVINE

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC CENTER
CIP 361908
BID NO. 21-1814

LIST OF SUBCONTRACTORS

The Bidder shall list each subcontractor performing work in an amount in excess of one-half of one percent (1/2%) of the prime contractor's total bid, or, in the case of bids or offers for the construction of streets or highways, including bridges, in excess of one-half of one percent (1/2%) of the prime contractor's total bid or ten thousand dollars (\$10,000), whichever is greater. Complete columns (1) and (2) and submit with the bid. Complete columns (3) and (4) and submit with the bid or hand-deliver to the Receptionist for the Purchasing Agent at the reception desk located on the first floor of the Civic Center building at the City of Irvine, located at 1 Civic Center Plaza, Irvine, California 92606-5207 within 24 hours after the bid opening. Failure to provide complete information in columns (1) through (4) within the time specified shall render the bid non-responsive.

Subcontractors listed must not be debarred from performing the designated work.

Information must be typed or clearly printed.

BUSINESS NAME AND LOCATION (1)	CONTRACTOR LICENSE NUMBER (2)	BID ITEM NUMBERS (3)	PERCENTAGE OF BID ITEM SUBCONTRACTED AND PORTION OF WORK TO BE PERFORMED BY SUBCONTRACTOR (4)*

* If you are subcontracting a whole bid item, insert one hundred percent (100%); if less, insert actual percentage.

CITY OF IRVINE

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC
CENTER
CIP 361908
BID NO. 21-1814

NON-COLLUSION DECLARATION-CONTRACTOR
To be Executed by Bidder and Submitted with Bid

The undersigned declares:

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

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

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

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

Signature

Print Name

CITY OF IRVINE

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC
CENTER
CIP 361908
BID NO. 21-1814

FORM OF BID BOND

(10% of the Proposal Amount)

KNOW ALL PERSONS BY THESE PRESENTS that we _____
_____ as Principal, and _____
_____ as Surety, are held and firmly bound unto City of Irvine, hereinafter
called the City in the sum of _____
Dollars (\$_____), 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 conditions of this obligation are such that whereas the Principal submitted to the City a
certain Bid Proposal, attached hereto and hereby made a part hereof, to enter into a
contract in writing for the **Electric Vehicle Charger Installation at Irvine Civic Center,
CIP 361908** and will furnish all required certificates of insurance and bonds as required by
the Contract.

NOW THEREFORE, if said Bid Proposal shall be rejected; or in the alternate, if said Bid
Proposal shall be accepted, and the Principal shall execute and deliver a contract in the
prescribed Form of Contract, shall deliver certificates evidencing that the required
insurance is in effect and shall execute and deliver Performance and Payment Bonds in
the forms prescribed, and shall in all other respects perform the Contract created by the
acceptance of said Bid Proposal, then this obligation shall be void; otherwise this
obligation shall remain in force and effect, it being expressly understood and agreed that
the liability of the Surety for any and all default of the Principal hereunder shall be the
amount of this obligation as herein stated. In the event suit is brought upon this bond by
City and judgment is recovered, Surety shall pay all costs incurred by City in said suit,
including a reasonable attorney's fee to be fixed by the court.

The Surety, for the value received, hereby stipulates and agrees that the obligations of
said Surety and its bond shall in no way be impaired or affected by an extension of the
time within which the City may accept such a Bid Proposal; and said Surety does hereby
waive notice of any such extension.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument this
____ day of _____, 20____, the name of each party being hereto written below
and these presents duly signed by each party's undersigned representative, pursuant to
authority of its governing body. This bond shall be authenticated by way of notarized
acknowledgment, including a copy of the power of attorney, for the Surety.

ATTEST:

(Principal) _____

(Address) _____

(By) _____

(Title) _____

ATTEST:

(Surety) _____

(Address) _____

(By) _____

(Title) _____

CITY OF IRVINE

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC CENTER
CIP 361908
BID NO. 21-1814

FALSE CLAIMS

Bidder shall complete the **False Claims Act Certification** below or in the alternative, provide the information requested under **False Claims Act Violations** below. **Failure to certify or provide the requested information shall render the bid non-responsive.**

“False Claims Act” as used herein is defined as either or both the Federal False Claims Act, 31 U.S.C. § 3729, *et seq.*, and the California False Claims Act, Government Code § 12650, *et seq.*

FALSE CLAIMS ACT CERTIFICATION

I _____ hereby certify that neither
Print name

_____ Contractor name

nor _____
Name of qualifying person licensed by Contractors State License Board

has been determined by a court or tribunal of competent jurisdiction to have violated the False Claims Act as defined above.

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

Executed this _____ day of _____ at _____
(Month and year) (City and State)

By _____
(Signature of owner, officer, manager or licensee responsible for submission of Bid Proposal)

FALSE CLAIMS ACT VIOLATIONS

With regard to any determinations by a tribunal or court of competent jurisdiction that the False Claims Act, as defined above, has been violated by (1) the Contractor submitting this Bid Proposal or (2) the qualifying person licensed by the State Contractors License Board to perform the work described in this Bid Proposal, shall provide on a separate sheet the following information: (1) the date of the determination of the violation, (2) the identity of the tribunal or court, (3) the identity of the government contract or project involved, (4) the identity of the government department involved, (5) the amount of fine imposed, and (6) any exculpatory information of which the Agency should be aware.

CITY OF IRVINE

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC CENTER
CIP 361908
BID NO. 21-1814

CIVIL LITIGATION AND ARBITRATION HISTORY

Bidder shall provide the certification or information requested below. **Failure to certify or provide such certification or information shall render the bid non-responsive.**

For five (5) years preceding the submittal date of this Bid Proposal, identify civil litigation and arbitration arising out of the performance of a construction contract within the State of California in which the (1) Contractor submitting this bid proposal or (2) the qualifying person licensed by the State Contractors Licensing Board to perform the work described in this Bid Proposal was a named as a party in a lawsuit brought by or against the project owner or any action to confirm, vacate or modify an arbitration award involving an owner.

CIVIL LITIGATION AND ARBITRATION CERTIFICATION

If the Bidder has no civil litigation and arbitration history to report as described above, complete the following:

I _____ certify that neither
Print name

Contractor name

nor _____
Name of qualifying person licensed by Contractors State License Board

has been involved in civil litigation and arbitration as described above.

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

Executed this _____ day of _____ at _____
(Month and year) (City and State)

By _____
(Signature of owner, officer, manager or licensee responsible for submission of Bid Proposal)

Do not include litigation and arbitration which are limited solely to enforcement of mechanics' liens or stop notices. Provide on a separate sheet (1) the name and court case identification number of each case, (2) the jurisdiction in which it was filed, and (3) the outcome of the litigation, e.g. whether the case is pending, a judgment was entered, a settlement was reached, or the case was dismissed.

CITY OF IRVINE

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC CENTER
CIP 361908
BID NO. 21-1814

CRIMINAL CONVICTIONS

Bidder shall provide the certification or information requested below. **Failure to certify or provide such certification or information shall render the bid non-responsive.**

CRIMINAL CONVICTION CERTIFICATION

If the Bidder has no criminal convictions to report as described above, complete the following:

I _____ hereby certify that neither
Print name

Contractor name

nor _____
Name of qualifying person licensed by Contractors State License Board

has been convicted of a criminal violation as described above.

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

Executed this _____ day of _____ at _____
(Month and year) (City and State)

By _____
(Signature of owner, officer, manager or licensee responsible for submission of Bid Proposal)

For the five (5) years preceding the date of this Bid Proposal is due, identify on a separate sheet any criminal conviction in any jurisdiction in the United States for a violation of law arising out of the performance of a construction contract (1) by the Contractor submitting this Bid Proposal or (2) by the qualifying person licensed by the State Contractors License Board to perform the work described in the Bid Proposal.

Provide on the following page labeled "Criminal Convictions Information." (1) the date of conviction, (2) the name and court case identification number, (3) the identity of the law violated, (4) the identity of the prosecuting agency, (5) the contract or project involved, (6) the punishment imposed, and (7) any exculpatory information of which the Agency should be aware.

CITY OF IRVINE

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC
CENTER
CIP 361908
BID NO. 21-1814

VIOLATION OF LAW OR A SAFETY REGULATION

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

Yes No

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

Name of bidder (print)

Signature

Address

State Contractors' License No. &
Classification

City Zip Code

Telephone

CITY OF IRVINE
ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC
CENTER
CIP 361908
BID NO. 21-1814

CONSTRUCTION CONTRACT
FOR CAPITAL IMPROVEMENTS

This Contract made and entered into this _____ day of _____, 20__, by and between City of Irvine, a municipal corporation of the State of California, hereinafter referred to as "CITY" and **CONTRACTOR NAME**, a (insert legal entity such as "sole proprietorship" or "California corporation") hereinafter referred to as "CONTRACTOR."

W I T N E S S E T H:

That the CITY and the CONTRACTOR, for the consideration hereinafter named, mutually agree as follows:

1. The complete Contract includes all of the Contract Documents, which are incorporated herein by this reference, to wit:
 - a) Permits and Agreements
 - b) Contract
 - c) Addenda
 - d) Instructions to Bidders, Proposal Requirements and Conditions
 - e) Special Provisions
 - f) Contract Plans
 - g) Standard Plans
 - h) Standard Specifications
 - i) Reference Specifications

The Contract Documents are complementary, and that which is required by one shall be as binding as if required by all.

2. CONTRACTOR shall provide and furnish all labor, materials, necessary tools, expendable equipment, and all utility and transportation services required for the following work of improvement:

Provide a new Southern California Edison electrical service @600A, 480V, 3 Phase, 4 Wire to include an outdoor type pad mounted transformer and an outdoor type (SCE) metered pad mounted distribution board and transformer; Provide SCE primary conduit as directed by SCE; Provide parking lot and site landscape saw cutting and trenching for underground distribution for new electrical service and electrical vehicle charging stations; patch and repair to

match existing conditions; Provide and install four electrical vehicle charging stations, dual port Level 2 type and two DC Fast charging stations; Provide future conduit stub-ups for future EV charging stations; Provide one ADA Accessible Level 2 EV Dual-port charging station (suitable for two ADA parking stalls; and other items not mentioned here, but are required by the plans and the Special Provisions.

3. CONTRACTOR agrees to perform all the said work and furnish all the said materials at his own cost and expense that are necessary to construct and complete in strict conformance with Contract Documents and to the satisfaction of the Engineer, the work hereinafter set forth in accordance with the Contract therefore adopted by the City Council and as prepared by IDS Group, Inc., 130 Peters Canyon Road, Irvine, CA, 92606.

4. CITY agrees to pay and CONTRACTOR agrees to accept in full payment for performance of this work of improvement as described, the stipulated sum of

Dollars (\$ _____) the "Contract Price."

CITY agrees to make progress payments and final payment in accordance with the method set forth in the Special Provisions.

5. CONTRACTOR agrees to commence construction of the work provided for herein within ten (10) Calendar Days after the date specified in the Notice to Proceed, and to continue diligently in strict conformance with Contract Documents and without interruption, and to complete the construction thereof within **Sixty (60) Working Days** after the date specified in the Notice to Proceed.

6. Time is of the essence of this Contract, and it is agreed that it would be impracticable or extremely difficult to ascertain the extent of actual loss or damage which the CITY will sustain by reason of any delay in the performance of this Contract. It is, therefore, agreed that CONTRACTOR will pay as liquidated damages to the CITY the following sum: **Six Hundred Dollars (\$600)** per Calendar Day, for each and every Calendar Days delay in finishing the Work in excess of the number of Working Days prescribed above. If liquidated damages are not paid, as assessed by the CITY, the CITY may deduct the amount thereof from any money due or that may become due the CONTRACTOR under this Contract in addition to any other remedy available to CITY. By executing this Contract, CONTRACTOR agrees that the amount of liquidated damages is reasonable and shall not constitute a penalty.

7. CONTRACTOR will maintain and will require all subcontractors to maintain valid and current Department of Industrial Relations (DIR) Public Works Contractor registration during the term of this project. CONTRACTOR shall notify the CITY in writing immediately, and in no case more than twenty-four (24) hours, after receiving any information that CONTRACTOR'S or any of its subcontractor's DIR registration status has been suspended, revoked, expired, or otherwise changed.

8. CONTRACTOR will pay, and will require all subcontractors to pay, all employees on said Contract a salary or wage at least equal to the prevailing salary or wage

established for such work as set forth in the wage determinations and wage standards applicable to this work, a copy of which is on file in the office of the City Clerk of the City of Irvine. Federal prevailing wage rates apply for federally funded projects. Travel and subsistence pay shall be paid in accordance with Labor Code § 1773.1.

9. CONTRACTOR shall be subject to the penalties in accordance with Labor Code of § 1775 for each worker paid (either by him or by any subcontractors under him) less than the prevailing rate described above on the work provided for in this Contract.
10. CONTRACTOR and subcontractors shall comply with Labor Code § 1810 and § 1811 which stipulates that eight hours labor constitutes a legal day's work, and § 1812 which stipulates that the CONTRACTOR and subcontractors shall keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed by him in connection with the work performed under the terms of the Contract. Failure to comply with these sections of the Labor Code will subject the CONTRACTOR to penalty and forfeiture provisions of the Labor Code § 1813.
11. CONTRACTOR will comply with the provisions of Labor Code § 1777.5 pertaining to the employment of apprentices to the extent applicable to this Contract.
12. CONTRACTOR, by executing this Contract, hereby certifies:
 "I am aware of, and will comply with the Labor Code § 3700 by securing payment for, and maintaining in full force and effect for the duration of the contract, complete Workers' Compensation Insurance, and shall furnish a Certificate of Insurance to the Agency before execution of the Contract. The CITY, its officers, or employees, will not be responsible for any claims in law or equity occasioned by failure of the CONTRACTOR to comply with this paragraph."

CONTRACTOR further agrees to require all subcontractors to carry Workers' Compensation Insurance as required by the Labor Code of the State of California.

13. CONTRACTOR shall, concurrent with the execution of this Contract, furnish two bonds approved by the CITY, one in the amount of One Hundred Percent (100%) of the Contract Price, to guarantee the faithful performance of the work "Performance Bond", and one in the amount of One Hundred Percent (100%) of the Contract Price to guarantee payment of all claims for labor and materials furnished "Payment Bond." This Contract shall not become effective until such bonds are supplied to and approved by the CITY.
14. CONTRACTOR shall, prior to commencing work, furnish certificates evidencing compliance with all requirements of the Contract Documents pertaining to insurance.

15. Any amendments to any of the Contract Documents must be in writing executed by the CONTRACTOR and the CITY. Any time an approval, time extension, or consent of the CITY is required under the Contract Documents, such approval, extension, or consent must be in writing in order to be effective.
16. This Contract contains all of the agreements and understandings of the parties and all previous understandings, negotiations, and contracts are integrated into and superseded by this Contract.
17. In the event that any one or more of the phrases, sentences, clauses, paragraphs, or sections contained in this Contract shall be declared invalid or unenforceable by a valid judgment or decree of a court of competent jurisdiction, such invalidity or unenforceability shall not affect any of the remaining phrases, sentences, clauses, paragraphs, or sections of this Contract which are hereby declared as severable and shall be interpreted to carry out the intent of the parties hereunder.
18. The persons executing this Contract on behalf of the parties hereto warrant that they are duly authorized to execute this Contract on behalf of said parties and that, by so executing this Contract, the parties hereto are formally bound to the provisions of this Contract.
19. This Contract shall be binding upon and shall inure to the benefit of the parties hereto and their respective heirs, personal representatives, successors, and assigns.
20. In performing its obligations and duties under this Contract, each party shall comply with all applicable local, state, and federal laws, regulations, rules, standards, and ordinances.
21. In the event any action is brought between the parties hereto relating to this Contract or the breach thereof, the prevailing party in such action shall be entitled to recover from the other party reasonable expenses, attorneys' fees, and costs in connection with such action or proceeding.
22. This Contract may be executed by the parties in counterparts, which counterparts shall be construed together and have the same effect as if all of the parties had executed the same instrument.
23. This Contract is to be governed by the laws of the State of California.

IN WITNESS WHEREOF, the said CONTRACTOR and the Director of Public Works and Transportation, City Manager, and City Clerk of the CITY have caused the names of said parties to be affixed hereto, the day and year first above written.

(Signature block is on the following page)

CONTRACTOR'S NAME:

_____ **Print Name of Construction Company**

(If Corporation, 2 signatures are required)

By: _____
Signature

Print Name

Its: _____
Title

By: _____
Signature

Print Name

Its: _____
Title

CONTRACTOR INFORMATION:
Address for Notices and Payments

Telephone Number: _____

Email: _____

CITY OF IRVINE
A Municipal Corporation

By: _____
John A. Russo
Its: City Manager of the City of Irvine

By: _____
Mark A. Steuer
Its: Director of Public Works and Transportation

ATTEST:

By: _____
Molly M. Perry
Its: City Clerk

APPROVED AS TO FORM:
RUTAN & TUCKER, LLP

Jeffrey Melching

PERFORMANCE BOND

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC
CENTER
CIP 361908
BID NO. 21-1814

KNOW ALL PERSONS BY THESE PRESENTS that we _____
_____, as Principal, and _____ as Surety, are held and
firmly bound unto City of Irvine, hereinafter called the City in the sum of _____
_____ (\$ _____
_____) (this amount being not less than one hundred percent (100%) of the total bid price
of the contract awarded by the owner to the Principal), 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 conditions of this obligation are such that whereas the Principal entered into a contract
attached hereto, with the City of Irvine.

NOW THEREFORE, if the Principal shall well and truly perform and fulfill all the
undertakings, covenants, terms, conditions and agreements of said Contract during the
original terms thereof, and any extensions thereof that may be granted by the Owner with
or without notice of the Surety, and during the life of any guarantee required under the
Contract, and shall also well and truly perform and fulfill all the undertakings, covenants,
terms, conditions and agreements of any and all duly authorized modifications of said
Contract that may hereafter be made, then this obligation shall be void otherwise this
obligation shall remain in full force and effect.

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

As a part of the obligation secured hereby and in addition to the face amount specified
therefore, there shall be included costs and reasonable expenses and fees, including
reasonable attorneys' fees, incurred by the City in successfully enforcing such obligation,
and all to be taxed as costs and included in any judgment rendered by a court of law.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument this
____ day of _____, 20____, the name of each party being hereto written below
and these presents duly signed by each party's undersigned representative, pursuant to
authority of its governing body. This bond shall be authenticated by way of notarized
acknowledgment, including a copy of the power of attorney, for the Surety.

ATTEST:

(Principal) _____

(Address) _____

(By) _____

(Title) _____

ATTEST:

(Surety) _____

(Address) _____

(By) _____

(Title) _____

PAYMENT BOND

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC
CENTER
CIP 361908
BID NO. 21-1814

KNOW ALL PERSONS BY THESE PRESENTS that we _____
_____, as Principal, and _____ as Surety, are held and
firmly bound unto City of Irvine, hereinafter called the City in the sum of _____
_____ (\$ _____) (this
amount being not less than one hundred percent (100%) of the total bid price of the
contract awarded by the owner to the Principal), 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 conditions of this obligation are such that whereas the Principal entered into a
contract, attached hereto, with the City of Irvine.

NOW THEREFORE, if the Principal shall promptly make payment to all persons supplying
labor and material in the prosecution of the work provided for in said contract, and any and
all duly authorized modifications of each contract that may hereafter be made, then this
obligation shall be void, otherwise this obligation shall remain in full force and effect.

The condition of this obligation is such that, if said Principal or his subcontractors, or heirs,
executors, administrators, successors, or assigns thereof, shall fail to pay any of the
persons named in the Civil Code § 9100 for any material used in, upon, for or about the
performance of the work contracted to be done, or for any work or labor thereon of any
kind, or shall fail to pay any amount due under the Unemployment Insurance Code with
respect to work or labor performed by any such claimant or any amount required to be
deducted, withheld, and paid over to the Franchise Tax Board from the wages of
employees of the Contractor and his subcontractors with respect to such work and labor,
then said Surety will pay and, also, in case suit is brought upon the bond, will pay a
reasonable attorney's fee to be fixed by the court. This bond shall inure to the benefit of all
persons named in the aforesaid Civil Code § 9100 to give a right of action to them or their
assigns in any suit brought upon the bond.

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

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument this
____ day of _____, 20____, the name of each party being hereto written below
and these presents duly signed by each party's undersigned representative, pursuant to
authority of its governing body. This bond shall be authenticated by way of notarized
acknowledgment, including a copy of the power of attorney, for the Surety.

ATTEST:

(Principal) _____

(Address) _____

(By) _____

(Title) _____

ATTEST:

(Surety) _____

(Address) _____

(By) _____

(Title) _____

SPECIAL PROVISIONS

- A. THESE ADDITIONS, DELETIONS, AND AMENDMENTS MODIFY THE SPECIFICATIONS IN THE “STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION”, 2015 EDITION AND 2016 SUPPLEMENT.
- B. THESE ADDITIONS, DELETIONS, AND AMENDMENTS SHALL TAKE PRECEDENCE IN THE EVENT OF A CONFLICT WITH ANY STANDARD SPECIFICATIONS.
- C. AS A CONVENIENCE, THESE ADDITIONS, DELETIONS, AND AMENDMENTS HAVE BEEN ARRANGED IN A FORMAT THAT PARALLELS THE “STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION”, 2015 EDITION AND 2016 SUPPLEMENT.

PART 1 - GENERAL PROVISIONS

SECTION 1 - TERMS, DEFINITIONS, ABBREVIATIONS, UNITS OF MEASURE AND SYMBOLS

REVISE as follows:

1-1 GENERAL. *ADD the following term:*

The word *provide* shall mean furnish and install.

1-2 TERMS AND DEFINITIONS. *MODIFY to ADD the following:*

Acceptance, Final Acceptance – Formal action by the Agency acknowledging the Work is complete.

Agency/Board/City – The City of Irvine, a municipal corporation.

Agency Representative – The person or engineering/architectural firm Agency authorizes to represent it during the performance of the Work by the Contractor and until Final Acceptance. The Agency Representative means the Agency Representative or his assistants.

Calendar Day – The 24-hour day denoted on the calendar.

Calendar Month – The period including the first through the last day of a month.

City – See Agency.

Clarification – Verbal or written interpretation of Contract Documents by the Agency Representative to clarify intent, procedures, materials or processes with no change in contract sum or time.

REPLACE the definition for “Engineer” with the following:

Engineer – The City Engineer acting either directly or through the Agency Representative.

Field Order – Authorization by Agency Representative to proceed with Change Order work after completion of negotiations, but before the issuance of the Change Order.

Laboratory – The laboratory authorized by the Agency or the Agency Representative to test material and work involved in the project.

Major Bid Item – A single Contract item constituting ten percent (10%) or more of the original Contract Price.

Request for Quotation – Contemplated revision of Contract Documents by the Agency requesting detailed information from the Contractor on impacts to contract sum or contract time.

State Standard Specifications – Standard Specifications issued by the State of California, Department of Transportation, 2015.

Traffic Control Devices – All signs, signals, markings, and other devices used to regulate, warn, or guide traffic, placed on, over, or adjacent to a street, highway, pedestrian facility, or bikeway, by authority of the Engineer.

1-3 ABBREVIATIONS.

1-3.2 Common Usage. *MODIFY to ADD the following:*

Abbreviation	Word or Words
CSMP	Construction Site Monitoring Program
DBE	Disadvantaged Business Enterprise
ESA	Environmentally Sensitive Area
HMA	Hot Mix Asphalt
NOI	Notice of Intent
SWMP	Storm Water Management Plan
SWRCB	State Water Resources Control Board
WPCP	Water Pollution Control Program
WDID	Waste Discharge Identification Number

DELETE the abbreviation of MUTCD and SUBSTITUTE with the following:

MUTCD	California Manual on Uniform Traffic Control Devices
-------	--

1-3.3 Institutions. *MODIFY to ADD the following:*

Abbreviation	Word or Words
AI	The Asphalt Institute
AIA	American Institute of Architects
APWA	American Public Works Association
AREMA	American Railway Engineering and Maintenance of Way Association
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
CRSI	Concrete Reinforcing Steel Institute
NFPA	National Fire Protection Association
PCA	Portland Cement Association
SSPC	Steel Structures Painting Council
UBC	Uniform Building Code, Pacific Coast Building Officials Conference of the International Conference of Building Officials

SECTION 2 - SCOPE AND CONTROL OF THE WORK

REVISE as follows:

2-2 ASSIGNMENT. *MODIFY to ADD the following:*

The performance of the Contract may not be assigned, except upon the written consent of the Agency. Consent will not be given to any proposed assignment that would relieve the original Contractor or its Surety of their responsibilities under the Contract, nor will the Agency consent to any assignment of any part of the Work under the Contract.

Assignment of this Contract shall contain a provision that the funds to be paid to the assignee under the assignment are subject to a prior lien for services rendered or materials supplied for performance of the work called for under the Contract in favor of all persons, firms, or corporations rendering such services or supplying such materials.

2-3 SUBCONTRACTS.

2-3.1 General. *MODIFY to ADD the following:*

If the Contractor subcontracts any part of this Contract, the Contractor shall be as fully responsible to the Agency for the acts and omissions of his subcontractor as he is for the acts and omissions of persons directly employed by him. Nothing contained in the Contract Documents shall create any contractual relationship between any subcontractor and the Agency. The Contractor shall bind every subcontractor to be bound by the terms of the Contract Documents as applicable to his work.

Debarred contractors shall not be employed on the Work pursuant to the provisions of Labor Code § 1777.1 and the City of Irvine Council Ordinance No. 08-10. The Labor Commissioner publishes and distributes a list of contractors ineligible to perform work as a subcontractor on a public works project. This list of debarred contractors is available from the Department of Industrial Relations website:

<http://www.dir.ca.gov/dlse/debar.html>

A list of individuals, firms and organizations debarred, suspended or who have voluntarily excluded themselves from Federal Procurement and Non-Procurement Programs is maintained by the US General Services Administration. This excluded parties list is available from the website: <http://www.sam.gov>

The Contractor and each of its subcontractors shall maintain a valid and current Department of Industrial Relations (DIR) Public Works Contractor registration during the term of this project.

Prior to including a subcontractor's name on the bid, the Contractor shall be responsible for verifying that each of its subcontractors are properly licensed and not debarred from performing the designated work.

This requirement shall be enforced as follows: Noncompliance shall be corrected. Payment for subcontracted work involved will be withheld from progress payments due, or to become due, until correction is made. Failure to comply may result in termination of the Contract.

If any subcontractor or person employed by the Contractor is deemed by the Engineer to be incompetent or to act in an improper manner, at the request of the Engineer, they shall be dismissed immediately from the job and shall not be employed again on the Work.

A copy of each subcontract is required to be filed with the Agency before the subcontractor begins work. Each subcontract shall contain a reference to the Contract between the Agency and the Contractor, and the terms of that Contract, and all parts thereof shall be made a part of such subcontract insofar as applicable to the work covered thereby. Each subcontract shall provide for its annulment by the Contractor at the order of the Agency if in the Agency's opinion the subcontractor fails to comply with the requirements of the Contract.

2-3.2 Self Performance. *DELETE in its entirety and SUBSTITUTE with the following:*

The Contractor shall perform, with its own organization, Contract work amounting to at least 15 percent of the Contract Price on building/facility contracts, and at least 50 percent of the Contract Price on all other Public Works contracts except that any designated "Specialty Items" may be performed by subcontract and the amount of any such "Specialty Items" so performed may be deducted from the Contract Price before computing the amount required to be performed by the Contractor with its own organization. "Specialty Items" will be identified by the Agency in the Bid or Proposal. Where an entire item is subcontracted, the value of work subcontracted will be based on the Contract Unit Price. When a portion of an item is subcontracted, the value of work subcontracted will be based on the estimated percentage of the Contract Unit Price. This will be determined from information submitted by the Contractor, and subject to approval by the Engineer.

The provisions in 2-3.2 of these Special Provisions require that the Contractor shall perform with the Contractor's own organization contract work amounting to not less than 50 percent of the original Contract Price is not changed by the Federal Aid requirement specified under "Required Contract Provisions Federal Aid Construction Contracts" of these Special Provisions that the Contractor perform not less than 30 percent of the original contract work with the Contractor's own organization.

2-3.3 Status of Subcontractors. *MODIFY to ADD the following:*

The City will not conduct business with an individual, firm or organization, and the Contractor shall not employ or otherwise use any subcontractor, supplier, or equipment vendor at any tier that is on the City's debarment list, the Department of Industrial Relations debarment list, or on the US General Services Administration "List of Parties Excluded from Federal Procurement and Non Procurement Programs."

2-5 PLANS AND SPECIFICATIONS.

2-5.1 General. *ADD the following after the 2nd paragraph:*

All work of the Contract including, but not limited to, the general nature and character of the work area and conducting of Contractors' operations shall be performed in accordance with the Standard Specifications for Public Works Construction, 2015 edition, and all supplements thereto, except as modified in these Special Provisions and as follows:

Work to be performed which is directly related to the construction and/or modification of traffic, striping, signing, markings or signals; work within State

right of way; and, work which is directly related to the construction of bridges and bridge appurtenances shall be performed in accordance with the State Standard Specifications, current edition as of bid date.

As applicable, unless modified elsewhere in these Special Provisions, Work of the Contract shall conform to current editions of: Uniform Building, Plumbing, Mechanical Codes; Uniform Fire Code; National Electrical Code; and, City of Irvine amendments thereto.

DELETE last paragraph in its entirety and SUBSTITUTE with the following:

If the Contractor, either before commencing work or in the course of the work, finds any discrepancy between the Specifications and the Plans or between either of them and the physical conditions at the site of the work or finds any error or omission in any of the Plans or in any survey, the Contractor shall promptly notify the Agency of such discrepancy, error, or omission. If the Contractor observes that any plans or specifications are at variance with any applicable law, ordinance, regulation, order, or decree, he shall promptly notify the Agency in writing of such conflict.

The Agency, on receipt of any such notice, will investigate the circumstances and give appropriate instructions to the Contractor. Until such instructions are given, any work done by the Contractor after its discovery of such an error, discrepancy, or conflict that is directly or indirectly affected by such error, discrepancy, or conflict, will be at its own risk and it shall bear all cost arising therefrom.

The Agency will provide, free of charge, three (3) copies of Plans and Special Provisions for the Contractor and one (1) copy of Plans and Special Provisions for each subcontractor listed in the Bidder's Proposal. Any Plans or Special Provisions required by the Contractor/subcontractor in addition to the above can be provided by Agency at Contractor's expense. The Contractor shall keep one set of Plans and Special Provisions in good order and available to the Agency Representative at the site of the Work.

2-5.2 Precedence of Contract Documents. *DELETE the order of precedence and SUBSTITUTE with the following:*

- a) Permits and Agreements
- b) Change Orders and/or Supplemental Agreements; whichever occurs last
- c) Contract
- d) Addenda
- e) Instructions to Bidders, Proposal Requirements and Conditions
- f) Bid/Proposal
- g) Special Provisions
- h) Contract Plans
- i) Standard Plans
- j) Standard Specifications
- k) Reference Specifications

ADD:

2-5.2.1 Interpretation of Plans and Specifications. Figured dimensions on Plans shall govern, but work not dimensioned shall be as directed. Work not particularly shown or specified shall be the same as similar parts that are shown or specified. Specifications shall govern as to materials, workmanship, and installation procedures. Plans and Specifications requiring higher quality material or workmanship shall prevail. In the event of any discrepancy between any drawings and the figures thereon, the figures shall be taken as correct. In the event of any doubt or question arising respecting the true meaning of the Specifications, reference shall be made to Engineer whose decision thereon shall be final.

2-5.3 Submittals.

2-5.3.1 General. *MODIFY to ADD the following:*

The review period begins anew upon each submittal or resubmittal.

In providing specified submittals, the Contractor certifies that they are complete in all respects and all materials, equipment, and other work shown thereon conforms to the Contract Documents.

Where a manufactured item is designed or engineered by the manufacturer, fabricator, subcontractor, consultant or designee, the drawings, and supporting calculations shall be stamped and signed by an engineer registered by the State of California executing the design within the scope of his registration. Unless otherwise accepted by the Engineer, data shall be submitted only by the prime Contractor. Data that, in the opinion of the Engineer, are incomplete or have not been checked by the prime Contractor or are illegible will be considered as not complying with the Contract requirements and will be returned to the Contractor for resubmittal in the proper form. The City may make this determination at any time during the review period.

Data shall be submitted in a format similar to the arrangement of the applicable section(s) of the Specifications unless otherwise specified. Any submittal not following the format specified, and not conforming to the requirements listed below, will be returned for resubmittal without review.

- a) Data shall include drawings and descriptive information in sufficient detail to show the kind, size, arrangement, and operation of component materials and devices, the external connections, anchorages, and supports required, performance characteristics, dimensions needed for installation and correlation with other materials and equipment, and all additional information as required in the detailed section(s) of the Contract Documents. Identify field dimensions; show relation to adjacent or critical features, work or products.
- b) Calculations to support the adequacy of the design in meeting specified performance ratings or requirements shall be submitted when required by the Specifications.
- c) Each drawing or data sheet shall be clearly marked with the name of the project, the Contractor's name, and references to applicable Specification paragraphs and Plan sheets. Submittals containing multiple drawings or data sheets shall be collated prior to submittal for review.
- d) Data sheets, catalog cuts or drawings showing more than the particular item under consideration shall be marked to cross out all but the applicable

information. Submit only pertinent pages; mark each copy of standard printed data to identify pertinent products, referenced to Specification Section and Article number. Show reference standards, performance characteristics, and capacities; wiring and piping diagrams and controls; component parts; finishes; dimensions; and required clearances.

- e) Data submitted shall include drawings showing wiring and/or pipe layouts. Any changes proposed by the Contractor shall be stated in a cover letter and essential details of such changes shall be clearly shown in the data submitted.
- f) Present in a clear and thorough manner. Title each drawing with project name and number; identify each element of drawings by reference to sheet number and detail, schedule, or room number of Contract Documents.
- g) Provide manufacturer's preparation, assembly, and installation instructions.
- h) Submit full range of manufacturer's standard finishes except when more restrictive requirements are specified, indicating colors, textures, and patterns, for Engineer's selection.
- i) Submit samples to illustrate functional characteristics of products, including parts and attachments. Label each sample with identification required for transmittal letter. Approved samples which may be used in the Work are indicated in the Specification section.
- j) Provide field samples of finishes for the Work, at location acceptable to Agency Representative, as required by individual Specifications section. Install each sample complete and finished. Finishes in place that have been accepted by the Agency Representative may be retained in completed work.

Submittals shall be accompanied by a letter of transmittal listing the contents of the submittal. Drawings shall show the name of the project, the name of the Contractor, and, if any, the names of suppliers, manufacturers, and subcontractors. Shop drawings shall be submitted with sufficient time for Agency's review and in orderly sequence in accordance with the progress schedule to cause no delay in prosecution of the Work. Drawings shall be submitted on 11"x17" or 24"x36" sheet sizes only. Any submittal not accompanied by such a transmittal, or where all applicable items on the form are not complete, will be returned for resubmittal.

A separate letter of transmittal shall be used for each specific item or class of materials or equipment for which a submittal is required. Transmittal of shop drawings on various items using a single letter of transmittal will be permitted only when the items taken together constitute a manufacturer's "package" or are so functionally related that expediency indicates review of the group or package as a whole. Submittals transmitted by facsimile will not be accepted.

The Agency will return any submittal sent (1) without a transmittal letter, (2) with an incomplete form, or (3) by facsimile.

The Contractor shall assign a unique sequential number to each submittal package, which shall be clearly written in the space provided on the transmittal letter. This number shall be used in all correspondence to the Agency when referencing to a particular submittal. The Contractor shall be responsible for ensuring the same submittal number is not assigned to different submittal packages.

Resubmittals shall incorporate the original submittal number followed by the revision number (i.e., the first resubmittal of submittal #1 is numbered 1R1, the second 1R2, etc.). The Agency will return improperly numbered submittals without review. The Contractor shall indicate on the transmittal letter that either no exceptions to the Contract Documents are taken or deviations are submitted. All deviations indicated shall be listed on the transmittal letter and the Contractor shall be solely responsible for any omitted deviations. If any deviations are omitted, the Agency will return the submittal and the engineering data without review for resubmittal. Any consequences from the resulting delay shall be fully borne by the Contractor.

The Engineer's review of the Contractor's submittals will cover only general conformity to the Contract Documents. The Engineer's acceptance of drawings returned marked NO EXCEPTION TAKEN or RESUBMITTAL NOT REQUIRED (CORRECTIONS ARE NOTED) shall not constitute a blanket approval of dimensions, qualities, and details of the materials, equipment, device, or item shown, and does not relieve the Contractor from any responsibility for errors, omission or deviations from conforming to the Contract Documents. The Agency reserves the right to subsequently reject any previously accepted equipment, material, and/or construction method that deviates from the Contract Documents. When the drawings and data are returned marked CORRECT AND RESUBMIT, the corrections shall be made as noted thereon and as instructed by the Engineer, resubmittal shall be made in the same manner as the original submittal.

If the Engineer rejects the submittals, the Contractor is responsible for any subsequent time delays at no additional compensation from the Agency. Subject to these requirements, drawings and data, after final processing by the Engineer, shall become a part of the Contract Documents, and the work shown or described thereby shall be performed in conformity therewith unless otherwise required by the Engineer. In the event of conflict between accepted submittals and the other Contract Documents, the most stringent requirements shall apply unless the Agency has agreed in writing to less stringent requirements in response to a deviation listed on a submittal letter of transmittal.

No portion of the work requiring a submittal shall be commenced until the submittal has been reviewed by the Engineer and returned to the Contractor with a notation indicating that resubmittal is not required.

The review by the Engineer is only of general conformance with the design concept of the project, and general compliance with the Contract Documents and shall not be construed as relieving the Contractor of these full responsibilities for providing materials, equipment, and work required by the Contract; the proper fitting and construction of the Work; the accuracy and completeness of the submittals; selecting fabrication processes and techniques of construction; and performing the Work in a safe manner.

2-6 WORK TO BE DONE. *ADD the following after the 1st paragraph:*

The Contractor shall leave the Work area in a neat condition. Any work not shown in the Plans or Specifications but necessary to complete the Work according to law and governmental codes and regulations shall be performed by the Contractor as if in the Plans and Specifications.

The Contractor shall remove and dispose of all structures, debris, or other obstructions of any character necessary to accommodate the Work. Where such obstructions consist of improvements not required by law to be removed by the Agency thereof, all such improvements shall be removed, maintained, and permanently replaced by the Contractor at his expense.

2-8 RIGHT OF WAY. *DELETE the 1st sentence and SUBSTITUTE with the following:*

Rights of way, easements, agreements, licenses, or rights of entry (all referred to as right of way) for the Work have been provided by the Agency. Temporary right-of-way to construct one or more portions of the Work may also have been acquired by the Agency. If temporary right of way was acquired, the documents or their contractual terms and obligations are included in the Contract Documents. The Contractor shall comply with all the terms and obligations related to the physical use of the temporary right of way and its eventual return of the property to the owner. The Contractor shall schedule the Work that may include landscape establishment, maintenance periods, and final acceptance within the temporary right of way to start and finish within the time allotted in each temporary right of way agreement. Should the Work be delayed through no fault of the Agency, the Contractor shall be responsible for all costs incurred by the Agency to extend use of the temporary right of way.

MODIFY to ADD the following:

Work in the public right of way shall be done in accordance with the requirements of the permit issued by the public agency in whose right of way the Work is located in addition to conforming to the Contract Documents. If a permit or traffic control plan is not required, the Work shall conform to the standards set forth in the MUTCD.

The Contractor shall not allow his employees to use private property for any reason or to use water or electricity from such property without providing the City written permission from the owner. The Contractor shall comply with all applicable federal, state and local laws, ordinances, codes, and regulations in performing any work or doing any activity on lands outside the public rights of way.

The Contractor shall hold harmless, indemnify, and defend the Agency, the Agency Representative and each of their officers, employees, and agents from all claims or suits for damages occasioned by such work or activity, whether done according to this section and with permission from the Agency or in violation of this section without permission from the Agency. To the maximum extent permitted by law, all obligations of the Contractor stated in 7-3.2 shall apply in the case of any such claims or suits.

The Contractor shall comply with City of Irvine Municipal Code § 5-9-521 Construction Site and Vacant Property Security, and be fully responsible for locating and obtaining permission to use equipment yards or material storage site(s). The Contractor shall assume full responsibility and costs for property rental, site preparation, maintenance and cleanup in a manner satisfactory to the City and the property owner.

If, through the failure of the Agency to acquire or clear right of way, the Contractor sustains loss which could not have been avoided by the judicious handling of forces, equipment and plant, the Contractor will be paid an amount as the Engineer may find to be a fair and reasonable compensation for such part of the Contractor's actual loss as, in the opinion of the Engineer, was unavoidable, determined as follows:

Compensation for idle time of equipment will be determined in the same manner as determinations are made for equipment used in the performance of extra work paid for as provided in 3-3 with the following exceptions:

- a) The right of way delay factor for each classification of equipment shown in the State of California, Department of Transportation publication entitled "Equipment Rental Rates and Labor Surcharge," current edition at the time of bid opening will be applied to such equipment rental rate.
- b) The time for which such compensation will be paid will be the actual normal working time during which such delay condition exists, but in no case will exceed eight (8) hours in any day.
- c) The days for which compensation will be paid will be the Calendar Days, excluding Saturdays, Sundays, and legal holidays, during the existence of such delay.

Actual loss shall be understood to include no items of expense other than idle time of equipment and necessary payments for idle time of men, cost of extra moving of equipment, and cost of longer hauls. Compensation for idle time of equipment will be determined, as provided herein, and compensation for idle time of men will be determined as provided in 3-3.

If the performance of the Contractor's work is delayed as a result of the failure of the City to acquire or clear right of way, an extension of time determined pursuant to the provisions in 6-6 will be granted.

2-9 SURVEYING.

2-9.2 Survey Service. *DELETE in its entirety and SUBSTITUTE with the following:*

The Contractor shall engage a licensed land surveyor or civil engineer registered in the State of California to perform surveying and calculations required by the Work of this Contract.

Construction stakes shall not be provided for any part of the work and contractor is responsible for constructing all portions of the project and providing any construction surveying made necessary by this contract.

Full Compensation for CONSTRUCTION SURVEYING and for conforming to all of the requirements of Section 2-9 shall be considered as included in other items of work, no separate compensation shall be allowed therefore. Full compensation shall include, but not be limited to, furnishing all labor, materials, tools, equipment, incidentals, filing fees, and for doing all the work as specified in the Standard Specifications and these Special Provisions, and as directed by the City Representative.

ADD:

2-9.5 Conformity with Contract Documents. The Work shall conform to the lines, grades, dimensions, tolerances, and material and equipment requirements shown on the Contract Documents. Although measurement, sampling, and testing may be considered evidence as to such conformity, the Engineer shall be the sole judge as to whether the work or materials deviate from the Contract Documents and his decision as to any allowable deviations therefrom shall be final.

If specific lines, grades, and dimensions are not shown on the Plans, those furnished by the Engineer shall govern.

2-10 AUTHORITY OF BOARD AND ENGINEER. *MODIFY to ADD the following:*

The Contractor is subject to the provisions of Government Code § 8546.7, which provides that this Contract and related documents are subject to the examination and audit of the State Auditor, at the request of the Agency or as part of any audit of the Agency, for a period of three (3) years after final payment under the Contract.

The Agency reserves the right to audit the Contractor's books, records, and documents related to the Contractor's performance and the Contractor's compliance with all of the terms and conditions of this Contract at any time. Upon request by Agency, Contractor shall prepare and submit to Agency any reports concerning Contractor's performance of the services rendered under this Contract. With 72 hours advance written notice delivered to Contractor, Agency shall have access to the books, records, and documents of Contractor related to Contractor's performance of this Contract in the event any audit is requested.

All drawings, documents, and other materials prepared by Contractor in the performance of this Contract:

- a) Shall be the property of Agency and shall be delivered at no cost to Agency upon request of Agency or upon the termination of this Contract, and
- b) Are confidential and shall not be made available to any individual or entity without prior written approval of the Agency.

2-11 INSPECTION. *DELETE in its entirety and SUBSTITUTE with the following:*

Inspection of the Work will be conducted by an Agency Representative and will include monitoring and enforcing compliance of materials, equipment, installations, workmanship, methods, and requirements of the Contract Documents.

The Agency Representative shall, at all times, have safe access to the Work during construction and shall be furnished with every reasonable facility for ascertaining full knowledge respecting the progress, workmanship, and character of materials and equipment used and employed in the Work.

Whenever the Contractor varies the work hours in which inspection is required, the Contractor shall give at least two (2) Working Days written notice to the Agency Representative so that inspection may be made.

All installations which are to be backfilled or otherwise covered will be inspected by the Agency Representative prior to backfilling or covering. The Contractor shall give the Agency Representative a minimum of two (2) days advance notice prior to backfilling or covering any part of the Work.

Work or materials concealed or performed without the prior notice specified above, will be subject to such tests or exposure as may be necessary to prove to the satisfaction of the Engineer, that all materials used and the work done are in strict conformity with the Contract Documents. All labor and equipment necessary for exposing and testing shall be

furnished and paid for by the Contractor. The Contractor shall replace, without additional cost to the Agency, any materials or work damaged by exposure or testing.

Defective work shall be made good at the Contractor's expense including any unsuitable materials and equipment that may have been previously inspected by the Agency Representative, and/or that payment therefore has been included in an estimate for payment.

Inspection of the Work shall not relieve the Contractor of the obligation to fulfill all requirements of the Contract.

All submittals and correspondence between the Agency and the Contractor, related to inspection of the Work of this Contract, shall be directed to the Engineer.

ADD:

2-11.1 Inspection Requirements. The Contractor shall notify the Agency Representative a minimum of 48 hours before inspection is required.

- a) Unless specified elsewhere in the Special Provisions, inspection of the Work will be provided by the Agency between the hours of 7:00 a.m. and 3:30 p.m., Monday through Friday, exclusive of Agency holidays. Any inspections requested by or made necessary as a result of the actions of the Contractor beyond the hours stated above shall be paid for by the Contractor at the prevailing rate of 1-1/2 times the regular hourly wage rate, plus 21% for overhead costs.

The Contractor shall submit a request to the Engineer for approval, a minimum five (5) Calendar Days, in advance of inspections requested by or made necessary as a result of the actions of the Contractor on Saturdays, Sundays or Agency and/or Federal holidays. The Contractor shall pay for these inspections at the prevailing rate of 1-1/2 times for Saturdays and 2 times the regular hourly wage rate for Sundays or Agency and/or Federal holidays plus associated overhead costs.

For purposes of this section, the following holidays are observed by the Agency:

- New Year's Day
- Martin Luther King Jr. Day
- Presidents' Day
- Memorial Day
- Independence Day
- Labor Day
- Veterans Day
- Thanksgiving Day
- Day after Thanksgiving
- Christmas Eve
- Christmas Day

A construction calendar showing the days that each of the above holidays will be observed is available upon request from the Engineer.

- b) The Contractor shall telephone the designated Agency Representative at least two (2) Working Days prior to starting construction or resuming construction following suspension of the Work for any reason.

Prior to commencing any work on the Contract, the Contractor shall submit a completed Inspection Overtime Permit form provided by the City of Irvine.

- c) In addition to any inspection required by Codes and/or Ordinances or Contract Documents, Contractor shall notify the Engineer a minimum of 2 days prior to the permanent concealment of any materials or work. The following list is typical, but not all inclusive of such required inspections:
- 1) Foundation/subgrade material, footing, and slab beds
 - 2) Reinforcing for concrete, masonry, and plaster
 - 3) Contact surface of concrete forms
 - 4) Concrete and masonry surfaces
 - 5) Piping and conduit
 - 6) Finish grade prior to paving, seeding or planting
 - 7) All soil mixes prior to installation
 - 8) All chemicals and amendments prior to installation or application

2-12 SPECIAL NOTICES. *MODIFY to ADD the following:*

Any notice required or given by one party to the other under the Contract shall be in writing and shall be dated and signed by the party giving such notice or by a duly authorized representative of such party. Any such notices shall not be effective for any purpose whatsoever, unless served in the following manner:

- a) If the notice is given to the Agency, by personal delivery or by depositing the same in the United States mail, enclosed in a sealed envelope addressed to the Agency, postage prepaid and registered.
- b) If the notice is given by the Engineer to the Contractor by personal delivery to said Contractor or to his authorized representative or by depositing the same in the United States mail, enclosed in a sealed envelope addressed to said Contractor at his regular place of business or such other address as may have been established for the conduct of the work under this Contract, postage prepaid and registered.
- c) If notice is given to the surety or any other person by personal delivery to said surety or other person, or by depositing the same in the United States mail, enclosed in a sealed envelope addressed to such surety or person at the address of said surety or person last communicated by him to the party giving the notice, postage prepaid and registered.

ADD:

2-13 CORRESPONDENCE. Unless specified otherwise or requested by the Engineer, the use of facsimile (fax) machines or internet email for the transmittal of routine correspondence, including submittals, shall not be allowed. The City will allow the use of fax machines or internet email for urgent matters such as notification of change of conditions. Unless otherwise allowed by the Engineer, all faxes or internet email shall be directed to the Engineer. The fax number and internet email address for the Engineer will be provided at the pre-construction meeting. Faxes or internet email received after 2:00 p.m. shall be considered as being received the following working day. All faxes or internet email shall be followed up with a paper copy that is mailed to

the Engineer on the same day the fax or internet email is forwarded. The Engineer will not accept any illegible faxed or internet email correspondence.

ADD:

2-14 CONTRACT COORDINATION. The Contractor shall coordinate scheduling, submittals, and the Work to assure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items to be installed later.

In addition to weekly progress meetings, as required by the Agency, the Contractor shall hold coordination meetings and pre-installation conferences with Agency Representatives and subcontractors to assure coordination of Work.

Should the Agency exercise partial Acceptance or beneficial occupancy of premises, the Contractor shall coordinate access to site to complete work or to correct defective work and work not in strict conformance with Contract Documents to minimize disruption of Agency's activities.

SECTION 3 - CHANGES IN WORK

REVISE as follows:

3-1 CHANGES REQUESTED BY THE CONTRACTOR.

3-1.1 General. *ADD the following after the 1st paragraph:*

The Contractor may initiate changes by submitting a written Change Order Request to the Engineer containing:

- a) Description of the proposed changes.
- b) Statement of the reason for making the changes.
- c) Reference applicable specifications sections and specific plans in support of the request.
- d) Statement of the effect on the Contract Price and Contract time.
- e) Statement of the effect on the work of separate subcontractors.
- f) Documentation supporting any change in Contract Price or Contract time as appropriate.

3-2 CHANGES INITIATED BY THE AGENCY.

3-2.1 General. *DELETE in its entirety and SUBSTITUTE with the following:*

The Agency may issue a Change Order for modifications of Work including, but not limited to, the Plans, Specifications, character, quantity or time of Work. Change Orders shall be in writing and state the dollar value of the change or establish the method of payment, and any adjustment in the Contract time of completion.

The Engineer may order minor changes in the Work not involving an increase or decrease in the contract amount, nor involving a change in the time for completion, but consistent with the purposes for which the works are being constructed. If the Contractor believes that any order for minor changes in the work involves changes in the Contract Price or time of completion, the Contractor shall not proceed with the minor changes so ordered and shall immediately, upon the receipt of such order, notify the Engineer in writing of his estimate of the changes in the Contract Price and time of completion he believes to be appropriate.

No payment for changes in the Work will be made and no change in the time of completion by reasons of changes in the Work will be made, unless the changes are covered by a written Change Order approved by the Agency in advance of the Contractor's proceeding with the changed work.

Once a Change Order is finalized and executed by both parties, the Contractor waives its right to seek any additional compensation for the work covered by the Change Order or any project impacts. The Contractor agrees that all Change Orders constitutes full payment for the work covered by the Change Orders, including all direct and indirect overhead expenses.

Notwithstanding any other provision in the Contract Documents, the Agency's issuance of a Change Order shall not constitute a waiver by the Agency of, or preclude the Agency in

any way from, asserting any claim with respect to the same, including but not limited to, a claim of breach of contract or claim that the issued Change Order covers work included in the scope of Work set forth in the Contract Documents for which the Contractor was not entitled to any additional funds.

A Change Order is approved when the Agency signs the Change Order.

A Contract Change Order approved by the Engineer may be issued to the Contractor at any time. Should the Contractor disagree with any terms or conditions set forth in an approved Contract Change Order not executed by the Contractor, the Contractor shall proceed with the Change Order work in accordance with 3-5 of the Standard Specifications, and submit a written protest to the Engineer within fifteen (15) days after the receipt of the approved Contract Change Order. The protest shall state the points of disagreement citing the Specification references, quantities, and costs involved. If a written protest is not submitted, payment will be made as set forth in the approved Contract Change Order, and that payment shall constitute full compensation for all work included therein or required thereby. Unprotested approved Contract Change Orders will be considered as executed Contract Change Orders.

The Engineer may initiate changes by submitting a Request for Quotation to Contractor. Such request will include detailed description of the change, products, and location of the change in the Work, supplementary or revised Plans and Specifications. Such request is for information only and is not an instruction to execute the changes, or to stop work in progress.

The Contractor shall support each quotation for a lump-sum proposal, and for each unit price that has not previously been established, with sufficient substantiating data to allow Engineer to evaluate the quotation.

On request, the Contractor shall provide additional data to support time and cost computations, labor required, equipment required, products required, recommended source of purchase and unit cost, and quantities required, taxes, insurance and credit for work deleted from Contract, similarly documented, justification for any change in Contract time.

The Contractor shall support each claim for additional costs, and for work done on a time-and-material/force account basis, with documentation as required for a lump-sum proposal, plus additional information as follows:

- a) Name of the Agency Representative who ordered the work, and date of the order.
- b) Dates and times work was performed, and by whom.
- c) Time record, summary of hours worked, and hourly rates paid.
- d) Receipts and invoices for equipment used, listing dates and times of use, products used, listing of quantities, and subcontracts.

In lieu of a Request for Quotation, the Engineer may issue a written Field Order for the Contractor to proceed with a change for subsequent inclusion in a Contract Change Order. Authorization will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the change and will designate the method of determining any change in the Contract Price and any change in

Contract time. Agency Representative will sign and date the Field Order as authorization for the Contractor to proceed with the changes. Contractor may sign and date the Field Order to indicate agreement with the terms therein. Contractor shall proceed with the work so ordered prior to actual receipt of an approved Contract Change Order.

3-2.2 Contract Unit Prices.

3-2.2.1 General. *ADD the following after the 2nd paragraph:*

In the case of such an increase or decrease in a Major Bid Item, the use of this basis for the adjustment of payment will be limited to that portion of the change, which together with all previous changes to that item, is not in excess of twenty-five percent of the total cost of such item based on the original quantity and Contract Unit Price.

3-2.2.2 Increases of More than 25 Percent. *MODIFY to ADD the following:*

If payment for units of a bid item that exceeds 125 percent of the price shown on the Bid Item List is less than \$5,000 at the unit price, the Engineer may not adjust the unit price unless asked to do so in writing by the Contractor.

3-2.4 Agreed Prices. *ADD the following after the 1st sentence:*

Agreed prices shall be negotiated before commencement of the changed work.

3-3 EXTRA WORK.

3-3.2.1 General. *DELETE in its entirety and SUBSTITUTE with the following:*

When the price for the extra work cannot be agreed upon prior to the commencement of the work, the Agency will pay for the extra work based on the accumulation of costs as provided herein.

3-3.2.2.3 Tool and Equipment Rental. *DELETE in its entirety 2nd paragraph and SUBSTITUTE with the following:*

The rates to be used for determining equipment rental costs shall be those rates listed for such equipment in the State of California, Department of Transportation (Caltrans) publication entitled "Equipment Rental Rates and Labor Surcharge", which is in effect on the date upon which the work is accomplished, regardless of ownership and any rental or other agreement entered into by the Contractor, if such may exist, for the use of such equipment. If it is deemed necessary by the Engineer to use equipment not listed in the said publication, the Engineer will establish a suitable rental rate for such equipment. The Contractor may furnish any cost data, which might assist the Engineer in the establishment of such rental rate. Equipment Rental Rates and Labor Surcharge publication is available from Caltrans at <http://www.dot.ca.gov/hq/construc/equipmnt.html>. Rental time will not be allowed while equipment is inoperative due to breakdowns.

Operators of rented equipment will be paid for as provided in 3-3.

3-3.2.3 Markup.

3-3.2.3.1 Work by Contractor. *DELETE in its entirety and SUBSTITUTE with the following:*

The following percentages will be added to the Contractor's costs as determined under 3-3.2.2 and shall constitute the markup for all overhead, increase in Contractor's bonds, administrative expenses, and profit on work by the Contractor:

- a) Labor 20%
- b) Materials 15%
- c) Equipment Rental 15%
- d) Other Items and Expenditures 15%

3-3.2.3.2 Work by Subcontractor. *DELETE in its entirety and SUBSTITUTE with the following:*

When any part of the extra work is performed by a subcontractor, of any tier, the markup established in 3-3.2.3.1 shall be applied to the subcontractor's actual cost of such work. Contractor markup on subcontractor work shall be limited to five percent.

No payment shall be made for any item not set forth in 3-3.2.3.1 and 3-3.2.3.2, including without limitation, Contractor's overhead, general administrative expense, supervision or damages claimed for delay in prosecuting the remainder of the work.

This provision shall not be construed to preclude the recovery of damages by the Contractor stemming from delay for which the Agency is responsible, which is unreasonable under the circumstances involved, and which was not within the contemplation of the Agency and the Contractor.

3-3.3 Daily Reports by Contractor. *ADD the following after the 1st sentence:*

The Contractor shall notify the Agency Representative at the beginning of each day when extra work is in progress. No payment will be made for work not verified by the Agency Representative.

SECTION 4 - CONTROL OF MATERIALS

REVISE as follows:

4-1 MATERIALS AND WORKMANSHIP.

4-1.1 General. *ADD the following before the 1st sentence in the 1st paragraph:*

The Contractor shall furnish all materials required to complete the Work, except materials that are designated in the Special Provision to be furnished by the Agency.

ADD:

4-1.1.1 Contractor Equipment and Plants. Only equipment and plants suitable to produce the quality of work and materials required will be permitted to operate on the project. Such equipment and plants shall be maintained in a good state of repair during the process of the Work. No obsolete or badly worn equipment and plants shall be used. Manufacturer's ratings shall not be exceeded.

Plants shall be designed and constructed in accordance with general practice for such equipment and shall be of sufficient capacity to ensure a production rate of sufficient material to carry to completion within the time limit(s) specified in the Contract Documents, if any.

The Contractor, when ordered by the Engineer, shall remove unsuitable equipment from the work site and discontinue the operation of unsatisfactory plants and equipment.

ADD:

4-1.1.2 Adoption or Revision Date for Standards, Codes, and Tests. Whenever reference is made to a standard, code, specification, or test and the designation representing the date of adoption or latest revision thereof is omitted, it shall mean the latest revision of such standard, code; specification or test in effect on the day of the Notice Inviting Bids is dated.

In accordance with the Public Contract Code § 3400, the Contractor shall submit data substantiating requests for substitution of "equal" items within thirty-five (35) days of Contract award or before ten percent of the Contract Working Days have expired, whichever is less. This time is included in the number of Working Days allowed for the completion of the Work. The Engineer's decision regarding the acceptability of the substitution is final.

Materials, equipment, and supplies provided shall, without additional charge to Agency, fully conform with all applicable local, State and Federal safety laws, rules, and regulations, and orders, and it shall be the Contractor's responsibility to provide only such materials, equipment, and supplies notwithstanding any omission in the Contract Documents therefore on that particular material, equipment or supply as specified.

4-1.3 Inspection Requirements. *ADD the following before the 1st paragraph:*

Materials to be used in the Work will be subject to inspection and tests by the Engineer. The Contractor shall furnish without charge such samples as may be required. The Contractor shall furnish the Engineer a list of his sources of materials and the locations at which such materials will be available for inspection a minimum of twenty (20) Calendar Days in advance of their intended use. The Engineer may inspect, sample or

test materials at the source of supply or other locations, but such inspection, sampling or testing will not be undertaken until the Engineer is assured by the Contractor of the cooperation and assistance of both the Contractor and the supplier of the material. The Contractor shall assure that the Engineer has free access at all times to the material to be inspected, sampled or tested. It is understood that such inspections and tests, if made at any point other than the point of incorporation in the Work, in no way shall be considered as a guarantee of acceptance of such material nor of continued acceptance of material presumed to be similar to that upon which inspections and tests have been made, and that inspection and testing performed by the Agency shall not relieve the Contractor or his suppliers of responsibility for quality control.

Manufacturers' warranties, guarantees, instruction sheets, and parts lists, which are furnished with certain articles or materials incorporated in the Work, shall be delivered to the Engineer before acceptance of the Contract Work.

Reports and records of inspections made and tests performed when available at the site of the Work, may be examined by the Contractor.

4-1.3.1 General. *MODIFY to ADD the following:*

The Engineer may inspect the production of material, or the manufacture of products at the source of supply. Plant inspection, however, will not be undertaken until the Engineer is assured of the cooperation and assistance of both the Contractor and the material producer. The Engineer shall have free entry at all times to such parts of the plant as concerns the manufacture or production of the materials. Adequate facilities shall be furnished free of charge to make the necessary inspection. The Agency assumes no obligation to inspect materials at the source of supply.

4-1.4 Test of Materials. *MODIFY to ADD the following:*

The Contractor shall furnish the Agency Representative with a list of his sources of materials in sufficient time to permit proper inspection and testing of materials to be furnished for such listed sources in advance of their use. The Contractor shall furnish without charge such samples as may be required.

Inspection and tests will be made by the Agency Representative or his designated representative, but it is understood that such inspections and tests, if made at any point other than the point of incorporation in the work, in no way shall be considered as guarantee of acceptance of such materials nor of continued acceptance of materials, presumed to be similar to that upon which inspection and tests have been made.

Tests of materials will be made in accordance with commonly recognized procedures of technical organizations and such special procedures as prescribed in the Contract Documents. Materials will be sampled and tested at such times during the process of the Work as deemed desirable by the Engineer, the Contractor shall cooperate in obtaining the samples.

ADD:

4-1.4.1 Testing Laboratory. The Contractor shall employ and pay for services of an independent testing laboratory, subject to approval by the Agency, to perform other testing and inspections services required by the Contract Documents.

Prior to start of Work, the Contractor shall submit his testing laboratory name, address, and telephone number, and names of full-time registered engineer and responsible officer.

Employment of testing laboratories will in no way relieve Contractor of its obligation to perform the Work in accordance with Contract Documents.

Laboratory field technicians employed by the Agency shall have no authority to release, revoke, alter, or enlarge on requirements of Contract Documents, or to approve, accept or stop any portion of the Work.

The Contractor shall:

- a) Cooperate with laboratory personnel, provide access to work, arrange access to manufacturer's operations.
- b) Provide the laboratory with preliminary representative samples of materials to be tested, in required quantities.
- c) Furnish copies of mill test reports.
- d) Provide casual labor and facilities for access to work being tested; obtain and handle samples at the site; facilitate inspections and tests; provide facilities for the laboratory's exclusive use for storage and curing of test samples.
- e) Coordinate requests for testing through the Agency Representative. Notify Agency Representative a minimum of three (3) Working Days in advance of operations to allow for assignment of personnel and scheduling of tests.
- f) Pay for additional laboratory inspections, sampling, and testing required for Contractor's convenience and when initial tests indicate that work does not comply with Contract Documents.
- g) When required by the Contract Documents, submit manufacturer's certificate, executed by responsible officer, certifying that the product(s) meet or exceed specified requirements. Provide certification in duplicate.

4-1.6 Trade Names or Equals. *MODIFY to ADD the following:*

The Contractor shall submit products list in accordance with the following:

- a) Within the time specified in 4-1.1.2 of the Standard Specifications and these Special Provisions, transmit number of copies Contractor needs plus four (4) of a list of major products which are proposed for installation, including name of manufacturer. Tabulate products by specification section number, title, and article number.
- b) For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.
- c) The Engineer will reply in writing, stating whether there is reasonable objection to listed items. Failure to object to a listed item shall not constitute a waiver of requirements of Contract Documents.

The following limitations shall apply to substitutions:

- a) During the bidding period, Instructions to Bidders govern times for submitting requests for substitutions under requirements specified in this Subsection.

- b) Requests for substitutions of products will be considered only within the time period specified in the Contract Documents. Subsequent requests will be considered only in the case of product unavailability or other conditions beyond control of Contractor. Material delivery schedules will not be considered justification for substitution.
- c) Substitutions will not be considered when indicated on shop drawings or product data submittals without separate formal request or when requested directly by subcontractor or supplier, or when acceptance will require substantial revision of Contract Documents.
- d) Substitute products shall not be ordered or installed without written acceptance by the Engineer.
- e) Only one request for substitution for each product line will be considered. When substitution is not accepted, provide specified product.
- f) The Engineer will determine acceptability of substitutions.

Requests for substitutions shall conform to the following:

- a) Submit separate request for each substitution. Document each request with complete data substantiating compliance of proposed substitution with requirements of Contract Documents.
- b) Identify product by specifications section and article numbers. Provide manufacturer's name and address, trade name or product, and model or catalog number. List fabricators and suppliers, as appropriate.
- c) Give itemized comparison of proposed substitution with specified product, listing variations, and reference to specifications section and article numbers.
- d) Give cost data comparing proposed substitution with specified product, and amount of net change to Contract sum.
- e) List availability of maintenance services and replacement materials.
- f) State effect of substitution on construction schedule, and changes required in other work or products.

Request for substitution constitutes a representation that Contractor has investigated proposed product and has determined that it is equal to or superior in all respects to specified product. The Contractor shall provide the same warranty for the substitution as for the specified product, shall coordinate installation of accepted substitute, making such changes as may be requested for Work to be complete in all respects, certifies that cost data presented is complete and includes all related costs under this Contract and waives claims for additional costs related to substitution which may later become apparent. The Contractor shall submit the number of copies the Contractor needs plus four of request for substitution. For accepted products, submit shop drawings, product data, and samples, and tests conducted in accordance with 2-5.3.

ADD:

4-1.10 Agency-Furnished Materials. Materials which are listed as Agency-furnished materials in the Special Provisions will be available to the Contractor free of charge.

The Contractor shall submit a written request to the Engineer for the delivery of Agency-furnished material at least fifteen (15) Working Days in advance of the date of its intended use. The request shall state the quantity and the type of each material.

The locations at which Agency-furnished materials will be available to the Contractor free of charge will be designated in the Special Provisions. In those cases, the materials shall be hauled to the site of the Work by the Contractor at the Contractor's expense, including any necessary loading and unloading that may be involved. If the locations are not designated in the Special Provisions, the Agency-furnished materials will be furnished to the Contractor free of charge at the site of the Work. In either case, all costs of handling and placing Agency-furnished material shall be considered as included in the price paid for the contract item involving the Agency-furnished material.

The Contractor shall be responsible for Agency-furnished materials furnished to the Contractor, and shall pay all demurrage and storage charges. Agency-furnished materials, once furnished, delivered, or picked-up by the Contractor, that are lost or damaged from any cause whatsoever shall be replaced by the Contractor at the Contractor's expense. The Contractor shall be liable to the Agency for the cost of replacing Agency-furnished materials, and those costs may be deducted from any monies due or to become due the Contractor. All Agency-furnished material that is not used on the Work shall remain the property of the Agency, and the Contractor shall arrange with the Agency Representative for delivery back to the Agency at Contractor's expense.

SECTION 5 - UTILITIES

REVISE as follows:

ADD:

5-0 GENERAL. For purposes of this Section 5, the terms referenced below are defined as follows:

An “unidentified” underground main or trunk line utility is one that is not indicated at all on the Plans, and a “misidentified” underground main or trunk line utility is one that is not indicated on the Plans with reasonable accuracy (a “misidentification”). An underground main or trunk line utility is indicated on the Plans with reasonable accuracy unless its actual location is substantially and materially different from that indicated on the Plans.

The term “rearrangement” of utilities means the relocation, alteration, reinstallation, and/or reconstruction of utilities (including removal of existing utilities incidental thereto) as necessary in order to accommodate the Work. Whenever in this Section 5 reference is made to any one or more of these rearrangement activities, such reference shall be deemed to include all other such activities as required in order to accommodate the Work.

5-1 LOCATION. *MODIFY to ADD the following:*

A list of utility companies that have facilities located within or near the construction area is included in the Special Provisions. The Engineer has endeavored to determine the existence of utility substructures at the site of the Work by reviewing the records of the owners of known utilities in that vicinity and consulting with those owners, and based on that information has indicated on the Plans those utility substructures (except for service connections) that may affect the Work.

The Contractor acknowledges that the utility information provided on the Plans and Special Provisions has not been verified and may not be accurate or complete. Except as expressly provided in this Section 5, the Contractor may not rely upon such utility information and the City assumes no responsibility for its accuracy or completeness. Changed conditions within the scope of 3-4 do not include utilities.

The Contractor shall determine the exact location (both horizontal and vertical), type, and size of all existing utilities, including service connections, prior to commencing work which could result in damage to such utilities or could otherwise affect or be affected by such utilities or interfere with the service they provide. Where underground main distribution conduits such as water, gas, sewer, electric power, telephone or cable television are shown on the Plans, the Contractor shall assume that every adjacent property parcel will be served by a service connection for each type of utility shown. The Contractor shall do such investigation, research, surveys, and potholing as the Contractor deems necessary to make such determinations. The Contractor shall immediately notify the Engineer as to any utility discovered by it which is in a different position than indicated on the Plans or is not indicated at all on the Plans.

The Contractor's cost of locating any unidentified or misidentified underground main or trunk line utility will be paid for as an addition to the Work in accordance with Section 3; provided, however, that the Contractor will not be entitled to such additional compensation if the existence and location (with reasonable accuracy) of such utility was (or should have been) known to the Contractor as of the date on which the Bids were due or could

otherwise have been inferred at that time from the presence of visible facilities such as buildings, meters, junction boxes or identifying markers. The cost of locating all other utilities shall be considered as included in prices in the Bid for other items of the Work.

The information regarding underground and internal utilities and appurtenances which the Contractor is required to record in the Record Documents as specified in 7-16 shall include (but not be limited to) the accurate locations of underground utilities determined pursuant to this 5-1 and remaining in place, as well as utilities rearranged by either the Contractor or the utility owners.

At least two (2) Working Days prior to commencing any excavation, the Contractor shall contact the regional notification center (Underground Service Alert of Southern California [USA] at 1-800-422-4133) to obtain an inquiry identification number. The Contractor shall comply in all respects with California Government Code § 4216 *et seq.*

Caltrans is not required by Section 4216 *et seq.* to become a member of the regional notification center. The Contractor shall contact Caltrans for the location of its subsurface installations. In addition, the Contractor shall be aware that non-pressurized sewer lines, non-pressurized storm drains, and other non-pressurized drain lines are not required by § 4216 *et seq.* to be marked by the respective owners. The Contractor shall contact those utility owners as necessary to locate their subsurface installations.

The Contractor shall request the City of Irvine Traffic Operations Division at 949-724-7649 to locate any existing traffic signal conductors and interconnect within the construction area before performing Work that may affect or be affected by the existing facilities.

Except as expressly provided in this Section 5 with respect to unidentified or misidentified underground main or trunk line utilities, the failure of any utility company to accurately mark its facilities shall not be justification for a time extension or for additional compensation from the City.

The Contractor shall obtain photographs of all markings made by its forces as well as all USA markings. All such photographs shall show the subject markings in relation to one or more identifiable landmarks that will remain in place after completion of the Work and completion of any utility removal and/or rearrangement work in the vicinity.

The right is reserved to governmental agencies and to the owner of utilities to enter at any time upon any street, alley, right of way, or easement for the purpose of maintaining and making repairs to their property.

5-1.2 Payment. *DELETE in its entirety and SUBSTITUTE with the following:*

Payment for utility location by the Contractor shall be included in the various items of work and no additional compensation will be allowed therefor.

5-2 PROTECTION. *DELETE in its entirety and SUBSTITUTE with the following:*

The Contractor shall not interrupt the service function or disturb the support of any utility without authority from the utility owner or direction from the Engineer. Valves, switches, vaults, and meters shall be maintained readily accessible for emergency shutoff.

Where protection is required to ensure support of utilities potentially impacted by the Work, the Contractor shall, unless otherwise specified on the Plans or in the Special Provisions, furnish and place the necessary protection and support.

Any additional cost incurred by the Contractor for protecting and supporting an unidentified underground main or trunk line utility or resulting from the misidentification of an underground main or trunk line utility will be paid for as an addition to the Work in accordance with Section 3, unless such utility's existence and location (with reasonable accuracy) was (or should have been) known to the Contractor as of the date on which the Bids were due or could otherwise have been inferred at that time from the presence of visible facilities such as buildings, meters, junction boxes or identifying markers. The cost of protecting and supporting all other utilities shall be considered as included in prices in the Bid for other items of the Work.

The Contractor shall immediately notify the Engineer and the utility owner if any utility is disturbed or damaged in the course of the Work. The Contractor shall, if directed by the Engineer, restore, repair or replace any such disturbed or damaged utility.

For any unidentified or misidentified underground main or trunk line utility that is disturbed or damaged in the course of the Work, the cost of restoration, repair or replacement incurred by the Contractor, if not made necessary by the Contractor's failure to perform its obligations pursuant to the Contract Documents (including without limitation Section 5-1) or to otherwise exercise reasonable care, will be paid for as an addition to the Work in accordance with Section 3. Except where additional compensation is allowed pursuant to this paragraph, all utilities disturbed or damaged in the course of the Work shall be restored, repaired or replaced at the Contractor's cost and expense, either by the utility owner or by the Contractor.

To the maximum extent permitted by law, all obligations of the Contractor stated in 7-3.2 shall apply in the case of any claims or liabilities (as defined therein) that may be asserted or claimed by any person or entity arising out of any disturbance or damage to utilities caused by the act or omission of the Contractor, whether or not such utilities are accurately marked either on the Plans or by the utility owner in the field, and whether or not there is concurrent active or passive negligence on the part of City and/or City Personnel, but excluding any such claims or liabilities arising from the sole active negligence or willful misconduct of City or City Personnel. All claims and liabilities for which the Contractor is responsible pursuant to this paragraph are sometimes referred to herein as "Utility Damage Claims."

When placing concrete around or contiguous to any non-metallic utility installation, the Contractor shall at its expense:

- a) Furnish and install a 2-inch (50 mm) cushion of expansion joint material or other similar resilient material; or
- b) Provide a sleeve or other opening which will result in a 2-inch (50 mm) minimum-clear annular space between the concrete and the utility; or
- c) Provide other acceptable means to prevent embedment in or bonding to the concrete.

Where concrete is used for backfill or for a structure which would result in embedment, or partial embedment, of a metallic utility installation; or where the coating, bedding or other cathodic protection system is exposed or damaged by the Contractor's operations, the Contractor shall notify the Engineer, shall arrange to secure the advice of the affected utility owner regarding the procedures required to maintain or restore the integrity of the system, and shall implement such procedures at the Contractor's expense.

5-4 RELOCATION. *DELETE in their entirety 2nd and 3rd paragraphs and SUBSTITUTE with the following:*

If utilities are found to interfere with the Work after award of the Contract, such utilities will be rearranged by the respective utility owners, or the Engineer may order the Contractor to perform such rearrangement, as an addition to the Work in accordance with Section 3. Alternatively, the Engineer may order changes in the Work to avoid such interference, in accordance with Section 3. All work by the Contractor on utilities shall be done to the reasonable satisfaction of the utility owner as well as complying with the requirements of the Contract Documents.

When the Plans or Special Provisions provide for the Contractor to rearrange a utility as part of the Work, all costs for such work shall be considered included in the Bid for the items of work necessitating such work. However, if an underground main or trunk line utility to be rearranged by the Contractor is misidentified in the Plans, any additional cost incurred by the Contractor for such work resulting from the misidentification shall be treated as an addition to the Work in accordance with Section 3, unless the utility's location (with reasonable accuracy) was (or should have been) known to the Contractor as of the date on which the Bids were due or could otherwise have been inferred at that time from the presence of visible facilities such as buildings, meters, junction boxes or identifying markers. Except as provided in this paragraph, the Contractor shall not be entitled to any additional compensation on account of inaccuracies in the Plans with respect to rearrangements of utilities that are included in the Work.

Temporary or permanent rearrangement of utilities requested by the Contractor for its convenience shall be its responsibility and the Contractor shall make all arrangements necessary for such work and bear all related costs. The Contractor shall not be entitled to any additional compensation on account of any such utilities or work.

ADD the following at the beginning of the last paragraph:

The provisions of this paragraph are subject to the provisions of the previous paragraph. Where the Plans or Special Provisions provide for the Contractor to rearrange any service connections, such work is considered included in the Bid for the items of work necessitating such work.

5-5 DELAYS. *DELETE in its entirety and SUBSTITUTE with the following:*

The construction schedule developed in accordance with 6-1 shall allow adequate time for the necessary protection, removal, and rearrangement of utilities by either the utility owner or the Contractor, as applicable. For work to be performed by a utility owner, the construction schedule shall allow for the time period required by the utility owner for such work. The Contractor shall notify the Engineer in writing of any subsequent changes in the construction schedule which will affect the time available for protection, removal, or rearrangement of utilities, and shall obtain the Engineer's approval of such changes.

The Contractor will not be entitled to any extensions of the Contract time or compensation for damages incurred due to delays attributable to utilities at the site of the Work except as otherwise provided in 6-6.1 or as provided below. Delays described below will not be considered delays for which the City is responsible within the meaning of 6-6.3.

- a) Subject to 6-6.2 and 6-6.4, the Contractor shall be entitled to an extension of the Contract time to the extent that any delay in the Work is directly attributable to an unidentified underground main or trunk line utility or the misidentification of an underground main or trunk line utility in the Plans, unless the utility's location (with reasonable accuracy) was (or should have been) known to the Contractor as of the date on which the Bids were due or could otherwise have been inferred at that time from the presence of visible facilities such as buildings, meters, junction boxes or identifying markers. If the Contractor is entitled to such a time extension, the Contractor also shall be entitled to compensation for idle time of equipment on account of such delay, determined by the Engineer in the same manner as determinations are made for equipment used in the performance of Extra Work in accordance with Section 3. The Contractor shall not be entitled to any other compensation or damages on account of such delay.
- b) The Contractor may be given an extension of time (but no additional compensation) for unforeseen delays attributable to failure of a utility owner to complete utility rearrangement work within the time period reasonably scheduled for such work in the construction schedule, or to timely complete utility rearrangement work which the Contract Documents indicate will be completed in advance of the Contractor's construction operations.

The Contractor shall not be entitled to any time extension or additional compensation for any delays or losses described in 5-5: (a) to the extent resulting from the Contractor's actions or omissions or which could have been avoided by any reasonable means, such as the judicious handling of forces, equipment or plant, or (b) arising in connection with utilities being rearranged for the Contractor's convenience. The determination of what damages the Contractor could have avoided will be made by the Engineer.

The Contractor shall immediately notify the Engineer of any delays to the Contractor's operations described in 5-5. Delays described in 5-5 are not considered right of way delays within the scope of 2-8.

ADD:

5-7 CONTRACTOR RESPONSIBILITIES.

The Contractor shall:

- a) Cooperate with utility personnel; provide access to work site.
- b) Coordinate Work of the Contract with affected utilities. All USA markings shall be removed after completion of the work for which the markings were provided, and before Agency's Acceptance and/or approval of the Work.
- c) Asphalt concrete pavement not overlaid or slurry sealed as part of the project bid items which is damaged by trenching, potholing or where the contractor otherwise damages pavement shall be slurry sealed after the pavement section is repaired. "Perpendicular" street cuts shall be slurry sealed ten (10) feet each side of the cut and for "longitudinal" cuts shall be slurry sealed from pavement lane to pavement lane line for the entire damaged area or as directed by the

Agency Representative. Type I slurry shall be used on non-arterial streets and Type II slurry shall be used on arterial streets. Damaged traffic striping, legends and markers shall also be replaced if damaged. "Patchwork" application of slurry shall be avoided by joining closely grouped areas of slurry applications. Compensation for this requirement shall be considered as included in the prices paid for the related items of work and no additional compensation will be allowed therefor.

ADD:

5-8 PERMANENT UTILITIES. Contractor shall contact and make all arrangements with utility owners and coordinate all provisions for installation and connection of all permanent utilities that are necessary for the Work, such as, but not limited to, natural gas, electricity, water, sewer, and telephone. All costs for such installation and connection, as well as costs for operating permanent utilities prior to acceptance of the Work by the Agency, shall be considered as included in the prices in the Bid for the related items of work.

SECTION 6 - PROSECUTION, PROGRESS AND ACCEPTANCE OF THE WORK

REVISE as follows:

6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF WORK. *DELETE in its entirety and SUBSTITUTE with the following:*

The Contractor shall begin the Work on or before the date stipulated in the Notice to Proceed and shall diligently prosecute the Contract to completion within the time limit provided in the Contract.

The Contractor shall notify the Engineer of his intent to begin work at least two (2) Working Days prior to the start of any work.

The Contractor may, upon written approval from the Agency, begin work in advance of the date in the Notice to Proceed; however, no work shall be started in advance of the complete execution of the Contract and acceptance of the Contractor's construction schedule by the Agency. The Agency may, but shall not be required to, provide access to the site prior to the date specified in the Notice to Proceed.

Unless specified elsewhere in these Special Provisions, within ten (10) days after execution of the Contract, the Contractor shall deliver to the Agency Representative a construction progress schedule employing the critical path method, in a form satisfactory to the Engineer, showing the proposed dates of commencement and completion of each item of the Work and the anticipated amount of each monthly payment that will become due the Contractor in accordance with the progress schedule.

The schedule format shall be as follows:

- a) Prepare schedules as horizontal bar chart with separate bar for each portion of work or operation in accordance with approved schedule of values, identifying first workday of each week. Allow space for updating.
- b) Sequence of Listings: Chronological order of the start of each item of work.
- c) Sheet Size: Multiple of 8-1/2 x 11 inches.
- d) Provide a two week look-ahead schedules (updated weekly).

The content of the schedules shall:

- a) Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction. Include any special sequencing specified in the Contract Documents.
- b) Show lane closures notifications and lane closure dates.
- c) Provide sub-schedules to define major and significant portions of entire schedule.
- d) Show accumulated percentage of completion of each item, and total percentage of Work completed as of first day of each month.
- e) Provide separate schedule of dates for product procurement and delivery dates, shop drawing submittals, and equipment installation. Show decision dates for selection of finishes, if applicable.

- f) Show delivery dates for Agency-furnished products, if applicable.
- g) Show the critical path.

Revisions to schedules shall:

- a) Indicate progress of each activity to date of submittal, and projected completion date of each activity.
- b) Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.
- c) Provide written report to define any problem areas, anticipated delays, and impact on schedule. Report corrective action taken, or proposed, and its effect.
- d) Revise periodically as directed by the Agency Representative. Failure to comply with directive will be considered as grounds to delay progress payment.
- e) Show the revised critical path.

Required submittals:

- a) Submit initial schedules within ten (10) days after execution of the Contract. If requested, resubmit required revisions within seven (7) days of request.
- b) Submit an update schedule on or before the first day of each month, beginning one month after the initial schedule as outlined in (a) above. If requested, resubmit required revisions within seven (7) days of request.
- c) Submit four (4) copies of schedules to Agency Representative.
- d) Submit under transmittal letter.

Contractor shall:

- a) Distribute copies of current schedules to job site file subcontractors, suppliers, and other concerned parties.
- b) Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

Payment for conforming to these requirements shall be included in the various items of work and no additional compensation will be allowed therefor.

6-2 PROSECUTION OF THE WORK.

ADD:

6-2.1 Time of Completion and Forfeiture Due to Delay. The Contractor shall complete the Work called for under the Contract within the time set forth in the Special Provisions.

In accordance with Government Code § 53069.85, Contractor agrees to forfeit and pay to the Agency the amount per day set forth in the Contract for each and every day of delay which shall be deducted from any payments due or to become due the Contractor.

The Agency has endeavored to identify all areas of the site which may contain hazardous waste, as defined by Health and Safety Code § 25117, and unless otherwise

noted said hazardous waste in these areas has been mitigated. However, the parties expressly acknowledge the possibility of the existence of further hazardous waste not previously identified. If, during the course of his work, the Contractor encounters any such hazardous waste, he shall promptly notify the Agency through its designated representative. If the material is indeed "hazardous waste" pursuant to Health and Safety Code § 25117, the Agency has the option to have the mitigation work performed by the Contractor or by a separate contract from the work being performed. If the Contractor performs said mitigation work, the cost will be paid for as an addition to the work in accordance with Section 3. To the maximum extent permitted by law, the Agency shall not be liable for any damages beyond an appropriate time extension for delays occasioned by the existence of hazardous waste conditions contemplated herein.

No forfeiture due to delay shall be made because of any delays in the completion of the work due to unforeseeable causes beyond the control and without the fault or negligence of the Contractor (including but not restricted to acts of nature or of the public enemy, acts of the government, acts of the Agency, or acts of another contractor in the performance of a contract with the Agency, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather). Any such delays, except for acts of the Agency, shall not entitle the Contractor to any additional compensation. The sole remedy of the Contractor shall be an extension of time obtained in accordance with this section.

The Contractor shall, within ten (10) Calendar Days from the beginning of any such delay, notify the Agency Representative in writing of the cause of delay, whereupon the Agency Representative will ascertain the facts and extent of the delay and extend the time for completing the Work if, in his judgment, the findings of the fact justify such an extension, and the Agency Representative's findings of facts thereon shall be final and conclusive.

ADD:

6-2.2 Order of Work Requirements. When required by these Special Provisions or the Plans, the Contractor shall follow the sequence of operations and restrictions as set forth therein.

The Work shall be performed in conformance with the staging of construction shown on the Plans and indicated below. Subject to approval by the Engineer, non-conflicting work in subsequent stages may proceed concurrently with work in preceding stages, provided satisfactory progress is maintained in the preceding stages of construction. The Engineer's approval of any Contractor-requested modifications to the order of work or staging of the work shall not be grounds for a Change Order request or time extension request by the Contractor. If the Contractor deviates from the specified order of work or the staging plans, it does so at its own risk and shall assume all time impacts and cost associated with such deviations.

The order of work described below is not intended to include all work items necessary to complete a particular construction stage and serves to only summarize the order of major work items.

- a) Provide a new Southern California Electrical service @ 600A, 480V, Phase 3 4 wire to include an outdoor type pad mounted transformer and an outdoor type

SCE metered pad mounted distribution board and transformer

- b) Provide SCE primary conduit as directed by SCE
- c) Provide parking lot and paving landscape saw cutting and trenching for underground distribution for new electrical service and electric vehicle charging stations. Patch and repair to match existing conditions
- d) Provide and install four (4) electric vehicle charging stations, dual port level 2 type, and two (2) DC fast charging stations
- e) Provide future conduit stub-ups for future EV charging stations
- f) Provide one ADA accessible level 2, dual port EV charging station, modifying landscaping and connecting ramps as necessary

6-3 SUSPENSION OF THE WORK.

6-3.1 General. *DELETE in its entirety and SUBSTITUTE with the following:*

The Engineer shall have the authority to suspend the Work wholly or in part, for any time period as the Engineer deems necessary in the interest of Agency, for Agency's convenience, or due to the failure on the part of the Contractor to carry out orders given, or to perform any provision of the Contract. The Contractor shall immediately comply with the written order of the Engineer to suspend the Work wholly or in part. The suspended work shall be resumed as ordered or approved in writing by the Engineer.

Resumption of work shall be predicated on receipt of the following from the Contractor:

- a) A revised schedule showing each task yet to be accomplished and the time line to accomplish each – until final completion.
- b) The work force projections attached to each task listed per workweek.
- c) The cost expenditures attached to each task summarized per each workweek.
- d) Lien releases from each subcontractor, supplier, and vendor to which the Contractor has requested materials, equipment or any other service recognizing the payments received.
- e) An Income and Expense Statement projecting how the Contractor will finance the remainder of the project.

Such suspension shall be without liability to the Contractor on the part of the Agency except as otherwise specified in 6-6.3. For purposes of 6-6.3, delays resulting from suspensions ordered by the Engineer due to the failure on the part of the Contractor to carry out orders given, or to perform any provision of the Contract, shall not be delays for which the Agency is responsible.

In the event that a suspension of Work is ordered as provided above, the Contractor, at the Contractor's expense, shall do all the work necessary to provide a safe, smooth, and unobstructed passageway through construction for use by public traffic during the period of that suspension as provided in 7-10, and as specified in these Special Provisions. In the event that the Contractor fails to perform the work above specified, the Agency will perform that work and, if the suspension is due to Contractor's failure to carry out orders given or to perform any provision of the Contract, the cost thereof will be deducted from monies due or to become due the Contractor.

If a suspension of work is ordered by the Engineer, in accordance with this subsection, the days on which the suspension order is in effect shall be considered working days if those days are working days within the meaning of the definition set forth in 6-7.2.

The suspension of Work shall not relieve the Contractor of the responsibilities as set forth in the Contract Documents.

6-4 TERMINATION OF THE CONTRACT FOR DEFAULT. *ADD the following:*

In the event this Contract is terminated for grounds which are later determined not to justify a termination for breach, such termination shall be deemed to constitute a Termination of the Contract for Convenience pursuant to 6-5.

6-5 TERMINATION OF THE CONTRACT FOR CONVENIENCE. *DELETE in its entirety and SUBSTITUTE with the following:*

The Agency reserves the right to terminate the Contract at any time upon a determination by the Engineer that termination of the Contract is in the best interest of the Agency.

If the Agency elects to terminate the Contract, the termination of the Contract and the total compensation payable to the Contractor shall be governed by the following:

- a) The Engineer will issue the Contractor a signed written notice, specifying that the Contract is to be terminated. Upon termination of the Contract, the Contractor will be relieved of further responsibility for damage to the Work (excluding materials) as specified in 4-1.2 of the Standard Specifications, 7-16 of these Special Provisions and, except as otherwise directed in writing by the Engineer, the Contractor shall:
 - 1) Stop all work under the Contract except that specifically directed to be completed prior to Acceptance.
 - 2) Perform work the Engineer deems necessary to secure the project for termination.
 - 3) Remove equipment and plant from the site of the Work.
 - 4) Take action that is necessary to protect materials from damage.
 - 5) Notify all subcontractors and suppliers that the Contract is being terminated and that their contracts or orders are not to be further performed unless otherwise authorized in writing by the Engineer.
 - 6) Provide the Engineer with an inventory list of all materials previously produced, purchased or ordered from suppliers for use in the Work and not yet used in the Work, including its storage location, and such other information as the Engineer may request.
 - 7) Dispose of materials not yet used in the Work as directed by the Engineer. It shall be the Contractor's responsibility to provide the Agency with good title to all materials purchased by the Agency hereunder, including materials for which partial payment has been made as provided in 9-3.2 and with bills of sale or other documents of title for those materials.
 - 8) Subject to the prior written approval of the Engineer, settle all outstanding liabilities and all claims arising out of subcontracts or orders for materials

terminated hereunder. To the extent directed by the Engineer, the Contractor shall assign to the Agency all the right, title, and interest of the Contractor under subcontracts or orders for materials terminated hereunder.

- 9) Furnish the Engineer with the documentation required to be furnished by the Contractor under the provisions of the Contract including, on projects as to which Federal funds are involved, all documentation required under the Federal requirements included in the Contract.
 - 10) Take other actions directed by the Engineer.
- b) Acceptance of the contract as hereinafter specified shall not relieve the Contractor of responsibility for damage to materials. The Contractor shall continue to be responsible for damage to materials after issuance of the Notice of Termination, except as follows:
- 1) The Contractor's responsibility for damage to materials for which partial payment has been made as provided in 9-3.2 and for materials furnished by the Agency for use in the Work and unused shall terminate when the Engineer certifies that those materials have been stored in the manner and at the locations the Engineer has directed.
 - 2) The Contractor's responsibility for damage to materials purchased by the Agency subsequent to the issuance of the notice that the Contract is to be terminated shall terminate when title and delivery of those materials has been taken by the Agency.

When the Engineer determines that the Contractor has completed the Work under the Contract directed to be completed prior to termination and such other work as may have been ordered to secure the project for termination, the Engineer will formally accept the Contract, and immediately upon and after the acceptance by the Engineer, the Contractor will not be required to perform any further work thereon.

- c) Termination of the Contract shall not relieve the surety of its obligation for any just claims arising out of the work performed.
- d) Where Agency terminates the Contract for Agency's convenience and not due to the fault of Contractor, the total compensation to be paid to the Contractor shall be determined by the Engineer based on the following:
 - 1) The reasonable cost to the Contractor, without profit, for all work performed under the contract, including mobilization, demobilization, and work done to secure the project for termination. In determining the reasonable cost, deductions will be made for the cost of materials to be retained by the Contractor, amounts realized by the sale of materials, and for other appropriate credits against the cost of the work. When, in the opinion of the Engineer, the cost of a contract item of work is excessively high due to costs incurred to remedy or replace defective or rejected work, the reasonable cost to be allowed will be the estimated reasonable cost of performing that work in compliance with the requirements of the Plans and Specifications and the excessive actual cost shall be disallowed.
 - 2) A reasonable allowance for profit on the cost of the work performed as determined under part (1) above, provided the Contractor establishes to

the satisfaction of the Engineer that it is reasonably probable that the Contractor would have made a profit had the Contract been completed and provided further, that the profit allowed shall in no event exceed 4 percent of the cost.

- 3) The reasonable cost to the Contractor of handling material returned to the vendor, delivered to the Agency or otherwise disposed of as directed by the Engineer.
- 4) A reasonable allowance for the Contractor's administrative costs in determining the amount payable due to termination of the Contract.

All records of the Contractor and the Contractor's subcontractors, necessary to determine compensation in conformance with the provisions in this Section 6-5, shall be open to inspection or audit by representatives of the Agency at all times after issuance of the notice that the Contract is to be terminated and for a period of 3 years, thereafter, and those records shall be retained for that period.

After acceptance of the Work by the Agency, the Engineer may make payments on the basis of interim estimates pending issuance of the final estimate in conformance with the provisions in 9-3.2 and 9-4, when, in the Engineer's opinion, the amount thus paid, together with all amounts previously paid or allowed, will not result in total compensation in excess of that to which the Contractor will be entitled. All payments, including payment upon the final estimate shall be subject to deduction for prior payments and amounts, if any, to be kept or retained under the provisions of the Contract.

THE PROVISIONS IN THIS SECTION 6-5 SHALL BE PHYSICALLY INCLUDED IN ALL SUBCONTRACTS.

6-6.2 Extension of Time. *DELETE in its entirety and SUBSTITUTE with the following:*

The Agency may extend the time fixed for completion of the Work under the Contract from time to time. All applications for extensions of time shall be in writing and shall be filed with the Agency before the expiration of the original time fixed in the Contract or as previously extended.

An extension of time may be granted by the Agency after the expiration of the time originally fixed in the Contract or as previously extended, and the extension so granted shall be deemed to commence and be effective from the date of such expiration. Any extension of time shall not release the sureties upon any bond required under the Contract nor effect forfeitures due to delay.

No extension of time will be granted for delays that are not on the critical path.

6-8.1 Completion. *DELETE in its entirety and SUBSTITUTE with the following:*

When the Contractor considers the Work, or a designated portion of Work, if specified in the Contract Documents, is complete, the Contractor shall submit a written request to the Engineer for inspection. By submittal of such request, Contractor certifies that:

- a) Contract Documents have been reviewed by the Contractor.
- b) Work has been completed in accordance with Contract Documents and is ready for inspection.

- c) Equipment and systems have been tested, adjusted/balanced and are fully operational.

The Contractor shall submit the request a minimum of five (5) Working Days in advance of requested inspection date. Contractor shall be responsible for allowing sufficient time during the Contract period to complete inspections and make any corrections. Each day beyond the time prescribed to complete the Contract will be subject to assessment of liquidated damages in accordance with 6-9.

Should Agency Representative's inspection find Work incomplete, Agency Representative will notify the Contractor in writing, listing observed deficiencies. The Contractor shall remedy listed deficiencies immediately and send a request for final inspection. Failure of the Contractor to remedy deficiencies may, at the Agency's option, result in reinspection(s) of the work to identify additional deficiencies, if any. Agency's costs associated with reinspection(s) are subject to provisions of 6-8.2.

When the Agency confirms Work is complete and, closeout submittals, as referred to in 6-8.3 have been provided, Agency Representative will notify Contractor of date of completion on the Weekly Statement of Working Days.

ADD:

6-8.4 Reinspections. Should status of completion of Work require reinspection(s) by Agency due to failure of the Contractor to make corrections on initial inspection, Agency may deduct the amount of compensation for reinspection services from final payment to Contractor. Observed deficiencies in excess of ten (10) will be reason for reinspection.

Inspections initiated at the request of the Agency will not be subject to provisions of this Subsection.

ADD:

6-8.5 Closeout Submittals.

Contractor shall submit:

- a) Project Record Documents clearly marked with all changes to Plans within thirty (30) Calendar Days of Final Acceptance
- b) Operation and Maintenance Data
- c) Warranties and Bonds
- d) Spare Parts and Maintenance Materials, as specified
- e) Evidence of Payment and Release of Stop Payment Notices
- f) Other data and materials as may be required in the Contract Documents

6-9 LIQUIDATED DAMAGES. *DELETE in its entirety and SUBSTITUTE with the following:*

Liquidated damages shall be as specified in the Contract.

SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR

REVISE as follows:

7-1 THE CONTRACTOR'S EQUIPMENT AND FACILITIES.

7-1.1 General. *MODIFY to ADD the following:*

The Contractor shall render its machinery and equipment inoperable at all times except during actual construction. The Contractor shall be responsible for construction means, controls, techniques, sequences, procedures, and construction safety.

ADD:

7-1.1.1 Equipment. Contractor shall stencil or stamp at a clearly visible location on each piece of equipment, except hand tools, an identifying number and:

- a) On compacting equipment, its make, model number, and empty gross weight that is either the manufacturer's rated weight or the scale weight.
- b) On meters and on the load-receiving element and indicators of each scale, the make, model, serial number, and manufacturer's rated capacity.

The Contractor shall submit a list describing each piece of equipment and its identifying number before commencement of the Work.

Upon request, the Contractor shall submit manufacturer's information that designates portable vehicle scale capacities.

The Contractor's measuring devices shall be tested and approved under California Test 109 in the Agency's presence or by any of the following:

- a) County Sealer of Weights and Measures
- b) Certified Scale Service Agency
- c) Division of Measurement Standards Official

7-1.2 Temporary Utility Services. *DELETE in its entirety and SUBSTITUTE with the following:*

The Contractor shall, at its own expense, make all arrangements to furnish, install and maintain temporary water, electricity, telephone, and sanitary facilities for construction needs throughout construction period. Materials may be new or used, but must be adequate for the purposes intended, and must not violate requirements of applicable codes, specifications or standards.

The Contractor shall maintain systems to provide continuous services, modify, and extend services, as work progress requires. The Contractor shall completely remove temporary materials and equipment when construction needs can be met by use of permanent utility facilities.

The Contractor shall clean and repair damage caused by installation or use of temporary facilities, restore existing facilities used for temporary services to original or better condition, and restore permanent facilities used for temporary services to original condition.

For water, the Contractor shall:

- a) Provide adequate supply of water suitable for construction usage and needs.

Water Source: Irvine Ranch Water District (IRWD)

- a) Obtain meter, inspections, and approvals prior to use of existing system.
- b) Comply with IRWD requirements.

Conservation:

- a) Minimize water use whenever possible.
- b) Maintain watering equipment in good working order.
- c) Repair leaks promptly.

When necessary to maintain pressure, provide temporary pumps, tanks, and compressors.

For electricity, the Contractor shall:

- a) Provide portable power plants and/or connection to existing system for construction needs.
- b) Source of existing power: Southern California Edison Company (SCE). Prior to connecting to existing system:
 - 1) Obtain permit from City of Irvine, Community Development Department for installation of temporary power pole and/or system.
 - 2) Arrange for required inspections and coordinate temporary meter installation with City and SCE.

For sanitary facilities, the Contractor shall:

- a) Furnish and maintain portable toilet units in a clean, operable, and sanitary condition for use by construction personnel.
- b) Place units in conformance with applicable laws, codes, and regulations.

Pay all fees and charges for applications, non-City permits and inspections, installations, temporary meters, utility usage, service charges, maintenance, removals, and restoration.

Contractor shall use standard products of service companies. At Contractor's option with prior approval by the Agency, patented specialty devices may be used, when in compliance with applicable codes and service company requirements.

7-2.3 Payroll Records. *MODIFY to ADD the following:*

The Contractor and all its subcontractors shall submit to the City and the Labor Commissioner (Division of Labor Standards Enforcement) certified payroll records every Friday until Notice of Completion is filed and recorded.

7-3 INSURANCE. *MODIFY to ADD the following:*

7-3.1 General. Without limiting Contractor's indemnification obligations, the Contractor shall not commence work until he procures and maintains, at his sole cost and for the duration of this Contract, insurance coverage as provided herein, against all claims for injuries against persons or damages to property which may arise from or in connection

with the performance of the Work hereunder by Contractor, its agents, representatives, employees, and/or subcontractors. In the event that Contractor subcontracts any portion of the Work in compliance with 2-3 of the Standard Specifications and Special Provisions, the Contract between the Contractor and such subcontractor shall require the subcontractor to maintain the same policies of insurance that the Contractor is required to maintain pursuant to 7-3.

The Insurance obligations under this agreement shall be (1) all the Insurance coverage and/or limits carried by or available to the Contractor; or (2) the minimum Insurance coverage requirements and/or limits shown in this agreement; whichever is greater. Any insurance proceeds in excess of or broader than the minimum required coverage and/or minimum required limits, which are applicable to a given loss, shall be available to the City. No representation is made that the minimum Insurance requirements of this agreement are sufficient to cover the obligations of the Contractor under this agreement.

Insurance policies shall be deemed not in compliance if they include any limiting provision or endorsement that has not been submitted for approval in accordance with 7-3.

The Contractor's insurance shall be "occurrence" rather than "claims made" insurance, except for Professional Liability insurance, which may be for claims made and shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

Any deductibles or self-insured retentions must be declared to and approved by Agency prior to the execution of this Contract by Agency. Prior to commencing work, the Contractor will provide the Agency, in accordance with 7-3, written confirmation of the deductible for each insurance coverage required by this contract.

Self-insurance will be subject to the Agency's review and prior approval. If the Contractor uses any form of self-insurance, it shall submit:

- a) A notice of election to self-insure.
- b) The coverages for which self-insurance applies.
- c) The amount of self-insurance.
- d) Declaration under penalty of perjury by a certified public accountant certifying the accountant has applied Generally Accepted Accounting Principles (GAAP) guidelines and the Contractor has sufficient funds or other resources to cover the self-insurance amounts.
- e) Copy of its commercial general liability policy and its excess policy, including the declarations page, all amendments, riders, endorsements, and other modifications in effect at the time of contract execution, for those amounts not covered by self-insurance.

Self-insurance programs and self-insured retentions are subject to separate annual review and approval by the Agency as evidence of the Contractor's financial capacity to respond to potential claims. Additionally, self-insurance programs or retentions must provide the Agency with at least the same protection from liability and defense of suits as would be afforded by first-dollar insurance.

All policies shall be endorsed to state that coverage shall not be suspended, voided, cancelled, reduced in coverage or in limits, non-renewed, or materially changed for any reason, without thirty (30) days prior written notice thereof given by the insurer to Agency by U.S. mail, or by personal delivery, except for nonpayment of premiums, in which case ten (10) days prior notice shall be provided.

In lieu of this endorsement, the Contractor shall either:

- a) Submit a letter, signed by the insurance agent or broker, certifying that he/she shall notify the City should the coverage be suspended, voided, cancelled, reduced in coverage or in limits, non-renewed, or materially changed for any reason, without thirty (30) days prior written notice thereof given by the insurer to Agency by U.S. mail, or by personal delivery, except for nonpayment of premiums, in which case ten (10) days prior notice shall be provided; or
- b) Submit evidence that the insurance premium has been paid in full for the life of the policy.

Indemnification. Contractor shall immediately report all claims to its insurance carrier and acknowledge receipt within thirty (30) days.

No officer, employee, or agent of the City, City Representative, the Engineer, or their consultants shall be personally responsible for any liability arising under or by virtue of the Agreement.

To the maximum extent permitted by law, Contractor shall hold harmless, indemnify, and defend the City, City Representatives, and each of their officers, employees, and agents from and against any and all actions, suits, claims, demands, judgments, attorney's fees, costs, damages to persons or property, losses, penalties, obligations, expenses or liabilities (herein "claims" or "liabilities") that may be asserted or claimed by any person or entity arising out of the willful or negligent acts, errors or omissions of Contractor, its employees, agents, representatives or subcontractors in the performance of any tasks or services for or on behalf of City, whether or not there is concurrent active or passive negligence on the part of City and/or City Personnel, but excluding such claims or liabilities arising from the active negligence or willful misconduct of City or City Personnel. In connection therewith:

- a) Contractor shall defend any action or actions filed in connection with any such claims or liabilities, and shall pay all costs and expenses, including attorney's fees incurred in connection therewith.
- b) Contractor shall promptly pay any judgment rendered against City or any City Personnel for any such claims or liabilities.
- c) In the event City and/or any City Personnel is made a party to any action or proceeding filed or prosecuted for any such damages or other claims arising out of or in connection with the negligent performance or a failure to perform the work or activities of Contractor, Contractor shall pay to City any and all costs and expenses incurred by City or City Personnel in such action or proceeding, together with reasonable attorney's fees and expert witness fees. So much of the money due to the Contractor under and by virtue of the Agreement as shall be

considered necessary by the City may be retained by the City until disposition has been made of such actions or claims for damages as aforesaid.

These Indemnification provisions are independent of and shall not in any way be limited by the Insurance Requirements of this Agreement. Entity approval of the Insurance contracts required by this Agreement does not in any way relieve the Contractor from liability under this section.

7-3.2 General Liability Insurance. *DELETE the 2nd paragraph and SUBSTITUTE with the following:*

General Liability (including premises, operations and mobile equipment, products, and completed operations, broad form property damage including completed operations, explosion, collapse and underground hazards, contractual liability, personal injury, independent contractors' liability): with a minimum limit of Two Million Dollars (\$2,000,000) for each occurrence (combined single limit for bodily injury and property damage) and Four Million Dollars (\$4,000,000) general aggregate. The general aggregate limit shall apply separately to the Contractor's work under this Contract.

If the contractor maintains broader coverage and/or higher limits than the minimums shown above, the City requires and shall be entitled to the broader coverage and/or higher limits maintained by the contractor.

Products-Completed Operations: Contractor shall procure and submit evidence of insurance in accordance with 7-3 of the Standard Specifications and these Special Provisions for a period of at least three (3) years from the time that all Work under this Contract is completed.

7-3.3 Workers' Compensation Insurance. *MODIFY to ADD the following:*

Workers' Compensation and Employer's Liability: Workers' Compensation Insurance in an amount required by the laws of the State of California (Statutory Limits). Employer's Liability Insurance with a minimum limit of One Million Dollars (\$1,000,000) per occurrence.

Such insurance shall be endorsed to waive the insurer's right of subrogation against the City of Irvine and their elected officials, officers, employees, volunteers, boards, and representatives.

In the event Contractor has no employees requiring Contractor to provide Workers' Compensation Insurance, Contractor shall so certify to Agency in writing prior to Agency's execution of this Contract. Agency and Agency Personnel shall not be responsible for any claims in law or equity occasioned by failure of the Contractor to comply with this section or with the provisions of law relating to Workers' Compensation.

If Contractor is providing on-site staffing services, then the Workers' Compensation insurance shall include an Alternative Employers Endorsement.

7-3.4 Automobile Liability Insurance. *DELETE in its entirety and SUBSTITUTE with the following:*

Automobile liability insurance with a limit of liability not less than One Million dollars (\$1,000,000) each occurrence. The limits shall be provided by either a single primary policy or combination of policies. If limits are provided with excess and/or umbrella

coverage the limits combined with the primary will equal the minimum limits set above. Such insurance shall include coverage for all "owned," "hired" and "non-owned" vehicles, or coverage for "any auto."

If the contractor maintains broader coverage and/or higher limits than the minimums shown above, the City requires and shall be entitled to the broader coverage and/or higher limits maintained by the contractor.

The insurance coverage required for General Liability and Automobile Liability shall be endorsed to provide the following:

The Contractor shall name as additional insured the City of Irvine, their elected officials, officers, employees, volunteers, boards, and representatives with regard to liability and defense of suits or claims arising out of the performance of the Contract.

Additional Insured Endorsements shall not:

- a) Be limited to "Ongoing Operations"
- b) Exclude "Contractual Liability"
- c) Restrict coverage to the "Sole" liability of contractor
- d) Contain any other exclusion contrary to the Contract

This insurance shall be primary and any other insurance, deductible, or self-insurance available to the insured shall be in excess of and shall not contribute with this insurance.

7-3.5 Contractor's Pollution Liability.

Not Used.

7-3.6 Builders Risk Insurance.

Not Used.

7-3.7 Professional Liability Insurance.

Not used.

7-3.8 Evidence of Insurance. Contractor shall provide to City a Certificate(s) of Insurance evidencing such coverage together with copies of the required policy endorsements no later than five (5) business days prior to commencement of service and at least fifteen (15) business days prior to the expiration of any policy. Coverage shall not be suspended, voided, cancelled, reduced in coverage or in limits, non-renewed, or materially changed for any reason, without thirty (30) days prior written notice thereof given by the insurer to City by U.S. mail, or by personal delivery, except for nonpayment of premiums, in which case ten (10) days prior notice shall be provided.

A statement on an insurance certificate will not be accepted in lieu of the actual endorsement. Insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the City for approval.

The City's insurance certificate tracking services provider, EXIGIS, LLC, will send Contractor an email message providing instructions for submitting insurance certificates and endorsements.

The City project title or description MUST be included in the "Description of Operations"

box on the certificate.

Certificate Holder:

City of Irvine
c/o EXIGIS Risk Management Services
P.O. Box 4668 - ECM #35050
New York, NY 10163-4668

7-5 PERMITS. *DELETE in its entirety and SUBSTITUTE with the following:*

7-5 PERMITS AND LICENSES. Except as otherwise specified in the Special Provisions, the Contractor shall procure all permits and licenses, pay all charges and fees, and give all notices necessary, and incidental to the due and lawful prosecution of the Work. These permits and licenses shall be obtained in sufficient time to prevent delays to the Work. The Contractor shall maintain a copy of all permits on the site. The Contractor shall furnish the Agency with copies of permits and licenses within one (1) Working Day of obtaining them. The Contractor shall comply with all rules and regulations included in permits. Should the Contractor fail to conform to said rules and regulations, the Agency reserves the right to perform the work necessary to conform to the rules and regulations and the cost of such work will be deducted from any monies due or to become due to the Contractor.

The Contractor and all subcontractors shall obtain within five (5) Calendar Days of executing the Contract, a current City of Irvine Business License and maintain such license(s) throughout the term of the Contract.

In the event that the Agency has obtained permits, licenses or other authorizations applicable to the Work, the Contractor shall obtain a rider, pay all fees and comply with the provisions of said permits, licenses, and other authorizations.

7-6 THE CONTRACTOR'S REPRESENTATIVE. *DELETE the 3rd sentence in the 1st paragraph and SUBSTITUTE with the following:*

Said authorized representative shall be present at the site of the Work at all times while Work is actually in progress on the Contract. When Work is not in progress and during periods when Work is suspended, arrangements acceptable to the Agency Representative shall be made for any emergency work, which may be required.

ADD the following after the last sentence of the 1st paragraph:

Whenever the Contractor or his authorized representative is not present on any particular part of the Work where it may be desired to give direction, orders will be given by the Agency Representative, which shall be received and obeyed by the superintendent or supervisor who may have charge of the particular work in reference to which the orders are given.

The Agency reserves the right to approve the Contractor's Superintendent. Once approved, the Superintendent shall remain on the project for the duration of the project so long as he is in the employment of the Contractor.

7-7 COOPERATION AND COLLATERAL WORK. *DELETE in its entirety 4th paragraph and SUBSTITUTE with the following:*

Nothing in the Contract shall be interpreted as granting to the Contractor exclusive occupancy of the site of the project. The Contractor must ascertain to his own satisfaction the scope of the project and the nature of any other contracts that have been or may be awarded by the Agency in the construction of the project, to the end that the Contractor may perform this Contract in the light of such other constraints, if any.

The Contractor shall not cause any unnecessary hindrance or delay to any other contractor working on or adjacent to the project. If the performance of any Contract for the project is likely to be interfered with by the simultaneous performance of some other contract or contracts, the Engineer will decide which contractor shall cease work temporarily and which contractor shall continue or whether the work under the contracts can be coordinated so that the Contractors may proceed simultaneously. On all questions concerning conflicting interest of Contractors performing related work, the decision of the Engineer shall be binding upon Contractors concerned. The Agency, the Engineer, the Agency Representative, and each of their officers, employees, and agents shall not be responsible for any damages suffered or extra costs incurred by the Contractor resulting directly or indirectly from the award of performance or attempted performance of any other contract or contracts on the project or caused by a decision or omission of the Engineer respecting the order of precedence in the performance of the contracts.

If, through acts of neglect on the part of the Contractor, any other contractor or any subcontractor shall suffer loss or damage on the Work, the Contractor agrees to settle with such other contractor or subcontractor by agreement or arbitration, if such other contractor or subcontractor will so settle. If such other contractor or subcontractor shall assert any claim against the Agency, the Engineer, the Agency Representative, or their consultants on account of any damage alleged to have been so sustained, the Agency will notify the Contractor. To the maximum extent permitted by law, all obligations of the Contractor stated in 7-3.2 shall apply in the case of the assertion of any such claims or liabilities against the Agency, the Engineer, the Agency Representative and each of their officers, employees, and agents against any such claim.

ADD:

7-7.1 Coordination. It is anticipated that work by other contractors, utility companies and City of Irvine forces may be underway adjacent to or within the limits of this project during progress of the Work on this contract.

The Contractor shall coordinate his operations with the operations of other contractors during stage construction, traffic shifts, opening of new lanes, closing of lanes, roads or ramps, detours, traffic signal facilities, shared irrigation facilities for landscaped areas and during any other operation that may affect or have influence on adjacent projects including, but not limited to, those identified in this subsection.

7-8 WORK SITE MAINTENANCE. MODIFY to ADD the Following:

Section 7-8 includes specifications for performing work site maintenance, including spill prevention and control, material management, waste management, water pollution control, and nonstormwater management.

Projects are required to comply with the City of Irvine Resolution No. 07-18, which establishes requirements for recycling and diversion of construction and demolition waste.

The Contractor shall implement effective handling, storage, usage, and disposal practices to control material pollution and manage waste and nonstormwater at the job site before they come in contact with storm drain systems and receiving waters.

Linear sediment barriers must comply with 7-8.6.2 of the Standard Specifications and the Contract Special Provisions.

ADD:

7-8.1.1 Construction Cleaning. The Contractor shall:

- a) Initiate and maintain a daily program to prevent accumulation of debris on-site and along access roads and haul routes. Maintain areas under Contractor's control free of waste materials, debris, weeds 6" high, and rubbish. Maintain site in a clean and orderly condition.
- b) Provide suitable covered containers for deposit of debris and rubbish. Dispose of accumulation of extraneous materials, prohibit overloading of trucks to prevent spillages on access and haul routes and provide daily inspection of haul routes to enforce requirements.
- c) The Contractor shall supply self-loading motorized street sweepers equipped with a functional water spray system as part of his daily program.
- d) Schedule at a minimum, weekly collection and disposal of debris. Provide additional collections and disposals of debris whenever the weekly schedule is inadequate to prevent accumulation.

The Contractor shall remove debris from closed or remote spaces prior to closing the space, control cleaning operations to minimize dust and other particulates and immediately remove clay and earth which adhere to the paved surface of the roadway. Remove by hand scraping, washing, sweeping, and/or other method(s) which will leave a clean non-skid surface without impairing, injuring or loosening the surface.

The Contractor shall remove waste materials, debris, vegetation, other rubbish, and non-recyclable materials as required by the Contract Documents, and dispose of off-site in an approved disposal site or recycling center.

Unless otherwise specified in the Special Provisions, all concrete, asphalt, aggregate or sand base material, cement block, trees, shrubs, bushes, and all other recyclable material generated during cleaning, demolition, clearing, and grubbing or other phases of the work is to be disposed of at appropriate recycling centers. The Contractor shall be responsible for removing reinforcing steel, wood, or other deleterious materials as required by the recycling center for acceptance of recycled materials. The Contractor shall supply proof of disposal at a recycling center. The proof of disposal shall include verification of tonnage by certified weigh masters tickets. If weigh masters tickets are not feasible, the Contractor and Agency Representative shall estimate the tonnage prior to disposal at the recycling centers.

Known recycling centers:

Ewles Materials
16081 Construction Circle West

Irvine

The Contractor is required to control dust throughout the life of the Contract. The control may be required by job conditions or Agency Representative. In any case, the Contractor shall use water or other means to control the dust. No chemical agents may be used without written authorization from the Agency. The Contractor shall be solely responsible for safety problems, accidents or any other complications or claims arising from inadequate dust control.

No separate payment will be made for any work performed or material used to control dust resulting from the Contractor's performance of the Work, or by public traffic, either inside or outside the right of way. Full compensation for such dust control will be considered as included in the price paid for the various items of work involved.

No separate payment will be made for any work performed or material used in cleaning the project. Full compensation for such cleaning shall be considered as included in the price paid for the various items of work involved and no additional compensation will be allowed therefor.

ADD:

7-8.1.2 Final Cleaning. The Contractor shall execute cleaning prior to inspection for completion of the Work. The Contractor shall use materials which will not create hazards to health or property, and which will not damage surfaces, remove debris from and otherwise clean exposed-to-view surfaces, remove temporary protection and labels not required to remain, clean finishes free of foreign substances, remove waste, debris, and surplus materials from site. Clean grounds; remove stains, spills, and foreign substances from paved areas and sweep clean, clean other exterior surfaces, and where applicable:

- a) Clean transparent and glossy materials to a polished condition; remove foreign substances. Polish reflective surfaces to a clear shine.
- b) Vacuum clean carpeted and similar soft surfaces.
- c) Clean resilient and hard surface floors.
- d) Clean surfaces of equipment; remove excess lubrication.
- e) Clean plumbing fixtures to a sanitary condition.
- f) Clean permanent filters of ventilating equipment and replace disposable filters when units have been operated during construction; in addition, clean ducts, blowers, and coils when units have been operated without filters during construction.
- g) Clean light fixtures and lamps.
- h) Remove waste, foreign matter, and debris from roofs, gutters, areaways, and drainage systems.

ADD:

7-8.4.3 Material Management.

7-8.4.3.1 General. The Contractor shall minimize or eliminate discharge of material into the air, storm drain systems, and receiving waters while taking delivery of, using, or storing the following materials:

- a) Hazardous chemicals, including acids, lime, glues, adhesives, paints, solvents, and curing compounds
- b) Soil stabilizers and binders
- c) Fertilizers
- d) Detergents
- e) Plaster
- f) Petroleum materials, including fuel, oil, and grease
- g) Asphalt and concrete components
- h) Pesticides and herbicides

The Contractor's employees trained in emergency spill cleanup procedures must be present during the unloading of hazardous materials or chemicals.

The Contractor shall use less hazardous materials if practicable.

The following activities must be performed at least 100 feet from concentrated flows of stormwater, drainage courses, and inlets if within the floodplain and at least 50 feet if outside the floodplain, unless otherwise authorized:

- a) Stockpiling materials
- b) Storing pile-driving equipment and liquid waste containers
- c) Washing vehicles and equipment in outside areas
- d) Fueling and maintaining vehicles and equipment

7-8.4.3.2 Material Storage. If materials are stored by the Contractor, he shall:

- a) Store liquids, petroleum materials, and substances listed in 40 CFR 110, 117, and 302 and place them in secondary containment facilities as specified by USDOT for storage of hazardous materials.
- b) Ensure that secondary containment facilities are impervious to the materials stored there for a minimum contact time of 72 hours.
- c) Cover secondary containment facilities during nonworking days and whenever precipitation is forecasted. Secondary containment facilities must be adequately ventilated.
- d) Keep secondary containment facilities free of accumulated rainwater or spills. After precipitation, or in the event of spills or leaks, collect accumulated liquid and place it into drums within 24 hours. Handle the liquid as hazardous waste in accordance with subsection 7-8 of the Standard Specifications and these Special Provisions.
- e) Not store incompatible materials, such as chlorine and ammonia, in the same secondary containment facility.

- f) Store materials in their original containers with the original material labels maintained in legible condition. Immediately replace damaged or illegible labels.
- g) Ensure that secondary containment facilities have the capacity to contain precipitation from a 24-hour-long, 25-year storm, plus 10 percent of the aggregate volume of all containers or the entire volume of the largest container within the facility, whichever is greater.
- h) Store bagged or boxed material on pallets. Protect bagged or boxed material from wind and rain during nonworking days and whenever precipitation is forecasted.
- i) Provide sufficient separation between stored containers to allow for spill cleanup or emergency response access. Storage areas must be kept clean, well-organized, and equipped with cleanup supplies appropriate for the materials being stored.
- j) Repair or replace perimeter controls, containment structures, covers, and liners as necessary. Inspect storage areas before and after precipitation, and at least weekly during other times.

7-8.4.3.3 Stockpile Management. The Contractor shall minimize stockpiling of materials at the job site.

The Contractor shall implement water pollution control practices within 72 hours of stockpiling material or before a forecasted storm event, whichever occurs first. If stockpiles are being used, do not allow soil, sediment, or other debris to enter storm drains, open drainages, and watercourses.

Active and inactive soil stockpiles must be:

- a) Covered with soil stabilization material or a temporary cover
- b) Surrounded with a linear sediment barrier

Stockpiles of asphalt concrete and PCC rubble, HMA, aggregate base, or aggregate sub base must be:

- a) Covered with a temporary cover
- b) Surrounded with a linear sediment barrier

Stockpiles of pressure-treated wood must be:

- a) Placed on pallets
- b) Covered with impermeable material

Stockpiles of cold mix asphalt concrete must be:

- a) Placed on an impervious surface
- b) Covered with an impermeable material
- c) Protected from stormwater run-on and runoff

The Contractor shall control wind erosion year round.

The Contractor shall repair or replace linear sediment barriers and covers as needed to keep them functioning properly. Whenever sediment accumulates to 1/3 of the linear sediment barrier height, remove the accumulated sediment.

7-8.5.3 Spill Prevention and Emergency Response Plan.

ADD:

7-8.5.3.1 Spill Prevention and Control. The Contractor shall keep material or waste storage areas clean, well-organized, and equipped with enough cleanup supplies for the material being stored.

The Contractor shall implement spill and leak prevention procedures for chemicals and hazardous substances stored on the job site. Whenever the Contractor spills or leaks chemicals or hazardous substances at the job site, he is responsible for all associated cleanup costs and related liability.

The Contractor shall report minor, semi significant, and significant or hazardous spills to the WPC manager and the WPC manager must notify the Engineer immediately.

As soon as it is safe, the Contractor shall contain and clean up spills of petroleum materials and sanitary and septic waste substances listed under 40 CFR, parts 110, 117, and 302.

ADD:

7-8.5.3.2 Minor Spills. Minor spills consist of quantities of oil, gasoline, paint, or other materials that are small enough to be controlled by a first responder upon discovery of the spill.

The Contractor shall clean up a minor spill using the following procedures:

- a) Contain the spread of the spill
- b) Recover the spilled material using absorption
- c) Clean the contaminated area
- d) Dispose of the contaminated material and absorbents promptly and properly

ADD:

7-8.5.3.3 Semi Significant Spills. Semi significant spills consist of spills that can be controlled by a first responder with help from other personnel.

The Contractor shall clean up a semi significant spill immediately using the following procedures:

- a) Contain the spread of the spill.
- b) On paved or impervious surfaces, encircle and recover the spilled material with absorbent materials. Do not allow the spill to spread widely.
- c) If the spill occurs on soil, contain the spill by constructing an earthen dike and dig up the contaminated soil for disposal.
- d) If the spill occurs during precipitation, cover the spill with 10-mil plastic sheeting or other material to prevent contamination of runoff.

- e) Dispose of the contaminated material promptly and properly.

ADD:

7-8.5.3.4 Significant or Hazardous Spills. Significant or hazardous spills consist of spills that cannot be controlled by job site personnel.

The Contractor shall immediately notify qualified personnel of a significant or hazardous spill and take the following steps:

- a) Do not attempt to clean up the spill until qualified personnel have arrived.
- b) Notify the Engineer and follow up with a report.
- c) Obtain the immediate services of a spill contractor or hazardous material team.
- d) Notify local emergency response teams by dialing 911 and county officials by using the emergency phone numbers retained at the job site.
- e) Notify the California Emergency Management Agency State Warning Center at 916-845-8911.
- f) Notify the National Response Center at (800) 424-8802 regarding spills of Federal reportable quantities under 40 CFR 110, 119, and 302.
- g) Notify other agencies as appropriate, including:
 - 1) Fire Department
 - 2) Department of Public Works and Transportation
 - 3) Coast Guard
 - 4) Highway Patrol
 - 5) City Police or County Sheriff's Department
 - 6) Department of Toxic Substances
 - 7) California Division of Oil and Gas
 - 8) Cal/OSHA
 - 9) Regional Water Resources Control Board

The Contractor shall prevent a spill from entering stormwater runoff before and during cleanup activities and shall not bury or wash the spill with water.

ADD:

7-8.5.4 Waste Management.

7-8.5.4.1 Paint Waste. The Contractor shall clean water-based and oil-based paint from brushes or equipment within a contained area in a way that does not contaminate soil, receiving waters, or storm drain systems. Handle and dispose of the following as hazardous waste: paints, thinners, solvents, residues, and sludges that cannot be recycled or reused. When thoroughly dry, dispose of the following as solid waste under: dry latex paint, paint cans, used brushes, rags, absorbent materials, and drop cloths.

7-8.5.4.2 Concrete Waste. The Contractor shall use practices to prevent the discharge of asphalt concrete, PCC, and HMA waste into storm drain systems and receiving waters.

The Contractor shall collect and dispose of asphalt concrete, PCC, and HMA waste at locations where:

- a) Concrete material, including grout, is used.
- b) Concrete dust and debris result from demolition.
- c) Saw cutting, coring, grinding, grooving, or hydro-concrete demolition creates a residue or slurry.
- d) Concrete trucks or other concrete-coated equipment is cleaned at the job site.

7-8.5.4.3 Sanitary and Septic Waste. The Contractor shall not bury or discharge wastewater from a sanitary or septic system anywhere at the site of Work. A sanitary facility discharging into a sanitary sewer system must be properly connected and free from leaks. The Contractor shall place a portable sanitary facility at least 50 feet away from storm drains, receiving waters, and flow lines.

The Contractor shall comply with local health agency provisions if using an on-site disposal system.

7-8.5.4.4 Liquid Waste. The Contractor shall use practices that will prevent job-site liquid waste from entering storm drain systems and receiving waters. Liquid wastes include the following:

- a) Drilling slurries or fluids
- b) Grease-free and oil-free wastewater and rinse water
- c) Dredgings, including liquid waste from cleaning drainage systems
- d) Liquid waste running off a surface, including wash or rinse water
- e) Other nonstormwater liquids not covered by separate permits

The Contractor shall hold liquid waste in structurally sound, leak-proof containers, such as roll-off bins or portable tanks.

Liquid waste containers must be of sufficient quantity and volume to prevent overflow, spills, and leaks.

The Contractor shall store containers at least 50 feet from moving vehicles and equipment.

The Contractor shall remove and dispose of deposited solids from sediment traps in accordance with 7-8 of the Standard Specifications and these Special Provisions. Liquid waste may require testing to determine hazardous material content before disposal.

The Contractor shall dispose of drilling fluids and residue.

If an authorized location is available within the job site, fluids and residue exempt under 23 CA Code of Regs § 2511(g) may be dried by evaporation in a leak-proof container. The Contractor shall dispose of the remaining solid waste in accordance with 7-8 of the Standard Specifications and these Special Provisions.

ADD:

7-8.5.5 Nonstormwater Management.

7-8.5.5.1 Water Control and Conservation. The Contractor shall manage water used for work activities in a way that will prevent erosion and the discharge of pollutants into storm drain systems and receiving waters. Obtain authorization before washing anything at the job site with water that could discharge into a storm drain system or receiving waters. Report discharges immediately.

The Contractor shall implement water conservation practices if water is used at the job site. Inspect irrigation areas. Adjust watering schedules to prevent erosion, excess watering, or runoff. Shut off the water source to broken lines, sprinklers, or valves and repair breaks within 24 hours. Reuse water from waterline flushing for landscape irrigation if practicable. Sweep and vacuum paved areas. Do not wash paved areas with water.

The Contractor shall direct runoff water, including water from water line repair, from the job site to areas where it can infiltrate into the ground. Do not allow runoff water to enter storm drain systems and receiving waters. Do not allow spilled water to escape filling areas for water trucks. Direct water from off-site sources around the job site if practicable. Minimize the contact of off-site water with job site water.

7-8.5.5.2 Illicit Connection and Illegal Discharge Detection and Reporting. Before starting work, the Contractor shall inspect the job site and the job site's perimeter for evidence of illicit connections, illegal discharges, and dumping. After starting work, inspect the job site and perimeter on a daily schedule for illicit connections and illegal dumping and discharges.

Whenever illegal connections, discharges, or dumping are discovered, The Contractor shall notify the Engineer immediately, should take no further action unless ordered and assume that unlabeled or unidentifiable material is hazardous.

The Contractor shall look for the following evidence of illicit connections, illegal discharges, and dumping:

- a) Debris or trash piles
- b) Staining or discoloration on pavement or soils
- c) Pungent odors coming from drainage systems
- d) Discoloration or oily sheen on water
- e) Stains and residue in ditches, channels, or drain boxes
- f) Abnormal water flow during dry weather
- g) Excessive sediment deposits
- h) Nonstandard drainage junction structures
- i) Broken concrete or other disturbances at or near junction structures

7-8.5.5.3 Vehicle and Equipment Cleaning. The Contractor shall limit vehicle and equipment cleaning or washing at the job site except for what is necessary to control vehicle tracking or hazardous waste. The Contractor shall notify the Engineer before cleaning vehicles and equipment at the job site with soap, solvents, or steam, and contain and recycle or dispose of resulting waste under 7-10.4.4. The Contractor shall not use diesel to clean vehicles or equipment and minimize the use of solvents.

The Contractor shall clean or wash vehicles and equipment in a structure equipped with disposal facilities. The Contractor may wash vehicles in an outside area if the area is:

- a) Paved with asphalt concrete, HMA, or PCC
- b) Surrounded by a containment berm
- c) Equipped with a sump to collect and dispose of wash water

The Contractor shall use as little water as practicable whenever washing vehicles and equipment with water and hoses used must be equipped with a positive shutoff valve.

The Contractor shall discharge liquid from wash racks to a recycling system or to another authorized system. Remove liquids and sediment as necessary.

7-8.5.5.4 Vehicle and Equipment Fueling and Maintenance. If practicable, the Contractor shall perform maintenance on vehicles and equipment off-site.

If fueling or maintenance must be done at the job site, the Contractor shall assign a site or sites, and obtain authorization before using them. The Contractor shall minimize mobile fueling and maintenance activities. The Contractor's fueling and maintenance activities must be performed on level ground in areas protected from stormwater run-on and runoff.

The Contractor shall use containment berms or dikes around fueling and maintenance areas. Keep adequate quantities of absorbent spill-cleanup material and spill kits in the fueling or maintenance area and on fueling trucks. The Contractor shall dispose of spill-cleanup material and kits immediately after use and use drip pans or absorbent pads during fueling or maintenance.

The Contractor shall not leave fueling or maintenance areas unattended during fueling and maintenance activities. The Contractor's fueling nozzles must be equipped with an automatic shutoff control. The Contractor shall use equipment with vapor-recovery fueling nozzles where required by the Air Quality Management District, secure nozzles in an upright position when not in use and shall not top off fuel tanks.

The Contractor shall recycle or properly dispose of used batteries and tires.

If leaks cannot be repaired immediately, the Contractor shall remove the vehicle or equipment from the job site.

7-8.5.5.5 Material and Equipment Used Over Water. The Contractor shall place drip pans and absorbent pads under vehicles and equipment used over water, keep an adequate supply of spill-cleanup material with vehicles and equipment, place drip pans or plastic sheeting under vehicles and equipment on docks, barges, or other surfaces over water whenever vehicles or equipment will be idle for more than one (1) hour.

The Contractor shall furnish watertight curbs or toe boards on barges, platforms, docks, or other surfaces over water to contain material, debris, and tools and shall secure material to prevent spills or discharge into the water due to wind.

The Contractor shall report discharges to receiving waters immediately upon discovery and shall submit a discharge notification.

7-8.5.5.6 Structure Removal Over or Adjacent to Water. The Contractor shall not allow demolished material to enter storm drain systems and receiving waters, use authorized covers and platforms to collect debris, use attachments on equipment to catch debris during small demolition activities and empty debris-catching devices daily and dispose of debris in accordance with 7-8 of the Standard Specifications and these Special Provisions.

7-8.5.5.7 Paving, Sealing, Saw Cutting, Grooving, and Grinding Activities. The Contractor shall prevent material from entering storm drain systems and receiving waters including:

- a) Cementitious material
- b) Asphaltic material
- c) Aggregate or screenings
- d) Saw cutting, grooving, and grinding residue
- e) Pavement chunks
- f) Shoulder backing
- g) Methacrylate
- h) Sandblasting residue

The Contractor shall cover drainage inlets and use linear sediment barriers to protect downhill receiving waters until paving, sealing, saw cutting, grooving, and grinding activities are completed and excess material has been removed and cover drainage inlets and manholes during the application of seal coat, tack coat, slurry seal, or fog seal.

Whenever precipitation is forecasted, the Contractor shall limit paving, saw cutting, and grinding to places where runoff can be captured.

The Contractor shall not start seal coat, tack coat, slurry seal, or fog seal activities whenever precipitation is forecasted during the application and curing period and shall not excavate material from existing roadways during precipitation.

The Contractor shall use a vacuum to remove slurry immediately after slurry is produced and shall not allow the slurry to run onto lanes open to traffic or off the pavement.

The Contractor shall collect the residue from PCC grooving and grinding activities with a vacuum attachment on the grinding machine. The Contractor shall not leave the residue on the pavement or allow the residue to flow across pavement.

The Contractor shall not coat asphalt trucks and equipment with substances that contain soap, foaming agents, or toxic chemicals.

The Contractor shall park paving equipment over drip pans or plastic sheeting with absorbent material to catch drips if the paving equipment is not in use.

7-8.5.5.8 Thermoplastic Striping and Pavement Markers. The Contractor shall not preheat, transfer, or load thermoplastic within 50 feet of drainage inlets and receiving waters.

The Contractor shall not unload, transfer, or load bituminous material for pavement markers within 50 feet of drainage inlets and receiving waters.

The Contractor shall collect and dispose of bituminous material from the roadway after removing markers.

7-8.5.5.9 Pile Driving. The Contractor shall keep spill kits and cleanup materials at pile driving locations; park pile driving equipment over drip pans, absorbent pads, or plastic sheeting with absorbent material; protect pile driving equipment by parking on plywood and covering with plastic whenever precipitation is forecasted.

The Contractor shall store pile driving equipment on level ground and protect it from stormwater run-on when not in use. Use vegetable oil instead of hydraulic fluid if practicable.

7-8.5.5.10 Concrete Curing. The Contractor shall not overspray chemical curing compounds and shall not allow runoff of curing compounds.

The Contractor shall minimize the drift by spraying as close to the concrete as practicable, cover drainage inlets before applying the curing compound, and minimize the use and discharge of water by using wet blankets or similar methods to maintain moisture when concrete is curing.

7-8.5.5.11 Concrete Finishing. The Contractor shall collect and dispose of water and solid waste from high-pressure water blasting, collect and dispose of sand and solid waste from sandblasting. Before sandblasting, the Contractor shall cover drainage inlets within 50 feet of sandblasting, and shall minimize the drift of dust and blast material by keeping the nozzle close to the surface of the concrete. If the character of the blast residue is unknown, the Contractor shall test it for hazardous materials and dispose of it properly.

The Contractor shall inspect containment structures for concrete finishing for damage before each day of use and before forecasted precipitation and remove liquid and solid waste from containment structures after each work shift.

7-8.5.5.12 Sweeping. The Contractor shall sweep by hand or mechanical methods, such as vacuuming, and shall not use methods that use only mechanical kick brooms. The Contractor shall sweep paved roads at construction entrance and exit locations and paved areas within the job site:

- a) During clearing and grubbing activities
- b) During earthwork activities
- c) During trenching activities
- d) During pavement structure activities
- e) When vehicles are entering and leaving the job site
- f) After soil-disturbing activities
- g) After observing off-site tracking of material

h) As deemed necessary by the Engineer

The Contractor shall monitor paved areas and roadways within the project and sweep within:

- a) 1 hour whenever sediment or debris is observed during activities that require sweeping.
- b) 24 hours whenever sediment or debris is observed during activities that do not require sweeping.

The Contractor shall remove collected material, including sediment, from paved shoulders, drain inlets, curbs and dikes, and other drainage areas, may stockpile collected material at the job site, and shall dispose of collected material at least once per week if stockpiled.

The Contractor shall keep dust to a minimum during street sweeping activities and use water or a vacuum whenever dust generation is excessive or sediment pickup is ineffective.

The Contractor shall remove and dispose of trash collected during sweeping.

7-8.5.5.13 Dewatering. Dewatering consists of discharging accumulated stormwater, groundwater, or surface water from excavations or temporary containment facilities.

The Contractor shall perform dewatering work as specified for the work items involved, such as temporary active treatment system or dewatering and discharge.

If dewatering and discharging activities are not specified under a work item and the Contractor performs dewatering activities, he shall:

- a) Conduct dewatering activities under the Caltrans' *Field Guide for Construction Site Dewatering*.
- b) Ensure that any dewatering discharge does not cause erosion, scour, or sedimentary deposits that could impact natural bedding materials.
- c) Discharge the water within the project limits if approved by the Engineer. Dispose of the water if it cannot be discharged within project limits due to site constraints or contamination.
- d) Not discharge stormwater or nonstormwater that has an odor, discoloration other than sediment, an oily sheen, or foam on the surface.
- e) Notify the Engineer immediately upon discovering any such condition.

7-8.6 Water Pollution Control.

7-8.6.1 General. *ADD the following after the last paragraph:*

This project is Risk Level 2.

ADD:

7-8.6.1.1 Definitions and Abbreviations.

Active and inactive areas: (1) Active areas have soil disturbing work activities occurring at least once within 15 days, and (2) Inactive areas are areas that have not been disturbed for at least 15 days.

BMPs: Best Management Practices are water pollution control practices.

Construction phase: Construction phases are (1) Highway Construction including work activities for building roads and structures, (2) Plant Establishment including maintenance on vegetation installed for final stabilization, and (3) Suspension where work activities are suspended and areas are inactive.

NAL: Numeric Action Level.

NEL: Numeric Effluent Limit.

Normal working hours: The hours the Contractor normally works on this project.

Preparation Manual: The Caltrans' "Storm Water Pollution Prevention Plan and Water Pollution Control Program Preparation Manual."

QSD: Qualified SWPPP Developer.

QSP: Qualified SWPPP Practitioner.

Qualified rain event: A qualified rain event is a storm that produces at least 0.5 inch of precipitation with a 48 hour or greater period between storms.

REAP: Rain Event Action Plan.

SAP: Sampling and Analysis Plan.

SSC: Suspended Sediment Concentration.

SWRCB: State Water Resources Control Board.

WPC: Water Pollution Control.

WPC Manager: The Contractor's Water Pollution Control Manager. The WPC Manager implements water pollution control work described in the SWPPP and oversees revisions and amendments to the SWPPP.

7-8.6.1.2 Summary. Section 7-8.6 includes general specifications for preventing, controlling, and abating water pollution in streams, waterways, and other bodies of water.

Information on forms, reports, and other documents can be found in the following Caltrans manuals:

- a) *Field Guide for Construction Site Dewatering*
- b) *Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual*
- c) *Construction Site Best Management Practices (BMP) Manual*
- d) *Construction Site Monitoring Program (CSMP) Guidance Manual*

For the above-referenced manuals, go to the Caltrans' website for the Division of Construction, Storm Water and Water Pollution Control at (Information <http://www.dot.ca.gov/hq/construc/stormwater/>) or the Caltrans' publication distribution unit.

The Contractor shall not start job site activities until:

- a) The WPCP or SWPPP, in accordance with 7-8.6.3 of the Special Provisions, is authorized.

- b) The waste discharge identification number is issued if the project requires a SWPPP.
- c) WPCP or SWPPP review requirements have been fulfilled. If the RWQCB requires time for review, allow 30 days for the review.

If the Contractor operates a Contractor-support facility, the Contractor shall protect stormwater systems or receiving waters from the discharge of potential pollutants by using water pollution control practices.

Contractor-support facilities include:

- a) Staging areas
- b) Storage yards for equipment and materials
- c) Mobile operations
- d) Batch plants for PCC and HMA
- e) Crushing plants for rock and aggregate
- f) Other facilities installed by the Contractor for his, such as haul roads

Discharges from manufacturing facilities, such as batch plants and crushing plants, must comply with the general waste discharge requirements for *Order No. 97-03-DWQ, NPDES General Permit No. CAS000001*, issued by the State Water Resources Control Board for “*Discharge of Storm Water Associated with Industrial Activities Excluding Construction Activities*” and referred to herein as “General Industrial Permit.” For the General Industrial Permit, go to the website for the State Water Resources Control Board.

If the Contractor operates a batch plant to manufacture PCC, HMA, or other material or a crushing plant to produce rock or aggregate, the Contractor shall obtain coverage under the General Industrial Permit. The Contractor must be covered under the General Industrial Permit for batch plants and crushing plants located:

- a) Outside of the job site
- b) Within the job site that serve 1 or more contracts

If the Contractor obtains or disposes of material at a noncommercially operated borrow or disposal site, the Contractor shall prevent water pollution due to erosion at the site during and after completion of his activities. Upon completion of his work, the Contractor shall leave the site in a condition such that water will not collect or stand therein.

The Agency does not pay for water pollution control practices at Contractor-support facilities and noncommercially operated borrow or disposal sites.

7-8.6.1.3 Submittals. Within 48 hours after the conclusion of a storm event resulting in a discharge, after a nonstormwater discharge, or after receiving a written notice or an order from the RWQCB or another regulatory agency, the Contractor’s WPC manager must submit the following information:

- a) Date, time, location and nature of the activity and the cause of the notice or order
- b) Type and quantity of discharge

- c) Water pollution control practices in use before the discharge or before receiving the notice or order
- d) Description of water pollution control practices and corrective actions taken to manage the discharge or cause of the notice

The Contractor shall submit water pollution control training records for all employees and subcontractors who will be working at the job site as an informational submittal that includes the training subjects, training dates, ongoing training, and tailgate meetings with the submittal. The Contractor shall submit records for:

- a) Existing employees within 5 business days of obtaining SWPPP or WPCP authorization
- b) New employees within 5 business days of receiving the training
- c) Subcontractor's employees at least 5 business days before a subcontractor starts work

At least Five (5) business days before operating any Contractor-support facility, the Contractor shall submit:

- a) A plan showing the location and quantity of water pollution control practices associated with the Contractor-support facility
- b) A copy of the notice of intent approved by the RWQCB and the WPCP or SWPPP approved by the RWQCB if the Contractor will be operating a batch plant or a crushing plant under the General Industrial Permit

7-8.6.1.4 Quality Control and Assurance.

Training

The Contractor shall employees must receive water pollution control training before starting work at the job site.

For the Contractor's project managers, supervisory personnel, subcontractors, and employees involved in water pollution control work:

- a) The Contractor shall provide stormwater training in the following subjects:
 - 1) Water pollution control rules and regulations
 - 2) Implementation and maintenance for:
 - (a) Temporary soil stabilization
 - (b) Temporary sediment control
 - (c) Tracking control
 - (d) Wind erosion control
 - (e) Material pollution prevention and control
 - (f) Waste management
 - (g) Nonstormwater management
- b) The Contractor shall conduct weekly training meetings covering:
 - 1) Deficiencies and corrective actions for water pollution control practices

- 2) Water pollution control practices required for work activities during the week
- 3) Spill prevention and control
- 4) Material delivery, storage, usage, and disposal
- 5) Waste management
- 6) Nonstormwater management procedures

Training for personnel who collect water quality samples must include:

- a) CSMP review
- b) Health and safety review
- c) Sampling simulations

7-8.6.1.5 Water Pollution Control Manager.

General

The Contractor's WPC manager must be a QSP if the project requires a WPCP. The Contractor's WPC manager must be a QSD if the project requires a SWPPP.

The Contractor shall assign one (1) WPC manager to implement the WPCP or SWPPP, whichever is applicable for the project.

Qualifications

The Contractor's QSD must:

- a) Have completed the stormwater management training described in the Caltrans' website for the Division of Construction, Storm Water and Water Pollution Control Information
- b) Be registered or certified for at least one of the following:
 - 1) California registered civil engineer
 - 2) California registered professional geologist or engineering geologist
 - 3) California licensed landscape architect
 - 4) Professional hydrologist registered through the American Institute of Hydrology
 - 5) Certified Professional in Erosion and Sediment Control (CPESC)[™] registered through Enviro Cert International, Inc.
 - 6) Certified Professional in Storm Water Quality (CPSWQ)[™] registered through Enviro Cert International, Inc.
 - 7) Professional in erosion and sediment control registered through the National Institute for Certification in Engineering Technologies (NICET)

The Contractor's QSP must comply with the qualifications for a QSD or must:

- a) Have completed the storm water management training described in the Caltrans' website for the Division of Construction, Storm Water and Water Pollution Control Information
- b) Be certified for at least one of the following:

- 1) Certified Erosion, Sediment and Storm Water Inspector (CESSWI)[™] registered through Enviro Cert International, Inc.
- 2) Certified Inspector of Sediment and Erosion Control (CISEC) registered through CISEC, Inc.

Responsibilities

The Contractor's WPC manager must:

- a) Be responsible for water pollution control work
- b) Be the primary contact for water pollution control work
- c) Oversee:
 - 1) Maintenance of water pollution control practices
 - 2) Inspections of water pollution control practices identified in the SWPPP or WPCP
 - 3) Inspections and reports for visual monitoring
 - 4) Preparation and implementation of REAPs
 - 5) Sampling and analysis
 - 6) Preparation and submittal of:
 - (a) NAL exceedance reports
 - (b) NEL violation reports
 - (c) SWPPP annual certification
 - (d) Annual reports
 - (e) BMP status reports
- a) Oversee and enforce hazardous waste management practices, including spill prevention and control measures
- b) Have authority to mobilize crews to make immediate repairs to water pollution control practices
- c) Ensure that all employees have current water pollution control training
- d) Implement the authorized SWPPP or WPCP
- e) Amend the SWPPP or WPCP if required
- f) Be at the job site within 2 hours of being contacted
- g) Have the authority to stop construction activities damaging water pollution control practices or causing water pollution

7-8.6.1.6 Construction.

General

The Contractor shall install facilities and devices used for water pollution control practices before performing work activities. The Contractor shall install soil stabilization materials for water pollution control practices in all work areas that are inactive and before storm events.

The Contractor shall repair or replace water pollution control practices within 24 hours of discovering any damage, unless a longer period is authorized.

The Agency will not pay for the cleanup, repair, removal, disposal, or replacement of water pollution control practices due to improper installation or the Contractor's negligence.

The Contractor shall retain a printed copy of the authorized WPCP or SWPPP at the job site at all times.

Monitoring

The Contractor shall monitor the National Weather Service's forecast on a daily basis. For the National Weather Service's forecast, go to the website for the National Weather Service.

Inspections

The Contractor shall use the *Stormwater Site Inspection Report* form for documenting site inspections.

The Contractor's WPC manager must oversee:

- a) Inspections of water pollution control practices identified in SWPPP or WPCP:
 - 1) Before a forecasted storm event
 - 2) After a qualifying rain event that produces site runoff
 - 3) At 24-hour intervals during extended storm events
 - 4) On a predetermined schedule of at least once a week
- b) Daily inspections of:
 - 1) Storage areas for hazardous materials and waste
 - 2) Hazardous waste disposal and transporting activities
 - 3) Hazardous material delivery and storage activities
- c) Inspections of:
 - 1) Vehicle and equipment cleaning facilities:
 - (a) Daily if vehicle and equipment cleaning occurs daily
 - (b) Weekly if vehicle and equipment cleaning does not occur daily
 - 2) Vehicle and equipment maintenance and fueling areas:
 - (a) Daily if vehicle and equipment maintenance and fueling occurs daily
 - (b) Weekly if vehicle and equipment maintenance and fueling does not occur daily
 - 3) Vehicles and equipment at the job site for leaks and spills on a daily schedule. Verify that operators are inspecting vehicles and equipment each day of use.
 - 4) Demolition sites within 50 feet of storm drain systems and receiving waters daily.

- 5) Pile driving areas for leaks and spills:
 - (a) Daily if pile driving occurs daily
 - (b) Weekly if pile driving does not occur daily
- 6) Temporary concrete washouts:
 - (a) Daily if concrete work occurs daily
 - (b) Weekly if concrete work does not occur daily
- 7) Paved roads at job site access points for street sweeping:
 - (a) Daily if earthwork and other sediment or debris-generating activities occur daily
 - (b) Weekly if earthwork and other sediment or debris-generating activities do not occur daily
 - (c) Within 24 hours of precipitation forecasted by the National Weather Service
- 8) Dewatering work:
 - (a) Daily if dewatering work occurs daily
 - (b) Weekly if dewatering work does not occur daily
- 9) Temporary active treatment system:
 - (a) Daily if temporary active treatment system activities occur daily
 - (b) Weekly if temporary active treatment system activities do not occur daily
- 10) Work over water:
 - (a) Daily if work over water occurs daily
 - (b) Weekly if work over water does not occur daily

Deficiencies

Whenever the Contractor or the Engineer identify a deficiency in the implementation of the authorized WPCP or SWPPP, The Contractor shall correct the deficiency:

- (a) Immediately, unless a later date is authorized
- (b) Before precipitation occurs

The Agency may correct the deficiency and deduct the cost of correcting the deficiency from payment if the Contractor fails to correct the deficiency by the agreed date or before the onset of precipitation.

7-8.6.2 Best Management Practices (BMPs). *MODIFY to ADD the following:*

BMPs shall be maintained and/or added based on the REAP and any exceedances of Numeric Action Levels (NALs) and Numeric Effluent Limitations (NELs). The Contractor shall make any necessary changes to the SWPPP and implement additional BMPs that will result in effluent levels below that of NALs.

7-8.6.3 Storm Water Pollution Prevention Plan (SWPPP). *DELETE in its entirety and SUBSTITUTE with the following:*

7-8.6.3 Water Pollution Control Plan (WPCP).

7-8.6.3.1 General.

Summary

The Contractor shall prepare a water pollution control plan that includes developing and implementing the WPCP, providing a WPC manager, conducting water pollution control training, and monitoring, inspecting and correcting water pollution control practices.

The Contractor may assign a QSP other than the WPC manager to develop the WPCP.

Submittals

Within 7 days after Contract approval:

- a) The Contractor shall submit two (2) copies of his WPCP for review. The Engineer provides comments and specifies the date when the review stopped if revisions are required.
- b) The Contractor shall resubmit a revised WPCP within 7 days of receiving the Engineer's comments. The Agency's review resumes when the complete WPCP has been resubmitted.
- c) When the Engineer authorizes the WPCP, the Contractor shall submit an electronic copy and 3 printed copies of the authorized WPCP.
- d) If the RWQCB requires review of the authorized WPCP, the Engineer submits the authorized WPCP to the RWQCB for its review and comment.
- e) If the Engineer orders changes to the WPCP based on the RWQCB's comments, the Contractor shall amend the WPCP within 3 business days.

The WPCP must comply with the Caltrans' *Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Plan (WPCP) Preparation Manual* and must:

- a) Show the location of disturbed soil areas, water bodies, and water conveyances
- b) Describe the work involved in the installation, maintenance, repair, and removal of temporary water pollution control practices
- c) Show the locations and types of water pollution control practices that will be used for:
 - 1) Stormwater and nonstormwater in areas outside the job site, but related to work activities, including:
 - (a) Staging areas
 - (b) Storage yards
 - (c) Access roads
 - 2) Activities or mobile activities related to all NPDES permits
 - 3) Contractor-support facilities
- d) Show the locations and types of temporary water pollution control practices that will be used in the work for each construction phase
- e) Show the locations and types of water pollution control practices that will be installed permanently under the Contract
- f) Include a schedule showing when:

- 1) Work activities will be performed that could cause the discharge of pollutants into stormwater
 - 2) Water pollution control practices associated with each construction phase will be implemented
 - 3) Soil stabilization and sediment control practices for disturbed soil areas will be implemented
- g) Include a copy of any permits obtained by the Agency, including Fish & Game permits, US Army Corps of Engineers permits, RWQCB 401 certifications, aerially deposited lead variance from the Department of Toxic Substance Control, aerially deposited lead variance notification, and RWQCB waste discharge requirements for aerially deposited lead reuse

The Contractor shall amend the WPCP whenever:

- a) Changes in work activities could affect the discharge of pollutants
- b) Water pollution control practices are added by Change Order work
- c) Water pollution control practices are added at the Contractor's discretion
- d) Changes in the quantity of disturbed soil are substantial
- e) Objectives for reducing or eliminating pollutants in stormwater discharges have not been achieved
- f) Project receives a written notice or order from the RWQCB or any other regulatory agency

The Contractor shall allow the same review time for amendments to the WPCP as for the original WPCP.

7-8.6.3.2 Construction. The Contractor shall manage work activities in a way that reduces the discharge of pollutants to surface waters, groundwater, and separate municipal storm sewer systems.

The Contractor shall monitor and inspect water pollution control practices at the job site.

The Contractor shall notify the Engineer within 6 hours whenever any of the following occurs:

- a) The Contractor identifies discharges into receiving waters or drainage systems that are causing or could cause water pollution
- b) The Contractor receives a written notice or order for the project from the RWQCB or any other regulatory agency

The Contractor shall continue WPCP implementation during any suspension of work activities.

The Contractor is responsible for delays and must pay all costs associated with submitting a SWPPP due to his actions that result in one of the following:

- a) 1 or more acres of soil disturbance on projects without an Erosivity Waiver
- b) More than 5 acres of soil disturbance on projects with an Erosivity Waiver
- c) Failure to comply with the schedule for soil disturbing activities for projects with an Erosivity Waiver if the delays void the Erosivity Waiver

7-8.6.3.3 Payment. Payment for WATER POLLUTION CONTROL PROGRAM (WPCP) shall be per the Lump Sum (LS) price bid and shall include full compensation for furnishing all labor, materials, tools, equipment to perform all the work involved in 7-8.6, including preparing and modifying a WPCP, permitting fees, Agency filing and processing, furnishing, installing, maintaining and removing BMPs, monitoring and reporting, and all incidentals for doing all the work involved as described herein or as otherwise required by the permit process, and shall be included in the contract lump sum price in the bid. No additional compensation shall be allowed therefor.

Payment will be issued by the Agency as follows:

- a) 25% - upon WPCP approval.
- b) 25% - upon installation of project BMPs
- c) 50% - to be paid monthly as a percentage of the total working days expended for monitoring, maintenance, testing, reporting and all other requirements as outlined in these Special Provisions.

7-8.6.4 Dewatering. *MODIFY to ADD the following:*

Submittals

Before the Contractor starts dewatering, he shall submit a dewatering and discharge work plan. The dewatering and discharge work plan must include:

- a) Title sheet and table of contents
- b) Description of dewatering and discharge activities detailing locations, quantity of water, equipment, and discharge point
- c) Estimated schedule for dewatering and discharge start and end dates of intermittent and continuous activities
- d) Discharge alternatives, such as dust control or percolation
- e) Visual monitoring procedures with inspection log
- f) Copy of written approval to discharge into a sanitary sewer system at least 5 business days before starting discharge activities

The Contractor shall submit the following informational submittals:

- a) MSDS at least 5 business days before material is used or stored
- b) Monthly inventory records for material used or stored

The Contractor shall submit written approval from the local health agency, city, county, and sewer district before discharging from a sanitary or septic system directly into a sanitary sewer system.

7-8.6.5 Payment. *DELETE in its entirety and SUBSTITUTE with the following:*

Payment for implementation and maintenance of BMPs and dewatering shall be included in the Contract Unit Price paid for WPCP.

ADD:

7-8.7 Drainage Control. The Contractor shall maintain drainage within and through the work areas. Earth dams will not be permitted in paved areas. Temporary dams of sandbags, asphaltic concrete, or other acceptable material will be permitted when

necessary. Such dams shall be removed from the site as soon as their use is no longer necessary.

The Contractor shall ensure that storm and drainage water does not pond due to the temporary blockage of existing drainage facilities. To this end, the Contractor shall provide temporary works that allow for the passage of storm and drainage water in a manner equivalent to the existing drainage system.

No separate payment will be made for any work performed or material used in drainage control. Full compensation for such controls shall be considered as included in the price paid for the various items of work involved and no additional compensation will be allowed therefor.

ADD:

7-8.8 Graffiti Control. Throughout all phases of Work, including suspension of Work, and until final acceptance, the Contractor shall keep Work, all equipment, field offices, storage facilities, fences, signs, and other facilities free of graffiti. Within twenty-four (24) hours after notification by the Agency Representative, graffiti shall be water blasted and cleaned to original surface or repainted if previously painted.

No separate payment will be made for any work performed or material used in graffiti control. Full compensation for such cleaning shall be considered as included in the price paid for the various items of work involved and no additional compensation will be allowed therefor.

7-9 PROTECTION AND RESTORATION OF EXISTING IMPROVEMENTS. *ADD the following before the 1st paragraph:*

Material shown on the Plans or designated in the Special Provisions which is to be salvaged or used in the reconstructed work and which has been damaged or destroyed as a result of the Contractor's operations, shall be repaired or replaced by the Contractor at his expense.

ADD:

7-9.1 Preservation of Property. The Contractor shall exercise due care to avoid injury to existing improvements or facilities, utility facilities, adjacent property, and trees and shrubbery that are not to be removed.

All damage done to existing improvements by the Contractor shall be repaired by him to the satisfaction of the Engineer. Where sidewalks, curbs or gutters are to be repaired, the repairs shall be made by removing and replacing the damaged section back to the nearest scoring lines.

All trees and shrubbery that are not to be removed, and pole lines, fences, signs, survey markers and monuments, buildings and structures, conduits, pipelines under or above ground, sewer and waterlines, all highway or street facilities, and any other improvements of facilities within or adjacent to the work shall be protected from injury or damage, and the Contractor shall provide and install suitable safeguards to protect such objects from injury or damage. If such objects are injured or damaged by reason of the Contractor's operation, they shall be replaced or restored at the Contractor's expense to a condition as

good as when the Contractor entered upon the work or as good as required by the Plans and Specifications if any such objects are a part of the work being performed.

The fact that any such pipe or other underground facility is not shown on the Plans shall not relieve the Contractor of his responsibility under this article. It shall be the Contractor's responsibility to ascertain the existence of any underground improvement or facilities which may be subject to damage by reason of his operations.

In addition to any requirements imposed by law, the Contractor shall shore up, brace, underpin, and protect as may be necessary, all foundations and other parts of all existing structures adjacent to and adjoining the site of the work which are in any way affected by the excavations or other operations connected with the performance of the Work.

Whenever any notice is required to be given by the Agency or the Contractor to any adjacent or adjoining landowner or other party before commencement of any work, such notice shall be given by the Contractor.

ADD:

7-9.2 Video Recording and Photographing of Pre-existing Conditions. The Contractor shall video record and photograph pre-existing conditions of the project site prior to any construction activities such as, but not limited to:

- a) Property markers
- b) Right of way and easement conditions
- c) Utility markings and USA markings
- d) Existing property damages
- e) Survey conditions
- f) Pavement conditions, markings, and striping
- g) Adjacent property conditions
- h) Sidewalk, median, curb, and gutter conditions
- i) Safety conditions
- j) Unusual conditions or equipment
- k) Existing landscape conditions (including vegetation and irrigation) along the project limit.

The Contractor shall submit recordings/photographs on CD, DVD or USB media to the Engineer no later than (five) 5 Working Days after Notice to Proceed.

Payment for video recording and photographing services shall be included in the various Bid Items and no additional compensation will be allowed therefor.

7-10.4.1.2 Work Site Safety Official. *MODIFY to ADD the following:*

Failure by the Contractor to provide the required Work Site Safety Official shall be grounds for the Agency to direct the cessation of all work activities and operations at no cost to the Agency until the Contractor is in compliance.

ADD:

7-10.4.1.3 Emergencies. Unusual conditions may arise on the Work which will require that immediate and unusual provisions be made to protect the public from danger or loss or damage to life and property, due directly or indirectly to the prosecution of the Work, and it is part of the service required of the Contractor to make such provisions and to furnish such protection.

The Contractor shall use such foresight and shall take such steps and precautions as his operations make necessary to protect from danger or damage, or loss of life or property, which would result from the interruption or contamination of public water supply, irrigation or other public service, or from failure or partly completed work.

Whenever, in the opinion of the Engineer, an emergency exists against which the Contractor has not taken sufficient precaution for the safety of the public or the protection of utilities or of adjacent structures or property which may be injured by process of construction on account of such neglect; and whenever in the opinion of the Engineer, immediate action shall be considered necessary in order to protect public or private, personal or property interest, or prevent likely loss of human life or damage on account of the operations under the Contract, then and in that event the Agency may provide suitable protection to said interest by causing such work to be done and material to be furnished as, in the opinion of the Agency Representative may seem reasonable and necessary.

The cost and expense of said labor and material, together with the cost and expense of such repairs as may be deemed necessary, shall be borne by the Contractor, and if he shall not pay said cost and expense upon presentation of the bills therefor, duly certified by the Agency Representative, then said cost and expense will be paid by the Agency and shall thereafter be deducted from any amounts due, or which may become due to the Contractor. Failure of the Agency, however, to take such precautionary measure, shall not relieve the Contractor of his full responsibility for public safety.

The foregoing provisions are in addition to and not in limitation of any other rights or remedies available to the Agency.

7-10.4.2.1 General. *DELETE in its entirety 2nd paragraph and SUBSTITUTE with the following:*

The Contractor shall submit to the Engineer, as a condition of obtaining City issued permits and in advance of excavation, a permit from the Division of Occupational Safety and Health pursuant to Chapter 6 (commencing with Section 6500) of Part 1 of Division 5 of the Labor Code along with a detailed plan showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground during the excavation of any trench or trenches five (5) feet or more in depth. The plan shall be prepared by a registered civil or structural engineer. As a part of the plan, a notice shall be included stating that the registered civil or structural engineer certifies that the plan complies with the CAL/OSHA Construction Safety Orders. A copy of the plan and permit shall be submitted to the Engineer.

In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for conditions on the job site, including safety of all persons and property during performance of the Work, and the Contractor shall fully comply with all local, county, state and federal laws, rules, regulations, and orders relating to safety of the public and workers.

The Contractor shall hold harmless, indemnify, and defend the Agency, the Engineer, the Agency Representative and each of their officers, employees, and agents from civil or criminal penalties resulting from a failure to comply with applicable safety laws, rules, regulations and orders. To the maximum extent permitted by law, all obligations of the Contractor stated in 7-3.2 shall apply in the event of any such failure to comply with applicable safety laws, rules, regulations or orders.

The duty, if any, of the Agency Representative to conduct construction review or inspection of the Contractor's performance is not intended to include review or inspection of the adequacy of the Contractor's safety measures in, on, or near the construction site.

7-10.5.3 Steel Plate Covers. *MODIFY to ADD the following:*

The Contractor shall protect transverse or longitudinal cuts, voids, trenches, holes, and excavations in the right-of-way that cannot be properly completed within one (1) Working Day by adequately designed barricades and structural steel plates (plates) that will support legal vehicle loads in such a way as to preserve unobstructed traffic flow.

The Contractor shall secure approval, in advance, from Engineer concerning the use of any bridging proposed on the Work.

The Contractor shall adequately shore trenches to support the bridging and traffic loads.

The Contractor shall design plates for HS 20-44 truck loading in accordance with Caltrans Bridge Design Specifications Manual.

For the minimum thickness of plates refer to Table 7-10.5.3(A):

Table 7-10.5.3(A) - Trench Width/Minimum Plate Thickness

Trench Width	Minimum Plate Thickness
10"	1/2"
1'-11"	3/4"
2'-7"	7/8"
3'-5"	1"
5'-3"	1 1/4"

For spans greater than 5'-3", submit a structural design prepared by a California Registered Civil Engineer to the Engineer.

The surface of the plates shall be skid-resistant with a nominal Coefficient Of Friction (COF) of 0.35 as determined by California Test Method 342.

The plates shall extend a minimum 12" beyond the edges of the trench.

Plates must provide complete coverage to prevent any person, bicycle, motorcycle or motor vehicle from being endangered due to plate movement causing separations or gaps.

Install and secure plates against movement or displacement by using adjustable cleats, shims, welding, or other devices in a manner that will minimize noise.

The Contractor shall Install plates as follows:

Mill the pavement to a depth equal to the thickness of the plate and to a width and length equal to the dimensions of the plate.

Alternative installation method may be submitted in accordance with 2-5.3, "Submittals" for the Engineer's approval.

The Contractor is responsible for maintenance of the plates and shoring, or any other approved device used to secure the plates. The Contractor shall immediately mobilize necessary personnel and equipment after being notified by the Agency Representative, the Agency Code Enforcement or Police Department of a repair needed e.g., plate movement, noise, anchors, and asphalt ramps. Failure to respond to the emergency request within 2 hours will be grounds for Agency to perform necessary repairs that will be invoiced at actual cost including overhead or \$500 per incident, whichever is greater.

When plates are removed, the Contractor shall repair any damage to the pavement with fine graded asphalt concrete mix or slurry seal satisfactory to the Engineer.

Payment for Steel Plate Covers is included in the various bid items of work.

7-11 PATENT FEES AND ROYALTIES. *DELETE in its entirety and SUBSTITUTE with the following:*

The Contractor shall assume all costs arising from the use of patented materials, equipment, devices, or processes used on or incorporated in the Work and shall hold harmless, indemnify, and defend the Agency, the Engineer, the Agency Representative and each of their officers, employees, and agents from all claims, suits or actions of every nature for or on account of the use of any patented materials, equipment devices, or processes. To the maximum extent permitted by law, all obligations of the Contractor stated in 7-3.2 shall apply in the case of any such claim, suit or action.

7-13 LAWS TO BE OBSERVED. *DELETE in its entirety and SUBSTITUTE with the following:*

The Contractor shall keep itself fully informed of all existing and future State and National laws and County and Municipal ordinances and regulations which in any manner affect those engaged or employed in the Work or the materials used in the Work or which in any way affect the conduct of the Work and of all such order and decrees of bodies or tribunals having any jurisdiction or authority in the Plans, Specifications, or Contract for the Work in relation to any such law, ordinance, regulation, order or decree, he shall forthwith report the same to the Agency Representative in writing.

The Contractor shall at all times observe and comply with and shall cause all its agents, employees, and subcontractors to observe and comply with all such existing and future laws, ordinances, regulations, orders, and decrees even though such requirements may not be specifically mentioned in the specifications or shown on the Plans, and shall hold harmless, indemnify, and defend the Agency, the Engineer, the Agency Representative and each of their officers, employees, and agents against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by itself, its employees, its agents, or its subcontractors. To the maximum extent permitted

by law, all obligations of the Contractor stated in 7-3.2 shall apply in the case of any such claim or liability.

As a material part of this Contract, Contractor's and subcontractors' owners and employees agree to be bound by and adhere to the Federal Department of Transportation (DOT) regulations found in Title 49 CFR 382. All Contractor's and subcontractors' owners and employees who are required to hold commercial licenses and/or who are in safety sensitive positions shall be subject to the provisions of the DOT regulations.

ADD:

7-14.1 Property Rights in Materials. Nothing in the Contract shall be construed as vesting in the Contractor any right of property in the materials used after they have been attached or affixed to the Work or the soil, or after payment has been made for materials delivered to the site of the Work, or stored subject to or under the control of the Agency.

ADD:

7-14.2 Warranty of Title. No materials, supplies or equipment for the Work under this Contract shall be purchased subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest therein or any part thereof is retained by the seller or supplier. The Contractor warrants clear and good title to all materials, supplies, and equipment installed and incorporated in the Work and agrees upon completion of all Work to deliver the premises together with all improvements and appurtenances constructed or placed thereon by him to the Agency free from any claims, liens, encumbrances, or charges and further agrees that neither he nor any persons, firm, or corporation furnishing any material or labor for any work covered by the Contract shall have any right to a lien upon the premises or any improvement or appurtenance thereon, provided that this shall not preclude the Contractor from installing metering devices or other equipment of utility companies or of municipalities, the title of which is commonly retained by the utility company or the municipality. Nothing contained in this article, however, shall defeat or impair the right of such persons furnishing materials or labor under any bond given by the Contractor for their protection, or any right under any law permitting such persons to look to funds due the Contractor in the hands of the Agency.

The provisions of this subsection shall be physically inserted in all subcontracts and material contracts and notices of its provision shall be given to all persons furnishing materials for the work when no formal contract is entered into for such materials.

ADD:

7-15 CONTRACTOR'S RESPONSIBILITY FOR THE WORK. Until Acceptance of the Work, the Contractor shall have the responsibility, charge and care of the Work and of the materials to be used therein (including materials for which it has received partial payment or materials which have been furnished by the Agency) and shall bear the risk of injury, loss or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the Work.

The Contractor shall rebuild, repair, restore, and make good all injuries, losses, or damages to any portion of the work or the material occasioned by any cause before its

completion and acceptance and shall bear the expense thereof. Where necessary to protect the work or materials from damage, the Contractor shall at his expense provide suitable drainage and erect such temporary structures as are necessary to protect the work or materials from damage. The suspension of the work from any cause whatever shall not relieve the Contractor of his responsibility for the work and materials as herein specified. If ordered by the Agency Representative, the Contractor shall at his expense properly store materials which have been partially paid for by the Agency or which have been furnished by the Agency. Such storage by the Contractor shall be on behalf of the Agency, the Agency shall at all times be entitled to the possession of such materials, and the Contractor shall promptly return the same to the site of the work when requested. The Contractor shall not dispose of any of the materials so stored, except on written authorization from the Agency.

In an emergency affecting the safety of life or property, including adjoining property, the Contractor, without special instructions or authorizations, is authorized to act at his discretion to prevent such threatened loss or injury, and he shall so act as though instructed to do so by the Agency.

ADD:

7-16 PROJECT RECORD DOCUMENTS.

7-16.1 Maintenance of Documents and Samples. The Contractor shall maintain one record copy of:

- a) Contract Drawings
- b) Specifications
- c) Addenda
- d) Change Orders and Other Modifications to the Contract
- e) Reviewed Shop Drawings, Product Data, and Samples
- f) Field Test Records
- g) Construction Schedules
- h) Manufacturer's Certificates

The Contractor shall maintain documents in clean, dry, legible condition and not used for construction purposes.

The Contractor shall keep Record Documents and samples accessible for inspection by Agency Representative. Applications for partial payment will not be approved if the Record Documents are not kept current. The Agency Representative must so verify prior to submittal of each Application for Payment.

ADD:

7-16.2 Recording. The Contractor shall record changes to the plans and discoveries of buried objects at the Work on Record Documents with red ball-point pen, label each Document "PROJECT RECORD" in large printed letters, record information concurrently with construction progress, not conceal any work until required information is recorded and legibly mark each item on Contract Drawings and Shop Drawings to record actual construction, including:

- a) Measured depths of elements in relation to fixed datum point
- b) Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements
- c) Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of construction
- d) Field changes of dimension and detail
- e) Changes made by Contract modifications
- f) Details not on original Contract Drawings
- g) Previously unknown buried objects

The Contractor shall legibly mark each item to record actual construction, including:

- a) Manufacturer, Trade Name, and Catalog Number of each product actually installed, particularly optional items and substitute items
- b) Changes made by Addenda or modifications

The Contractor shall maintain other documents per requirements of individual specifications sections.

7-16.3 Submittals. At Contract closeout the Contractor shall deliver Record Documents and samples as specified in 7-16.1. Request for final payment will not be approved until all Record Documents have been delivered.

The submittals shall be transmitted with cover letter with signature of Contractor or authorized representative, listing date, project title and number, and number and title of each Record document.

SECTION 8 - FACILITIES FOR AGENCY PERSONNEL

DELETE in its entirety, not part of this project.

SECTION 9 - MEASUREMENT AND PAYMENT

REVISE as follows:

9-2 LUMP SUM WORK. *DELETE 2nd paragraph in its entirety.*

ADD:

9-2.1 Detailed Schedule. The Contractor shall furnish the Agency a cost break-down for all contract lump sum items. Cost break-down tables shall be submitted to the Agency Representative for acceptance within fifteen (15) days after award of Contract. Cost break-down tables will be approved, in writing, by the Agency Representative before any partial payment will be made for the applicable items involved.

The Contractor shall determine the quantities required to complete the Work shown on the Plans. The quantities and their values shall be included in the cost break-downs submitted to the Agency Representative for approval. The Contractor shall be responsible for the accuracy of the quantities and values used in the cost break-downs submitted for approval.

The sum of the amounts for the line items of work listed in each cost break-down table for each lump sum item shall be equal to the contract lump sum price bid. Overhead and profit shall be included in each individual line item of work listed in a cost break-down table.

No adjustment in compensation will be made in the contract lump sum prices due to differences between the quantities shown in the cost break-downs furnished by the Contractor and the quantities required to complete the Work as shown on the plans and as specified in the Special Provisions.

Individual line item values in the approved cost break-down tables will be used to determine partial payments during the progress of the Work and as the basis for calculating an adjustment in compensation for the contract lump sum items due to changes in line items of work ordered by the Engineer. When the total of ordered changes to line items of work increases or decreases the lump sum price bid by more than twenty-five percent, the adjustment in compensation for the applicable lump sum item will be determined in the same manner specified for increases and decreases in the total pay quantity of an item of work in Section 3 of the Standard Specifications and the Special Provisions.

9-3 PAYMENT.

9-3.1 General. *ADD the following at the end of the 2nd paragraph:*

The cost of items of work not listed in the "Schedule of Work" in the Bidders Proposal shall be considered to be included in the cost of the other work that is listed and no additional compensation will be allowed therefor.

When an item of work is designated as (F) or (S-F) in the "Schedule of Work," 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 (F) or (S-F) in the "Schedule of Work" 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 "Schedule of Work" 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 "Schedule of Work."

ADD:

9-3.1.1 Application for Payment. The Contractor shall use the City of Irvine Certified Invoice for Progress Payment Form; furnished to the Contractor.

The Contractor shall type the required information, follow the schedule of work and bid prices in accepted Bidder's proposal for unit price contract, execute certification by signature of an authorized officer, use data on accepted Schedule of Values for lump sum work, provide dollar value in each column for each line item for portion of work performed, list each authorized Change Order number and dollar amount and adjusted Contract Price, and obtain the Agency Representative concurrence on invoiced amounts prior to submittal for payment.

The Contractor shall follow the following submittal procedures: Submit original and one (1) copy of each Application for Payment at times stipulated in 9-3.2; submit under transmittal letter; include submittal date, project title and number and submit updated Progress Schedule with Application for verification of progress. Incomplete application for payment will be rejected.

When Agency Representative requires substantiating information, the Contractor shall submit data justifying line item amounts in question.

The Contractor shall provide one copy of data with cover letter for each copy of submittal, show application number and date, and line item by number and description.

9-3.2 Partial and Final Payment. *DELETE in their entirety 1st and 2nd paragraphs and SUBSTITUTE with the following:*

Payment for services will be made monthly on approved invoices, with payment terms of net thirty (30) days upon receipt of invoice. The Contractor shall submit invoices within fifteen (15) days from the end of each month on the form (Certified Invoice for Progress Payment) provided by the Agency. This estimate shall include the value of the total amount of the work completed by the Contractor during the calendar month previous to that in which the estimate is made.

When the Work has been completed to the satisfaction of the Engineer, the Contractor shall make a final estimate of the total amount of work done thereunder and the amount to be paid therefor under the terms of the Contract and shall certify to the Agency the amount of the final estimate. If the Agency finds the Work has been completed according to the Contract, the Agency will accept the work, will file a notice of completion, and will pay the entire sum so found to be due after deducting therefrom all previous payments and all amounts to be retained under the provisions of the Contract and upon receiving signed unconditional releases upon final payment from all subcontractors and material suppliers. All prior progress estimates and payments shall be subject to correction in the final estimate and payment. The project retention release will not be due and payable until the expiration of the 60 days from the date of filing a notice of completion of the Work by the Agency.

Interest penalties are not required on payment delays due to disagreement between the Agency and Contractor over the payment amount or other issues involving contract compliance.

It is mutually agreed between the parties to the Contract that no certificate given or payment made under the Contract shall be conclusive evidence of performance of the Contract and no payment shall be construed to be an acceptance of any defective work or improper materials.

The Contractor further agrees that the payment and acceptance of the final amount due under the Contract shall release the Agency, the Agency Representative, the Engineer, and their consultants from any and all claims or liability arising out of the Contract.

ADD:

9-3.2.1 Agency's Right to Withhold Certain Amounts and Make Application

Thereof. In addition to the amount which the Agency may retain under the above article on progress payments, the Agency may withhold a sufficient amount or amounts from any payment otherwise due to the Contractor as in the Agency's judgment may be necessary to cover:

- a) Payments which may be past due and payable for just claims against the Contractor or any subcontractors for labor or materials furnished in or about the performance of the Work on the project under this Contract.
- b) Estimated or actual costs for correcting defective work not remedied.
- c) Amounts claimed by the Agency as forfeiture due to delay or other offsets.
- d) Any other amounts the Agency is authorized to withhold under the Contract Documents or under applicable law.

The Agency may apply such withheld amount or amounts to the payment of such claims in its discretion. In so doing, the Agency shall be deemed the agent of the Contractor and any payments so made by the Agency shall be considered as a payment made under the Contract by the Agency to the Contractor, and the Agency shall not be liable to the

Contractor for such payment made in good faith. Such payments may be made without prior judicial determination of the claim or claims. The Agency will render to the Contractor a prior account of such funds disbursed in behalf of the Contractor.

ADD:

9-3.2.2 Substitution of Securities. Upon the Contractor's request, the Agency will make payment of funds withheld from progress payments pursuant to the requirements of Public Contract Code Section 22300 if the Contractor deposits in escrow with a bank acceptable to the Agency, securities eligible for the investment of State funds under Government Code Section 16430 or bank or savings and loan certificates of deposit, upon the following conditions:

- a) The Contractor shall bear the expense of the Agency and the Escrow Agent in connection with the escrow deposit made.
- b) Securities or certificates of deposit to be placed in escrow shall be of a value at least equivalent to the amounts of retention to be paid to the Contractor pursuant to this section.
- c) The Contractor shall enter into an escrow agreement satisfactory to the Agency, such agreement shall include provisions governing inter alia;
 - 1) The amount of securities to be deposited,
 - 2) The providing of powers of attorney or other documents necessary for the transfer of the securities to be deposited,
 - 3) Conversion to cash to provide funds to meet defaults by the Contractor including, but not limited to, termination of the Contractor's control over the Work, stop notices filed pursuant to law, assessment of liquidated damages or other amounts to be kept or retained under the provisions of the Contract,
 - 4) Decrease in value of securities on deposit, and
 - 5) The termination of the escrow upon completion of the Contract.
- d) The Contractor shall obtain the written consent of the surety of such agreement.

9-3.4 Mobilization DELETE in its entirety and SUBSTITUTE with the following:

9-3.4.1 General. Mobilization shall consist of preparatory work and operations including, but not limited to, those necessary for the movement of personnel, equipment, materials and incidentals to the project site necessary for work on the project and for all other work and operations which must be performed or costs incurred including bonds, insurance, and financing prior to beginning work on the various contract items on the project site.

Mobilization shall also include the cost, time and labor to move the necessary construction equipment to and from the job site, supervisory time on the job by the Contractor's personnel to keep the construction site in a safe condition, and all other related work as required for all non-working days during the course of construction. Contractor is responsible for securing an adequate storage site for equipment and materials.

The Contractor shall have on the work site at all times, as its agent, a competent English speaking superintendent capable of reading and thoroughly understanding the plans, specifications, other related documents, and directions from Agency's Representative.

9-3.4.2 Measurement and Payment. Mobilization is eligible for partial payment if the Contract includes a bid item for mobilization. Payment for **Mobilization** shall be per the **Lump-Sum (LS)** price bid and shall include obtaining and paying for all permits and business licenses as required from the City of Irvine, State of California and other agencies. The City of Irvine will waive its permit fee. The Contractor shall comply with the requirements specified by each license or permit. No payment for Mobilization will be made until the Contractor's Construction Schedule has been submitted, reviewed and accepted and is current. Progress payments for this item shall be paid in accordance with the percentage completion of the project, and shall include the costs of such mobilization and administration for the entire contract period including construction schedule as specified in these specifications. Payments shall be made upon the basis of the following:

- a) When the monthly partial payment estimate of the amount earned, not including the amount earned for mobilization, is 5 percent or more of the original contract amount, 50 percent of the contract item price for mobilization or 5 percent of the original contract amount, whichever is the lesser, will be included in the estimate for payment.
- b) When the monthly partial payment estimate of the amount earned, not including the amount earned for mobilization, is 10 percent or more of the original contract amount, the total amount earned for mobilization shall be 75 percent of the contract item price for mobilization or 7.5 percent of the original contract amount, whichever is the lesser, and that amount will be included in the estimate for payment.
- c) When the monthly partial payment estimate of the amount earned, not including the amount earned for mobilization, is 20 percent or more of the original contract amount, the total amount earned for mobilization shall be 95 percent of the contract item price for mobilization or 9.5 percent of the original contract amount, whichever is the lesser, and that amount will be included in the estimate for payment.
- d) When the monthly partial payment estimate of the amount earned, not including the amount earned for mobilization, is 50 percent or more of the original contract amount, the total amount earned for mobilization shall be 100 percent of the contract item price for mobilization or 10 percent of the original contract amount, whichever is the lesser, and that amount will be included in the estimate for payment.
- e) Upon completion of all work on the project, payment of any amount bid for mobilization in excess of 10 percent of the original contract amount shall be paid.

ADD:

9-4 RESOLUTION OF CONSTRUCTION CLAIMS. Any claims submitted by the Contractor against the Agency for Work covered by this Contract in the amount of \$375,000 or less shall be subject to the procedures specified in Public Contract Code § 20104, *et seq.*

ADD:

9-5 PROMPT PAYMENT. In addition to requirements specified elsewhere, the following shall also apply: Subsection (f) of Section 20104.50 of the Public Contract Code, Article 1.7 of Part 3 of Division 2.

ARTICLE 1.7

§ 20104.50 Timely progress payments; legislative intent; interest; payment requests:

- a) It is the intent of the Legislature in enacting this section to require all local governments to pay their Contractors on time so that these Contractors can meet their obligations. In requiring prompt payment by all local governments, the Legislature hereby finds and declares that the prompt payment of outstanding receipts is not merely a municipal affair, but is instead a matter of statewide concern.
- b) It is the intent of the Legislature in enacting this article to fully occupy the field of public policy relating to the prompt payment of local governments' outstanding receipts. The Legislature finds and declares that all government officials, including those in local government, must set a standard of prompt payment that any business in the private sector which may contract for services should look towards for guidance.
- c) Any local agency which fails to make any progress payment within 30 days after receipt of an undisputed and properly submitted payment request from a contractor on a construction contract shall pay interest to the contractor equivalent to the legal rate set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure.
- d) Upon receipt of a payment request, each local agency shall act in accordance with both of the following:
 - 1) Each payment request shall be reviewed by the local agency as soon as practicable after receipt for the purpose of determining that the payment request is a proper payment request.
 - 2) Any payment request determined not to be a proper payment request suitable for payment shall be returned to the Contractor as soon as practicable, but not later than seven days, after receipt. A request returned pursuant to this paragraph shall be accompanied by a document setting forth in writing the reasons why the payment request is not proper.
- e) The number of days available to a local agency to make a payment without incurring interest pursuant to this section shall be reduced by the number of days by which a local agency exceeds the seven-day return requirement set forth in paragraph (2) of subsection (c).
- f) For purposes of this article:
 - 1) A "local agency" includes, but is not limited to, a city, including a charter city, a county, and a city and county, and is any public entity subject to this part.
 - 2) A "progress payment" includes all payments due Contractors, except that portion of the final payment designated by the Contract as retention earnings.
 - 3) A payment request shall be considered properly executed if funds are available for payment for the payment request, and payment is not delayed due to an audit inquiry by the financial officer of the local agency.
- g) Each local agency shall require that this article, or a summary thereof, be set forth in the terms of any contract subject to this article.

PART 2 - CONSTRUCTION MATERIALS

SECTION 201 – CONCRETE, MORTAR, AND RELATED MATERIALS

REVISE as follows:

201-1.1.2 Concrete Specified by Class and Alternate Class. *ADD the following to Table 201-1.1.2:*

Headwall, Concrete Class 560-C-3250

SECTION 214 – TRAFFIC STRIPING, CURB AND PAVEMENT MARKINGS AND PAVEMENT MARKERS

REVISE as follows:

214-4 PAINT FOR STRIPING AND MARKINGS.

214-4.1 General. *MODIFY to ADD the following:*

All paint, beads, and other materials used in painting traffic stripes and markings shall conform to the requirements of the State Standard Specifications, Section 84 and all other applicable sections. Certificates of Compliance for each material shall be submitted prior to use on this Contract.

214-6 PAVEMENT MARKERS. *MODIFY to ADD the following:*

All pavement markers, and other materials used in painting traffic stripes and markings shall conform to the requirements of the State Standard Specifications, Section 81, Section 84 and all other applicable sections. Certificates of Compliance for each material shall be submitted prior to use on this Contract.

214-6.1 Types of Markers. *MODIFY to ADD the following:*

Reflective pavement markers shall conform to the following:

- a) Type B, 2-Way Clear Reflective Markers shall be Model 290-2W as manufactured by 3M Company or approved equal.
- b) Type C, 2-Way Red-Clear Reflective Markers shall be Model 290-WR as manufactured by 3M Company or approved equal.
- c) Type D, 2-Way Yellow Reflective Markers shall be Model 291-2Y as manufactured by 3M Company or approved equal.
- d) Type G, 1-Way Clear Reflective Markers shall be Model 290-W as manufactured by 3M Company or approved equal.
- e) Type H, 1-Way Yellow Reflective Markers shall be Model 291-Y as manufactured by 3M Company or approved equal.
- f) Type I, Blue - 2-Way Blue Reflective Markers shall be Model 295-2B as manufactured by 3M Company or approved equal.

PART 3 - CONSTRUCTION METHODS

SECTION 300 – EARTHWORK

REVISE as follows:

300-1 CLEARING AND GRUBBING.

300-1.1 General. *ADD the following:*

Temporary High Visibility Environmentally Sensitive Area (ESA) Fence:

Prior to any construction activity, the Contractor shall install the required ESA fence and signage along the project limits. Location of fence shall be determined in the field based on City instructions. In areas where the fence cannot be installed on a stake per standard plan, the fence shall be mounted on a temporary surface mountable post or on the existing chain link/barbed wire fence running along the project limits. Some areas of ESA fencing will require temporary adjustment/relocation of the fence in order to construct the final join limits. Contractor shall plan accordingly in order to maintain continuous ESA fencing for the project limits in order to protect the adjacent wetlands from construction activities and sediment. Contractor shall also provide access openings for all pedestrian and vehicular paths that intersect with the project limits.

Clearing and grubbing shall include but not be limited to the following:

1. Demolition and removal of existing turf, existing shrubs, trees and groundcovers at the median islands and elsewhere as needed to complete the construction as indicated on the Plans. Scrape off turf at finished grade and dispose of offsite. All items noted for removal shall become the property of the Contractor unless otherwise noted.
2. All items to be removed shall be verified by the inspector prior to demolition. The contractor shall meet with the inspector prior to clearing and grubbing.
3. All items to be removed shall be marked by the contractor prior to inspection and removal.
4. The Contractor shall exercise extreme caution while excavating due to underground utilities. Call dig alert for verification before digging. Work may require alternate less efficient means and methods in order to protect utilities.
5. The Contractor shall protect in place all trees and shrubs, unless indicated otherwise. Contractor shall repair turf, curbs, signs, shrubs, or trees damaged due to contractors operations.

6. All demolition, unless shown as salvaged and construction debris shall be removed from the site and delivered to a legal recycler dump site. Contractor to provide receipts for dumping or recycling sites fees.
7. Dust shall be controlled by watering.

300-1.1.2 Prune/Remove Existing Roots *ADD in its entirety:*

All roots shall be cut clean with a mechanical root cutting machine designed for such purposes, a sharp saw / or hand pruners. Trenching machines, backhoes, and axes are not allowed in root pruning operations. Trenching around existing trees and roots shall be done by hand without the use of power tools unless specifically directed by the City.

No more than ¼ the tree's root system shall be removed without permission from the City Arborist.

Root pruning on the surface roots shall only occur if the surrounding surface cannot be raised and with the approval of the City. No root pruning shall occur within 5' of the root ball crown without the approval of the City.

300-1.1.3 Tree Protection *ADD in its entirety*

The Contractor shall not store materials, or operate heavy equipment, or vehicles within (10) feet of trunks of existing trees to remain. The Contractor shall not operate heavy equipment within ten (10) feet of trunks of existing trees.

300-1.1.4 Tree Removal *ADD in its entirety*

Tree removal of any caliper size shall conform to the requirements of section 300-1 of the Standard Specifications.

300-1.3 Removal and Disposal of Materials

300-1.3.1 General. *After the last paragraph, ADD the following text:*

All soils and materials are subject to testing by the City.

300-1.3.2 Requirements. *after paragraph a), ADD the following text:*

Contractor shall scan the work area using a metal detector of adequate strength prior to any saw cutting, excavation or cold planing of the existing pavement. Contractor shall be responsible for locating and protecting manhole, water valve, utility access frames and covers or other metal appurtenances buried below the existing pavement surface whether shown on the plans or not.

All existing asphalt concrete pavement that is to be joined by new construction shall be sawcut in a straight line. The Contractor shall not disturb or damage existing improvements to be protected in place. Any damage done by Contractor and/or its

equipment shall be repaired or replaced as called out in Section 7-9 of the Standard Specifications at Contractor's expense. The Contractor shall call Underground Service Alert of Southern California [USA] at 811 prior to excavation and shall "pothole" existing utilities as necessary or as required by Utility Owner to determine their depth to avoid damaging said utilities.

AC pavement shall be saw cut to full depth around entire joint perimeter. Removal of existing pavement sections shall be to the depth required for construction of the replacement roadway sections as shown on the plans and will include the removal of existing AC pavement, cement treated base and/or aggregate base. All removed material becomes the property of the Contractor and shall be hauled away and legally disposed of properly outside of the roadway right of way.

Contractor shall remove slurry/asphalt concrete buildup on the existing gutter lip to the satisfaction of the owner's representative.

No crushing operations by Contractor will be allowed at the job site or within the Irvine City limits. Contractor shall price the unclassified excavation and other related bid items accordingly.

after paragraph c), ADD the following text:

In addition to previously noted items, the following items of work are included in the site removals, clearing, and grubbing:

- All items requiring removal which are not specifically identified in another bid item
- Removal of excess spoil from AC milling, excavation, disposal of debris, shrubs, rubbish and excess material away from site and disposal and payment of all required fees at a licensed disposal site.
- Maintaining dust control at all times by watering.
- Removal and disposal of any additional items not specifically mentioned herein, which may be found within the work limits or are shown on the plans to be removed.
- Removal and disposal of unnamed concrete improvements.
- Restoration and clean-up of the site.
- Providing for traffic control and maintenance of access, security and safety including signs, barricades, flashers, covers, plates and chain link fencing as specified elsewhere in these specifications.
- Protecting in place of existing improvements and utilities.

- Providing all necessary means to avoid tracking of asphaltic material on existing or new asphalt pavement during paving operations including landscaped and hardscaped facilities.
- Removing and relocating all sprinkler lines, heads, valves, etc. interfering with construction of improvements where new sidewalk is constructed (not including those called out to be removed in the media).

Removal and replacement of curb or curb and gutter shall be minimum 8 feet in length and shall span beyond any existing crack or to any joint within 8 feet of the minimum length span. If joints between existing and replaced spans are made with a dowel epoxied in place or with an epoxy joint, then the existing adjacent minimum length to crack or joint may be reduced to 3 feet.

All materials removed will be lawfully disposed of at a site secured by the Contractor. The Contractor will make every effort to recycle excavated and demolition materials. The Contractor will provide the Engineer with a letter indicating the final disposition of all excavated and demolition materials from the project within five (5) working days after project completion.

No excavated or demolition materials will be left in the public right of way overnight without AGENCY approval.

All existing improvements to be joined shall be cut in a clean straight line along the join line by use of a concrete cutting saw. Compensation for this requirement shall be considered as included in the price bid in the proposal form and no additional compensation will be allowed therefor.

Sawcutting shall consist of cutting existing Portland cement concrete and Asphalt Concrete to facilitate its removal. Cutting shall be accomplished by the use of a power driven saw. The depth of the cut shall be deep enough to provide a clean, straight break without loosening, cracking, or damaging adjoining asphalt or concrete. Under this item, the use of a grinder will not be allowed in lieu of power-driven saw. Residue from sawcutting shall be vacuumed up while sawcutting.

300-1.4 Payment. *After the last paragraph, ADD the following text:*

Measurement and Payment for **CLEARING AND GRUBBING** shall be made at the contract unit price bid per **Lump Sum (LS)**, and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to clearing and grubbing, excavation, demolishing, removal and disposal of existing materials as required by the contract documents, excavation and disposal to complete the removal of existing items as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor. This bid item shall also include payment for all removals required within the project limits that are not paid for by a separate contract bid item and no additional

compensation will be allowed therefor. **Contractor shall submit a base line schedule to the Engineer for this bid item at commencement of the project.**

300-4.1 General. *MODIFY to ADD the following:*

Fill should consist of approved earth materials free of trash debris, roots, vegetation, or other deleterious material.

300-4.2 Preparation of Placement Areas. *DELETE the last part of the 2nd sentence and SUBSTITUTE with the following:*

. . . to a relative compaction of at least 90 percent.

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

REVISE as follows:

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

314-2.1 General. MODIFY to ADD the following:

All conflicting striping, pavement markings, and curb paint shall be removed by wet sandblasting or other approved method prior to installation of new striping. All conflicting raised pavement markers shall be removed.

Pavement that is damaged due to removal of markers or striping shall be repaired to the satisfaction of the Agency Representative.

314-4 APPLICATION OF TRAFFIC STRIPING AND CURB AND PAVEMENT MARKINGS.

314-4.1 General. MODIFY to ADD the following:

The Contractor shall furnish and apply traffic stripes and pavement markings as shown on the Plans and as directed by the Agency's Representative. Placement of striping and markings shall conform to the requirements of Section 84 of the State Standard Specifications, latest edition, the City of Irvine Standard Plans and these Special Provisions.

Signing and striping shall conform to part 2 signs & part 3 markings of the (MUTCD), latest edition, these Plans and Special Provisions.

Detail 9 lane line striping pattern in part 3 markings shall be used on all multilane streets regardless of street design speed.

Pavement legends shall match the City stencils (Hawkins stencils or equivalent).

All striping and pavement markings shall be reflectorized and applied in two coats. A minimum of seven days shall be provided between first and second coats.

The Contractor shall contact the City of Irvine inspection services for inspection 48 hours prior to beginning of construction.

Contractor shall verify all existing conditions and dimensions before starting work. If conditions exist which are contrary to those shown on these Plans, the City of Irvine inspection services shall be notified before proceeding with work.

Striping shall be cat tracked and approved by the Agency Representative prior to final installation.

Crosswalk shall conform to the City of Irvine Standard Plan No. 203.

314-4.3.6 Measurement and 314-4.3.7 Payment. DELETE and SUBSTITUTE with the following:

314-4.3.6 Measurement and Payment. Full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in painting pavement markings, complete in place, as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer is included in the contract **LUMP SUM** price paid for **STRIPING, MARKINGS AND MARKERS**, and no additional compensation will be allowed therefor.

314-5 PAVEMENT MARKERS.

314-5.4 Placement. *MODIFY to ADD the following:*

All pavement markers shall comply with Sections 81 and 84 of the State Standard Specifications. Non-reflective markers shall be ceramic. All new markers shall have glass faces or be 3M series 290.

Blue raised reflective pavement marker shall be installed adjacent to all existing fire hydrants in accordance with the latest MUTCD.

314-5.6 Measurement and 314-5.7 Payment. *DELETE and SUBSTITUTE with the following:*

314-5.6 Measurement and Payment. Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in furnishing and installing pavement marker, complete in place, as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer is included in the contract **LUMP SUM** price paid for **STRIPING, MARKINGS AND MARKERS**, and no additional compensation will be allowed therefor.

Full compensation for removal of existing pavement markers and placing temporary pavement markers is included in the contract **LUMP SUM** price paid for **TRAFFIC CONTROL**, and no additional compensation will be allowed therefor.

PART 6 – TEMPORARY TRAFFIC CONTROL

SECTION 600 – ACCESS

REVISE as follows:

600-2 VEHICULAR ACCESS. *DELETE in its entirety and SUBSTITUTE with the following:*

Vehicular access to residential driveways shall be maintained to the property line except when necessary construction precludes such access for reasonable periods of time. If backfill has been completed to the extent that safe access may be provided, and the street is opened to local traffic, the Contractor shall immediately clear the street and driveways and provide and maintain access.

Safe, adequate, continuous, and unobstructed vehicular access shall be maintained to fire hydrants, residences, commercial and industrial establishments, churches, schools, parking lots, service stations, motels, fire and police stations, bus stops, hospitals, etc., unless otherwise approved by the Engineer.

During non-working hours or when work is not scheduled, all roadway lanes shall be returned to their full traffic use by backfilling and paving open trenches unless otherwise approved by the Engineer. At the end of the workday, the Contractor shall remove all Traffic Control Devices not in use.

The Contractor shall replace vehicle loop detectors damaged by the Contractor's operations, at its own expense within 24 hours of the damage. The Contractor shall replace existing loop detectors, shown on the plans to be replaced, within 24 hours from when they are removed from service.

Should the Contractor fail to replace the vehicle loop detectors within 24 hours from when they are damaged or removed from service, or the installed signal loops are not functional, the Agency, at its option and at the Contractor's sole cost and expense, may install such temporary detection methods as may be necessary. The Agency will deduct cost of such work from any monies due the Contractor. Failure of the Agency, however, to install such temporary detection methods, shall not relieve the Contractor of his full responsibility for public safety per 7-10 of the Standard Specifications and the Special Provisions.

If the Contractor proposes temporary alternate detection methods, video or wireless, the Contractor shall provide submittals of the alternate methods for acceptance by the Engineer in accordance with 2-5.3 of the Standard Specifications and the Special Provisions. The cost for providing all temporary detection methods shall be as included in the various items of Work and no additional compensation will be allowed therefor.

600-3 PEDESTRIAN ACCESS. *DELETE in its entirety and SUBSTITUTE with the following:*

Safe, adequate, continuous and unobstructed pedestrian access shall be maintained to sidewalks, cross walks, residences, commercial and industrial establishments, churches, schools, parking lots, service stations, motels, fire and police stations, hospitals, etc.,

unless other arrangements satisfactory to the Agency have been made by the Contractor and accepted by the Agency. Pedestrian access and paths shall meet federal, state, and Agency ADA requirements.

ADD:

600-4 CONSTRUCTION PARKING CONTROL. The Contractor shall control vehicular parking to preclude interference with public traffic or parking, access by emergency vehicles, owners operations, or construction operations, and monitor parking or construction personnel private vehicles by maintaining free vehicular access to and through parking areas and prohibit parking on or adjacent to access roads, or in non-designated areas.

ADD:

600-5 SITE ACCESS. When entering or leaving roadways carrying public traffic, contractors' equipment, whether empty or loaded, shall in all cases yield to public traffic.

The Contractor shall comply with the following City of Irvine truck route restrictions:

DESIGNATED TRUCK ROUTES - ORD. NO. 92-09

<u>Name of Street</u>	<u>Portion Designated</u>
a) Alton Parkway	Sand Canyon Avenue to Irvine Boulevard
b) Bake Parkway	Rockfield Boulevard to easterly City limit
c) Barranca Parkway	Red Hill Avenue to Jamboree Road
d) Campus Drive	Jamboree Road to MacArthur Boulevard
e) Irvine Boulevard	Culver Drive to Jeffrey Road
f) Irvine Boulevard	Alton Parkway to easterly City limit
g) Jamboree Road	Warner Avenue to MacArthur Boulevard
h) Laguna Canyon Road	Alton Parkway to State Route 133
i) Laguna Freeway (133)	
j) MacArthur Boulevard	Daimler Street. to Campus Drive
k) MacArthur Boulevard	Jamboree Road to Ford Road
l) Main Street	Jamboree Road to westerly City limit
m) Red Hill Avenue	Barranca Parkway to San Diego Fwy. (I-405)
n) Rockfield Boulevard	Bake Parkway to easterly City limit
o) Sand Canyon Avenue	San Diego Fwy. (I-405) to northerly City limit
p) San Diego Fwy. (I-405)	
q) Santa Ana Fwy. (I-5)	

RESTRICTED ROUTES, SEVEN TON (14,000 POUNDS) GROSS WEIGHT - ORD. NOS. 92-09 AND 98-16

<u>Name of Street</u>	<u>Portion Designated</u>
a) Campus Drive	Jamboree Road to University Drive

- | | |
|-------------------|---|
| b) Culver Drive | Santa Ana Fwy. (I-5) to northerly City limit |
| c) Jeffrey Road | Irvine Center Drive to Santa Ana Fwy. (I-5) |
| d) Jeronimo Road | Goodyear to 400 feet westerly of Bake Pkwy. |
| e) Toledo Way | Goodyear to 400 feet westerly of Bake Pkwy. |
| f) Trabuco Road | 400 feet easterly of the northbound Santa Ana Freeway off-ramp near Culver Drive and the easterly City limits |
| g) Walnut Avenue | Harvard Avenue to Culver Drive |
| h) Harvard Avenue | Walnut Avenue to Irvine Center Drive |

THREE TON (6,000 POUNDS) GROSS WEIGHT - ORD. NO. 92-09

- | <u>Name of Street</u> | <u>Portion Designated</u> |
|------------------------------------|---------------------------------------|
| a) Bonita Canyon Road/Shady Canyon | Newport Coast Drive to Sunnyhill |
| b) Culver Drive | Michelson Drive to Bonita Canyon Road |
| c) University Drive | Ridgeline Drive to Harvard Avenue |

SECTION 601 – WORK AREA TRAFFIC CONTROL

REVISE as follows:

601-1 GENERAL. *DELETE in its entirety and SUBSTITUTE with the following:*

The Contractor shall provide and maintain all construction area traffic controls in accordance with Part 6 of the Standard Specifications, the latest version of the (MUTCD), and Work Area Traffic Control Handbook (WATCH), and these Special Provisions.

Portable delineators (traffic cones are not allowed) which conform to the current California Manual of Uniform Traffic Control Devices (CA MUTCD) shall be spaced as necessary for proper delineation of the travel way. The spacing between delineators shall not exceed 50 feet. The minimum lane transitions shall be a 50 to 1 taper unless otherwise shown on the plans. Double base delineators will be required.

If the portable delineators are damaged, displaced or are not in an upright position, from any cause, said portable delineators shall immediately be replaced or restored to their original location, in an upright position, by the Contractor.

Where construction detours and signing conflict with existing signing, the Contractor shall cover existing signs in a manner approved by the Agency's Representative. The Contractor shall also provide temporary traffic delineation per 602 at the conclusion of each working day, if not sooner, as directed by the Agency's Representative, for any centerline, painted median or lane line which is obliterated by construction.

The Contractor shall provide temporary delineation as directed/accepted. Temporary delineation shall include removal of conflicting markings by accepted means; installation and removal of temporary centerlines or lane lines, detour signing, barricading; and replacement of traffic lines and markings in their proper locations upon termination of the detour. Conflicting existing and temporary striping, as required for traffic control during construction, shall be removed by the Contractor by methods accepted by the Engineer. Blacking out the pavement will not be allowed. Temporary reflective striping tape may be used, except that it shall not be applied to final asphalt surfaces. Tape shall be removed from temporary surfaces prior to placement of additional asphalt.

The Contractor shall maintain a 24-hour emergency service to remove, install, relocate, and maintain warning devices and shall furnish to the Agency's Representative, names and telephone numbers of three persons responsible for this emergency service. In the event the Contractor does not promptly respond when notified, the Agency may make corrections at Contractor's expense.

Each workday, the Contractor shall ensure traffic control is in place prior to starting construction.

Should the Contractor appear, in the opinion of the Engineer, to be lacking in providing adequate warning devices and protective measures as above provided, the Engineer may direct attention to the existence of a hazard, and the necessary warning and protective measures shall be furnished and installed by the Contractor, at his/her expense. Should the Engineer point out the inadequacy of warning and protective

measures, such action on the part of the Engineer shall not relieve the Contractor from responsibility for public safety or abrogate its obligation to furnish and pay for these devices.

The Contractor shall notify local Police and Fire Departments of its intent to begin work at each location at least ten (10) days before work is to begin. The Contractor shall cooperate with local authorities relative to handling traffic through the area. The Contractor shall also coordinate with OCTA to ensure the safe operation of buses and access to bus stops in the construction area.

No work that interferes with public traffic shall be performed except during the hours specified for lane closures 601-6.6.

Existing traffic loop detector replacement shall be required as necessary such that no traffic signal loop is out of operation at the end of the workday. The cost for providing all temporary traffic signal loop detectors shall be included into the various related items of work and no additional compensation will be allowed; this includes traffic signal loop detectors damaged by the Contractor's operations not designated for replacement in the contract plans.

Areas requiring edge cold mill shall be cold milled not more than three (3) Calendar Days prior to AC paving. Areas requiring digouts shall be repaved and open for traffic at the end of the same day.

The Contractor shall maintain access to all driveways at all times.

601-3 PAYMENT. *MODIFY to ADD the following:*

The contract Lump Sum price paid for **Traffic Control** includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and doing all the work involved in all temporary traffic control related work involving placing, removing, storing, maintaining, moving to new locations, replacing and disposing of the components of traffic control system, complete in place, temporary Asphalt Concrete including installation and removal; all associated temporary signing and striping; flashing arrow signs; flagging and/or flagger costs; and project notifications, as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, and as approved by the Engineer.

ADD:

601-4 STREET CLOSURE, DETOURS, BARRICADES. No street closure shall be allowed.

The Contractor shall construct the proposed improvements to minimize public inconvenience. The Contractor shall provide ADA accessible pedestrian detours around construction areas.

The Contractor shall have all Traffic Control Devices properly installed prior to commencing construction and shall maintain these devices to ensure proper flow and safety of traffic while working in the street.

The contractor shall be responsible for any additional Traffic Control Devices deemed necessary by the Engineer to assure public safety at all times.

ADD:

601-5 STORAGE OF EQUIPMENT. Unless otherwise authorized in writing by the Engineer, construction materials may not be stored in streets, roads, or highways beyond the end of each Working Day. No equipment shall be stored at the work site.

Construction equipment shall not be stored at the work site before its actual use on the Work nor for more than two (2) Calendar Days after it is no longer needed on the Work. Time necessary for repair or assembly of equipment may be authorized by the Agency.

Excavated materials, except that which is to be used as backfill in the adjacent trench, may not be stored in public streets, roads, temporary construction easements, or highway unless otherwise permitted. After placing backfill, all excess material shall be removed immediately from the site.

The Contractor shall submit an equipment-staging plan for approval by the Engineer. The plan shall address the use of private property for the staging, unloading, loading, and storing of equipment. The Contractor shall obtain an agreement from private property owners prior to the start of the project. The agreement shall release and hold the Agency, the Engineer, the Agency Representative and their consultants harmless from claims for damages. Failure to file a plan or obtain written approval from private property owners is considered a breach of Contract and subject to all remedies and enforcement procedures specified in the Contract Documents.

ADD:

601-6 TRAFFIC REGULATIONS.

601-6.1 General. Furnish, install, and maintain Traffic Control Devices, equipment, materials, and other safeguards to provide safe and effective work areas, and to warn, control, protect and expedite vehicular and pedestrian traffic.

On daily basis, remove temporary traffic delineation, signage and other devices when no longer required. Restore areas to original or to specified conditions.

601-6.2 Related Requirements. Traffic control work and Traffic Control Devices for construction shall conform to the latest edition of:

- a) MUTCD
- b) Work Area Traffic Control Handbook (WATCH manual)
- c) Standard Specifications
- d) O.S.H.A. requirements
- e) California Vehicle Code

601-6.3 Construction Area Signs. The Contractor shall:

- a) Use only signs that conform to the dimension, color, legend, reflectorization and lighting requirements of the current WATCH, MUTCD and the Contract Documents.

- b) All sign panels shall be the product of a commercial sign manufacturer, but need not be new. Used sign panels clean and in good repair, as determined by the Agency Representative, may be used.
- c) Sign panels for portable signs may be metal, cotton drill fabric, flexible industrial nylon fabric or other approved fabric.
- d) Temporary stop signs shall have a minimum clearance of seven (7) ft. from bottom of sign to existing ground or pavement.
- e) Further requirements as discussed in the Contract Documents.

601-6.4 Flaggers. The Contractor shall provide flaggers as deemed necessary by the Engineer to give adequate warning to traffic or to the public of any dangerous conditions to be encountered, and employ only flaggers trained in flagging fundamentals and procedures referred to in the “Flagger Handbook” available on the Internet at the following website: http://www.dot.ca.gov/hq/construc/flagging/flagging_handbook.pdf.

Payment for flagging is considered as included in the various items of work and no additional compensation will be allowed therefor.

601-6.5 Temporary Closure of Existing Traffic Lanes. Unless the traffic control, working hours and lane requirements are modified in the Special Provisions, the following requirements shall be followed:

- a) When permitted by the Engineer, one (1) lane on each roadway adjacent to the working area may be closed to public traffic. Use of reflective or lighted traffic delineators to direct traffic away from excavations or other obstructions will be considered as a lane closure.
- b) A minimum of one (1) lane of traffic, twelve (12) feet wide, fourteen (14) feet wide if a lane is adjacent to an outside curb, in each direction, shall be maintained through the work area at all times.
- c) A minimum of two (2) lanes of traffic, each being twelve (12) feet wide, fourteen (14) feet wide if a lane is adjacent to an outside curb, in each direction, shall be maintained through the work area at all times when the work area is within a major arterial highway unless otherwise approved.
- d) When work is in progress within three (3) feet of a lane being used by public traffic, Contractor shall close the lane adjacent to the work. Reflective or lighted traffic delineators shall be placed to direct public traffic around the construction area in accordance with the requirements of this section. During non-working hours or when work is not in progress, position and maintain reflective traffic delineators in the 1 to 1-1/2 foot width of the existing traffic lane adjacent to the work.
- e) On roads open to public travel, temporary lane closures are limited between the hours of 9:00 a.m. and 3:00 p.m. Closures of roads on Sundays, holidays, or between the hours of 3:00 p.m. and 9:00 a.m. are prohibited unless otherwise approved by the Engineer.

All Traffic Control Devices used between dusk and 6:00 a.m. shall be lighted or reflectorized. Agency approved arrow board(s) shall be used to direct public traffic on all roads.

Prior to the start of each work day, the Contractor shall perform all necessary work incidental to and commensurate with the proper signing, detouring, barricading, etc., 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.

601-6.6 Lane Requirements/Working Hours.

Working Hours:

Monday through Friday: 7:00 a.m. to 7:00 p.m.

Saturday: 9:00 a.m. to 6:00 p.m.

Sunday: No work permitted

Legal holidays: No work permitted

Work requiring lane closures may be in progress during the following hours:

Monday through Friday: 9:00 a.m. to 3:00 p.m.

Saturday: 9:00 a.m. to 3:00 p.m.

Sunday: No work permitted

Legal holidays: No work permitted

CHART NO. 1																									
McGaw Avenue Lane Closure Chart																									
Lane Requirements																									
City: Irvine																									
Closure Limits: Westbound and eastbound between Gillette Avenue and Von Karman Avenue																									
From Hour to Hour	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Monday through Thursdays	N	N	N	N	N	N	N	N	N	N	1	1	1	1	1	1	N	N	N	N	N	N	N	N	N
Fridays	N	N	N	N	N	N	N	N	N	N	1	1	1	1	1	1	N	N	N	N	N	N	N	N	N
Saturdays	N	N	N	N	N	N	N	N	N	N	1	1	1	1	1	1	N	N	N	N	N	N	N	N	N
Sundays	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
<p>Legend:</p> <p>1 Provide at least one (1) lane open in direction of travel on McGaw Avenue.</p> <p>N No lane closure allowed</p> <p>REMARKS:</p> <p>1. The Closure starts with the first cone down and ends with the last cone picked up.</p> <p>2. No closure signs shall be exposed to public traffic more than 15 minutes before or after a closure, except as otherwise indicated in the special provisions.</p> <p>3. Construction safety zone guidelines shall apply at all times.</p> <p>4. Traffic control and traffic control devices shall be in accordance with the latest edition of MUTCD and WATCH.</p>																									

601-6.7 Closure Schedule. The Engineer shall be provided a list of any street lane closures, ramp closures, trail closures, sidewalk closures or detours for review and acceptance at least three (3) weeks advance of the closure.

Contractor shall submit a written schedule of planned closures utilizing the closure schedule request form, furnished by the Engineer. The closure schedule shall show the number of lanes, locations and times of the proposed closures, a precise description of work to be performed. Closure schedules submitted to the Engineer with incomplete or

inaccurate information will be rejected and returned for correction and resubmittal. The Contractor will be notified of disapproved closures or closures that require coordination with other parties as a condition of approval.

Upon approval of the closure schedule by the Engineer and at least three (3) Working Days in advance of closing a lane, the Contractor shall notify the Police, Fire, Orange County Transportation Authority (OCTA) bus service, the Agency Representative and all other affected jurisdictional agencies, and comply with their requirements.

Closure schedule amendments, including adding additional closures, shall be submitted by noon to the Engineer, in writing, at least five (5) Working Days in advance of a planned closure. Approval of closure schedule amendments will be at the discretion of the Engineer.

The Engineer, the Police, Fire, Orange County Transportation Authority (OCTA) bus service, and all other affected jurisdictional agencies shall be notified of cancelled closures two (2) Working Days before the date of closure

The Contractor shall notify by email the City of Irvine four (4) Working Days prior to commencing any work within 250 feet of any signalized intersection (measured from the nearest cross street curb), implementing any road closure, and/or implementing any detour of traffic. Email notifications shall be sent to roadworkcoordination@cityofirvine.org.

Closures that are cancelled due to unsuitable weather may be rescheduled at the discretion of the Engineer.

601-6.8 Late Reopening of Closures and Required Contingency Plan. If a closure is not reopened to public traffic by the specified time, work shall be suspended in conformance with the provisions in 6-3 of the Special Provisions. No further closures shall to be made until the Engineer has accepted a contingency plan, submitted by the Contractor that will ensure future closures will be reopened to public traffic at the specified time. A detailed contingency plan shall be prepared and submitted to the Engineer within one business day of the Engineer's request. The Engineer will have two (2) Working Days to accept or reject the Contractor's proposed contingency plan. The Contractor will not be entitled to compensation for the suspension of work resulting from the late reopening of closures.

601-6.9 Compensation. The Engineer shall be notified of delays in the Contractor's operations due to the following conditions:

- a) The Contractor's proposed closure schedule is denied and his planned closures are within the time frame allowed for closures in the Special Provisions, except that the Contractor will not be entitled to compensation for amendments requested by the Contractor to the closure schedule that are not approved.
- b) The Contractor is denied a confirmed closure.

If, in the opinion of the Engineer, the Contractor's controlling operation is delayed or interfered with by reason of these conditions, and the Contractor's loss due to that delay could not have been avoided by rescheduling the affected closure or by judicious handling of forces, equipment and plant, the delay will be considered a right of way

delay and will be compensated in conformance with the provisions in 2-8 of the Standard Specifications and the Special Provisions.

Should the Engineer direct the Contractor to remove a closure before the time designated in the approved closure schedule, delay to the Contractor's schedule due to removal of the closure will be considered a right of way delay and compensation for the delay will be determined in conformance with the provisions in 2-8 of the Standard Specifications and these Provisions.

601-10 AUTHORITY OF AGENCY REPRESENTATIVE. Provisions of this section may be modified or altered if, in the opinion of the Agency Representative, public traffic will be better served and work expedited.

601-10.1 Execution. The Contractor shall field check all temporary traffic control signs, barricades, and other devices at least three (3) times every day, including Saturdays, Sundays and holidays to insure their proper maintenance and conformance to the Contract Documents and detailed instructions by the Agency Representative.

Should Contractor fail to properly place and/or maintain delineated lane closures or work areas, the Agency, at its option and at Contractor's sole cost and expense, may place delineation, barricades, or other devices, as may be necessary, to protect the public. Agency may in its discretion withhold the cost of such work from any monies due the Contractor at an amount equal to the rates shown below:

Delineation

Delineator	\$2.00/day plus-labor & equipment
Lighted Barricade	\$5.00/day plus-labor & equipment
8 Foot Wood Barricade	\$7.50/day plus-labor & equipment
Temporary Signs	\$25.00/day plus-labor & equipment
Type III Barricade	\$10.00/day plus-labor & equipment

Labor (2 Hour Minimum) - Regular Time

Lead Street Maintenance Technician	\$52.88
Street Maintenance Technician	\$40.82
Equipment Operator I	\$46.14
Equipment Operator II	\$49.74
Street Maintenance Supervisor	\$62.99
Street Superintendent	\$79.80

Equipment

Arrow Board	\$15.00/hour
Pickup	\$10.00/hour
Sweeper	\$45.00/hour
5-Yard Dump	\$25.00/hour
Loader	\$25.00/hour

Water Truck	\$25.00/hour
1-Ton Truck	\$10.00/hour

Agency shall have no obligation to Contractor with respect to Agency's decision whether or not to exercise Agency's options pursuant to this subsection.

ADD:

601-11 PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS). Portable changeable message signs shall be furnished, placed, operated, and maintained as designated by the Engineer in conformance with the provisions in Section 12, "Construction Area Traffic Control Devices," of the State Standard Specifications and these Provisions. For this project, the Contractor shall furnish (0) (**zero**) PCMS. PCMS shall be in place a minimum of two (2) weeks prior to start of construction.

Approximate locations of the PCMS are as follows: N/A

601-11.1 Payment. Full compensation for conforming to the requirements for PCMS, including furnishing all labor, tools, equipment, materials and incidentals required for doing all the work involved in furnishing, installing, maintaining, relocating, changing sign message (regardless of the number of times directed by the Engineer), replacing, repairing, and when no longer required, removing of all PCMS as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer, shall be considered as included in the Contract **Lump Sum** price paid for **Traffic Control** and no separate compensation will be allowed therefor.

601-12 FLASHING ARROW SIGNS. Flashing arrow sign shall be mounted on a truck or on a trailer and shall be capable of operating while the vehicle is moving or as directed by the Engineer. Signs mounted on the cab of a truck shall be mounted to provide a minimum of 7 feet between the bottom of the sign and the roadway. Signs mounted on a trailer, or on anything other than the cab of a truck, shall be mounted to provide a minimum of 8 feet between the bottom of the sign and the roadway.

The total weight of trailer mounted flashing arrow sign including the trailer, sign, power source and other components shall not exceed 1,500 pounds and the height of the level trailer bed shall be no higher than 21 inches above the roadway. The trailer shall be equipped with a minimum of 3 leveling jacks.

Electrical energy to operate the sign shall be obtained from the vehicle on which the sign is mounted. The supply of electrical energy shall be capable of operating the sign in the manner specified. The electronic circuitry shall provide between 30 and 45 complete operating cycles of the sign per minute in each of the modes specified.

Alternative types of lamps may be used in flashing arrow signs if visibility is equal to the specified lamps. Each type AX flashing arrow sign shall be a minimum of 2 feet high and 4 feet wide, and shall be furnished with flat black enamel. A minimum of 13 No. 4414AX 12-volt, yellow or amber lamps shall be installed in the panel. The lamp configuration shall be for 3 arrowheads or an arrow shaft with 2 arrowheads, one pointing in each direction on the face of the sign with a minimum of 5 lamps forming each arrowhead. Each lamp shall be provided with a visor.

The lamp shall be activated by a switch on a control panel and shall be controlled by electronic circuitry to provide a minimum of 4 selectable modes of operation as follows:

Pass Left Mode - Sequencing of lighted arrowheads or sequencing the lamps forming the arrow shaft and arrowhead to the left or a flashing left arrow with the lamps in the arrow shaft and arrowhead flashing on and off simultaneously.

Pass Right Mode - Sequencing of lighted arrowheads or sequencing the lamps forming the arrow shaft and arrowhead to the right or a flashing right arrow with the lamps in the arrow shaft and arrowhead flashing on and off simultaneously.

Simultaneous Mode - Either the outside arrowheads pointing in opposite directions are continuously illuminated, except for the center lamp forming each arrowhead, while the arrow shaft lamps flash on and off simultaneously or the outside arrowhead pointing in opposite directions and the arrow shaft lamps all flash simultaneously to indicate passing on either side.

Travel Mode - Travel or caution mode shall flash in a manner not resembling any other mode.

Full compensation for conforming to the requirements of this section shall be considered as part of Bid Item **Traffic Control** and no additional compensation will be allowed therefor.

PART 8 – LANDSCAPE AND IRRIGATION MATERIALS

SECTION 800 – MATERIALS

800-1 LANDSCAPE MATERIALS.

800-1.2 Soil Fertilizing and Conditioning Materials

800-1.2.3 Commercial Fertilizer. *DELETE entire section and SUBSTITUTE with the following:*

Commercial fertilizer for back fill mix shall be free-flowing material delivered in unopened sacks. Material which becomes caked or otherwise damaged shall not be used. Exact composition and type of fertilizer to be determined by the agronomic soils test and will be supplied by the Contractor at no additional cost to the City. Organic/JTM Complete is the city's preferred fertilizer.

Organic/JTM fertilizer application applied at the following rates:

For pre-plant landscape application (Turf and Groundcover)	Apply 30 pounds per 1000 square feet		
Container Size	1 gallon	5 gallon	15 gallon
Application Rates	2 oz.	6 oz.	19 oz.

800-1.2.4 Organic Soil Amendment. *DELETE entire section and SUBSTITUTE with the following:*

Organic Soil Amendment for back fill mix shall be Type 1. Nitrogen Stabilized Organic soil amendment shall be redwood sawdust free of shavings or particles of other woods such as fir or pine, supplied in bulk and 0.5% nitrogen stabilized by standard techniques. An acceptable substitute is nitrogen stabilized fir or cedar sawdust ground to 0-1/4" particle size and 1.0% nitrogen stabilized.

800-1.2.5 Mulch. *DELETE entire section and SUBSTITUTE with the following:*

Contractor shall install 2" thick layer of mulch in all planter areas. Install mulch per Irvine standard plan #601, 602, 606, and 607. Mulch to be installed after the planting of shrubs.

The Contractor shall maintain a 6" clear "no-mulch" zone around the base of each new and existing shrub and tree.

Mulch to be "Forest Floor" (0-2"), or approved equal:

- a) Available from
Tierra Verde Industries
7913 Marine Way
Irvine, CA 92618
(949) 551-0363

- b) Product shall be woodchips ½” to 3” in length, meet Caltrans Standard Specifications 20-2.08 for Mulch, contain only toxic free mineral based colorant, **and contain reused City of Irvine Green Waste.**
- c) The Contractor shall submit one sample of mulch materials for City approval.
- d) The Engineer has the right to reject all samples and request additional samples until a suitable mulch material is approved.

800-1.4 Plants. *ADD the following:*

Contractor to provide 1-year guarantee for all shrubs.

800-1.4.1 General. *DELETE entire section and SUBSTITUTE with the following:*

Shrubs and ground covers shall be grown by an established nursery having been in the business of growing shrubs and ground covers a minimum of five (5) years. At the option of the Engineer, plants shall be inspected and tagged at the nursery prior to shipment to the planting site. Shrubs shall be of the specified type and size, selected from high quality, well-shaped nursery stock. Plant names indicated or listed in the “Plant Legend” on the Plans, conform to the approved names given in “An Annotated Checklist of Woody Ornamental Plants in California, Oregon, and Washington, Manual 4091”, published by the University of California (1979), and in accordance with American Nurseryman standards. Except for names not covered therein, the established custom of the nursery shall be followed. Condition of plants shall be in accordance with the California State Department of Agriculture’s regulations for nursery inspections, rules, and grading and shall be symmetrical, typical for variety and species, sound, healthy, vigorous, free from plant disease, insect pests, or their eggs, and shall have healthy normal root systems, well filling their containers, but not to the point of being root bound.

Plants shall not be pruned prior to delivery, except as authorized by the City. The size of the plants shall correspond with that normally expected for species and variety of commercially available nursery stock, or as specified on the Plans. The minimum acceptable size of all plants, measured before pruning with the branches in normal position, shall conform to the measurements, if any, specified on the Plans. Plants larger in size than specified may be used with the approval of the City, but the use of larger plants shall not serve as the basis for a change order. All plant material shall be subject to the inspection and acceptance of the City before planting. A representative number of plants as determined by the City may be inspected for size and condition of root growth, insects, injuries and defects. Plants not accepted are to be removed from the site immediately and replaced with suitable plants. The City reserves the right to reject entire lots of plants represented by defective samples. The contractor shall provide a plant material order invoice to the Engineer at the preconstruction meeting.

800-1.6 Miscellaneous Landscape Materials. *ADD the following Section:*

800-1.6.1 General. Whenever a material or process is delineated or specified by patent, proprietary name or process, or manufacturer’s name, such specifications are used for the purpose of facilitating the description of material or process desired. Approved equals are acceptable as approved by the engineer. Suppliers and manufacturer’s directions, specifications and recommendations will be followed in all cases where the materials used furnish directions and cover points not delineated on the Plans or in the Specifications. The specifications only indicate the quality and workmanship to be

performed rather than a detailed description of the performance of the work. In the event of any discrepancies between the Plans or Specifications, the final decision as to which will be followed shall be made by the Engineer. In the event the installation is contradictory to the direction of the Engineer, the installation shall be rectified by the Contractor at no additional cost to the City.

All workmanship and materials incorporated shall be the best available grade of their respective kind. Provide a sample of each material specified. Accepted samples may be used in the Work. Submit three (3) sets of a type written list of materials as specified to the Engineer within twenty-one (21) days after award of contract. This list shall give the name, material number, and the manufacturer, and shall be accompanied by cut sheets or reproductions of catalog pages for all of the material to be installed. Approval of substitutions will not relieve the Contractor from complying with the requirements of the Contract Documents, Plans and Specifications. Pay at Contractor's sole expense for all changes caused by approved substitution which affect other items of work.

800-1.6.2 Herbicide. All herbicides shall be organic. Organic herbicide for weed abatement shall be Suppress EC, or approved equal.

800-1.6.3 Pre-emergent. Pre-emergent weed control material shall be Organic.

800-2 IRRIGATION SYSTEM MATERIALS.

800-2.1.3 Plastic Pipe for Use with Solvent Weld Socket or Threaded Fittings.

DELETE 2nd Paragraph and REPLACE with the following:

All pressure supply lines downstream of the strainer assembly unit shall be Schedule 40 solvent weld PVC 1-1/2" or smaller and Class 315 solvent weld PVC for 2" or larger. Piping shall conform to ASTM 1785. All non-pressure lines downstream of the remote control valve shall be Schedule 40 solvent weld PVC conforming to ASTM D1785. Pipe shall be marked continuously with manufacturer's name, nominal pipe size, schedule or class, PVC type and grade, National Sanitation Foundation approval, Commercial Standards designation, and date of extrusion. All plastic pipe shall be extruded of an improved PVC virgin pipe compound in accordance with ASTM D2241 or ASTM D1785.

All solvent weld PVC fittings shall be standard weight Schedule 80 and shall be injection molded of an improved virgin PVC fitting compound. Slip PVC fittings shall be the "deep socket" bracketed type. Threaded plastic fittings shall be injection molded. All tees and ells shall be side gated.

All fittings shall conform to ASTM D2466. All threaded nipples shall be standard weight Schedule 80 with molded threads and shall conform to ASTM D1785.

All solvent cementing of plastic pipe and fittings shall be a two-step process, using primer and solvent cement applied per the manufacturer's recommendations. Cement shall be of a fluid consistency, not gel-like or ropy. Solvent cementing shall be in conformance with ASTM D2564 and ASTM D2855. When connection is plastic to metal, female adapters shall be hand tightened, plus one turn with a strap wrench. Joint compound shall be non-lead base Teflon paste, tape, or approved equal.

800-2.2.2 Gate Valves. *DELETE entire section and SUBSTITUTE with the following:*

Gate valves shall be of the manufacturer, size, and type indicated on the Plans.

800-2.2.4 Remote Control Valves. *DELETE entire section and SUBSTITUTE with the*

following:

Automatic control valves shall be of the manufacturer, size, and type indicated on the Plans. Automatic control valves shall be electrically operated. Drip zone valves shall be accompanied with pressure regulators and filters per the manufacturer.

800-2.2.7 Valve Boxes. *DELETE entire section and SUBSTITUTE with the following:*

Valve boxes shall be fabricated from a durable, weather-resistant plastic material resistant to sunlight and chemical action of soils. The valve box cover shall be green in color and secured with dual locks to be supplied. The cover and box shall be capable of sustaining a load of 1,500 pounds. Valve box extensions shall be by the same manufacturer as the valve box. Automatic control valve boxes shall be rectangular and sized per plan. Valve box covers shall be marked "RCV" with the valve identification number "heat branded" onto the cover in 2 inch high letters / numbers. Gate valve boxes shall be 10" circular size. Valve box covers shall be marked with either "GV" "heat branded" onto the cover in 2 inch high letters. Line flushing valve boxes shall be 10" circular size. Valve box covers shall be marked with either "FV" "heat branded" onto the cover in 2 inch high letters. Heat branding method, craftsmanship, and lettering orientation to be approved by city prior to branding lids.

800-2.2.8 Line Flushing Valves. *ADD the following Subsection:*

Line flushing valves shall be the size and type as indicated on the plans.

800-2.4 Sprinkler Equipment. *DELETE entire section and SUBSTITUTE with the following:*

Irrigation heads and nozzles shall be of the manufacturer, size, type, with radius of throw, operating pressure, and discharge rate indicated on the Plans. Irrigation heads and nozzles shall be used as indicated on the Plans.

Drip line shall be of the manufacturer, size, type with discharge rate, emitter spacing and operating pressure as indicated on the Drawings. All fittings, line flushing valves and anchor staples shall be of the same manufacturer as the drip line.

800-2.5 Miscellaneous Landscape Materials. *ADD the following Section:*

All materials supplied for this project shall be new and free from any defects. All defective materials shall be replaced immediately at no additional cost to City. After award of contract and before any irrigation system materials are delivered to the job site, submit to the Engineer a complete list of all irrigation systems, materials, or processes proposed to be furnished and installed as part of this Contract. Show manufacturer's name and catalog number for each item, furnish complete catalog cuts and technical data, furnish the manufacturer's recommendations as to the method of installation. No substitutions will be allowed without prior written acceptance by the Engineer. Manufacturer's warranties shall not relieve the Contractor of liability under the guarantee. Such warranties shall only supplement the guarantee. If the Contractor wishes to substitute any equipment or materials for equipment or materials listed on the irrigation Drawings and Specifications, it may do so by providing the following information to the Engineer for approval:

- Provide a written statement indicating the reason for making the substitution.
- Provide catalog cut sheets, technical data, and performance information for each substitute item.
- Provide in writing the difference in installed price if the item is accepted.

The contractor shall furnish all materials as specified in the plans and specifications and turn over a fully functional irrigation system complete with programming as coordinated by the City and accommodating for the new irrigation controller within the new landscape.

Additionally, the contractor shall be responsible for repairing any landscape damaged or removed for the purpose of installation of the irrigation.

All irrigation materials provided and installed shall be specifically designed and manufactured for use within reclaimed irrigation systems.

800-3 ELECTRICAL MATERIALS.

800-3.2.2 Conductors. *DELETE entire section and SUBSTITUTE with the following:*

Remote control wire shall be direct-burial AWG-UF type, size as indicated on the Drawings, and in no case smaller than 14 gauge. Connections shall be Scotchlok 3M DBY Direct Bury Splice Kit per city std. plan 516. Kit shall include a Scotchlok Y Spring connector, a Polypropylene tube prefilled with waterproof sealing gel. Ground wires shall be white in color. Control wires shall be red (where two or more controllers are used, the control wires shall be a different color for each controller. These colors shall be noted on the "Record Drawings" Plans located on controller door). The Contractor shall provide 4 spare control wires per City of Irvine Landscape Manual, Section V Irrigation Specifications (under Products and Installation, item 24, item c).

800-3.3 Controller Unit. *DELETE entire section and SUBSTITUTE with the following:*

The Controller unit shall be of the manufacturer, and type indicated on the plans.

SECTION 801 – INSTALLATION

801-1 GENERAL.

801-2 EARTHWORK AND TOPSOIL PLACEMENT.

801-2.2.1 General. *DELETE 1st sentence in the 4th paragraph, and ADD at end of section the following:*

WEED ABATEMENT OPERATIONS. The irrigation system, soil preparation operations, and finish grade shall be approved by the Engineer prior to weed abatement operations.

Contractor shall operate the irrigation system to keep planting areas uniformly moist for a period of two (2) weeks (14 calendar days). At the end of the two (2) week period, Contractor shall spray all visible weeds with an approved organic, non-selective, post emergent herbicide. Application rate and method shall be recommended by the manufacturer. After spraying, planting areas shall remain unwatered for a minimum of forty-eight (48) hours.

After seven (7) calendar days from the chemical application, weeds and debris shall be disposed of off-site.

Contractor shall apply spray chemicals when air currents are still; preventing drifting onto adjoining property and preventing any toxic exposure to persons whether or not they are in or near the project.

After weed abatement operations, and as determined by the Engineer, planting areas shall be scarified to a depth not to exceed one inch (1”).

Weeds and debris shall be disposed of off-site.

801-2.2.2 Fertilizing and Conditioning Procedures. *ADD the following after the last paragraph:*

Fertilizing and soil amendment guidelines under agronomic soils testing shall be used for bidding purposes for planting areas, however, Contractor shall amend it as necessary per the soils test report at no additional cost to the City.

801-2.3 Finish Grading. *DELETE 2nd paragraph and ADD the following after the last paragraph:*

Finish grades are existing having been previously established the contractor shall maintain the existing finished grade elevations. Finish grading will only be required in raking out/feathering spoils from planting installations.

801-4 PLANTING.

801-4.1 General. *ADD the following after the last paragraph:*

Prior to excavation for planting or placing of stakes, locate all utilities, electric cables, conduits, underground irrigation lines, heads, valves and valve control wires, and all utility lines so that proper precautions may be taken not to damage such improvements. In the event of a conflict between utilities and plant locations, promptly notify the Engineer who will arrange for one or the other to be relocated. If contractor fails to follow this procedure it shall repair all damages resulting from the work at contractor's sole expense. Plant materials shall be furnished in the quantities and/or spacing as shown or noted for each

location, and shall be of the species, kinds, sizes, etc., as symbolized, and/or described in the Plant Legend, as indicated on the Plans. Verify all sizes and quantities on the Plans. Promptly report any discrepancy to the Engineer.

Any plant material or any development materials specified by trade name or equal, shall be according to these Plans and Specifications. Installation and use of substitute items shall not be made until the Contractor is in receipt of written approval from the Engineer. Substitution proposals for plant material must be accompanied by written proof of non-availability within a five hundred mile radius of the project site for material originally specified and proof that material was ordered in a timely manner upon award of contract. Regularly water all nursery stock in containers and place them in a cool area protected from sun and drying winds. Do not allow plants to dry out before or while being planted. Keep exposed roots moist by means of wet sawdust, peat moss or burlap at all times during planting operations. Do not expose roots to the air except while being placed in the ground. Wilted or diseased plants, whether in place or not, will not be accepted and shall be replaced at the Contractor's sole expense. Moisten prepared surface immediately prior to installing plant material. Install plant material immediately after delivery to site, within 24 hours after delivering to prevent deterioration. Hand water landscaped areas immediately after installation with a minimum of 1" of water.

801-4.5 Tree and Shrub Planting. *DELETE 4th paragraph and REPLACE with the following:*

In the event that underground construction work or obstructions are encountered in the planting operation, alternate locations for plant material will be selected by the City. Operation shall be done at no extra cost to the City. The following material shall be thoroughly blended and used as a backfill mix:

- 6 parts by volume on-site soil
- 4 parts by volume Organic Amendment 1 lbs. 16-20-0 per cubic yard of mix
- 2 lbs. Iron Sulfate per cubic yard of mix

The actual material and amounts, as determined by the agronomic soils test, shall be supplied by the Contractor at no additional cost to the City. No mixing for individual planting holes is permitted. Mix planting soil prior to backfilling and stockpile at the site. Iron sulfate shall not contact cement surfaces because severe staining could occur; repair or replace stained cement at Contractor's sole cost. Remove all plants from their containers and set so that, when settled, they bear the same relation to the required grade as they bore to the natural grade before being transplanted. Set the directed amount of plant fertilizer to be used with each plant on the top of the root ball so the required fertilizer amount to be used in each hole can be easily verified and approved by the Engineer. Improper planting may delay the maintenance period and extend working days causing liquidated damages. Planting holes shall be compacted with no more than 1" settlement from finished grade.

801-4.5.1 Mulch. *ADD the following Subsection:*

All shrubs and ground cover areas shall be mulched after planting with 2 inches of mulch. Maintain a 6 inch clear "no-mulch" zone around the base of each tree and shrub.

801-5 IRRIGATION SYSTEM INSTALLATION.

801-5.1 General. *ADD the following after the last paragraph:*

Prior to all work of this Section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly

commence. Verify that irrigation system may be installed in strict conformance with all pertinent codes and regulations, the original design, the referenced standards, and the manufacturer's recommendations. In the event of discrepancy, immediately notify the Engineer.

Do not proceed with installation in areas of discrepancy until all discrepancies have been resolved. Before starting work, carefully check all grades to determine that work may safely proceed, keeping within the specified material depths with respect to finish grade.

The Engineer will approve final grades before work on this Section will be allowed to begin. Make all necessary measurements in the field to ensure precise fit of items in accordance with the original design. Coordinate the installation of all irrigation materials with all other work.

All scaled dimensions are approximate. Check and verify all size dimensions prior to proceeding with work under this Section. Exercise extreme care in excavating and working near existing utilities. Repair damages to utilities, which are caused by Contractor's operations or neglect, at no additional cost to City. Prior to installation, stake out all pressure supply lines, routing and location of sprinkler heads, valves, and automatic controller. Layout irrigation system and make minor adjustments required due to differences between site and Drawings. Where piping is shown on Drawings under paved areas, but running parallel and adjacent to planted areas, install the piping in the planted areas. Connections to, or the installation of, the water supply shall be at the locations shown on the Drawings. Minor changes caused by actual site conditions shall be made at no additional expense to the City.

Existing irrigation equipment to be replaced including valves, spray heads, and rotors shall be salvaged and delivered to the City.

Verify and be familiar with the locations, size and detail of points of connection provided as the source of water and connection to the irrigation system. Irrigation design is based on the available static water pressure shown on the Drawings. Verify static water pressure on the project prior to the start of construction. Should a discrepancy exist, notify the Engineer's authorized representative prior to beginning construction. Prior to cutting into the soil, locate all cables, conduits, sewer septic tanks, and other utilities as are commonly encountered underground and take proper precautions not to damage or disturb such improvements. If a conflict exists between the obstacles and the proposed work, promptly notify the Engineer who will arrange for relocations. Proceed in the same manner if a rock layer or any other such conditions are encountered. Protect all existing utilities and features to remain on and adjacent to the project site during construction. Repair, at its sole cost, all damage resulting from its operations or negligence.

The Agency Representative shall have, at all times, safe access to the Work. Where the Specifications require work to be tested by the Contractor, it shall not be covered over until accepted by the Engineer. Notify the Engineer, a minimum of 48 hours in advance of where and when the work is ready for testing. Should any work be covered without testing or acceptance, it shall be, if so ordered, uncovered at the Contractor's sole expense. Inspections will be required for the following at a minimum:

- System layout
- Pressure test irrigation main line (Six hours at 125 PSI) lateral lines (2 hours at 100 psi).

- Coverage test of irrigation system
- Final inspection prior to start of maintenance period
- Final acceptance

Work that fails testing and is not accepted will be re-tested. Hourly rates and expenses of the Engineer for re-inspection or re-testing will be paid by the Contractor at no additional expense to City.

Use all means necessary to protect irrigation system materials before, during, and after installation and to protect the installation work and materials of all other trades. In the event of damage, immediately make all repairs and replacements necessary to the acceptance of the Engineer and at no additional cost to the City. Exercise care in handling, loading, unloading, and storing plastic pipe and fittings under cover until ready to install. Transport plastic pipe only on a vehicle with a bed long enough to allow the pipe to lay flat to avoid undue bending and concentrated external load. Dispose of waste, trash, and debris in accordance with applicable laws and ordinances and as prescribed by authorities having jurisdiction. Do not bury waste material and debris on the site. Burning of trash and debris will not be permitted. Remove and dispose of rubbish and debris generated by his work and workmen at frequent intervals or when ordered to do so by the Engineer. At the time of completion the entire site will be cleared of tools, equipment, rubbish and debris which shall be disposed of off-site in a disposal area that is fully and legally licensed.

Temporary Repairs: The City reserves the right to make temporary repairs as necessary to keep the irrigation system in operating condition. The exercise of this right by the City shall not relieve the Contractor of his responsibilities under the terms of the guarantee as herein specified.

Supply the following items:

- Two (2) wrenches for disassembly and adjustment of each type of sprinkler head used in the irrigation system.
- Two (2) 30-inch sprinkler keys for manual operation of control valves.
- One (1) valve box cover key.
- Four (4) extra sprinkler heads of each size and type.
- 250 feet of additional drip line and 100 feet blank roll.
- 200 drip line stapes.

The above equipment shall be turned over to the Engineer at the final inspection.

At the time of the pre-maintenance period inspection, the Engineer and governing agencies will inspect the work and, if not accepted, prepare a list of items to be completed by the Contractor. At the time of the post-maintenance period or final inspection the work will be re-inspected and final acceptance will be in writing by the Engineer. The City Engineer shall have final authority on all portions of the work.

801-5.3 Irrigation Pipeline Installation.

801-5.3.1 General. *ADD the following after the last paragraph:*

Excavations shall be straight with vertical sides, even grade, and support pipe per City

Landscape Standard Plan No. 501. Trenching excavation shall follow layout indicated on Drawings to the depths below finished grade and as noted. Where lines occur under paved areas, these dimensions shall be considered below subgrade. Provide minimum cover of 24 inches on pressure supply lines. Provide minimum cover of 24 inches for control wires. Provide minimum cover of 12 inches for non-pressure lines unless lines are designated as "ON GRADE" per the plans. Backfill material on all lines shall be the same as adjacent soil free of debris, litter, and rocks over 1/2 inch in diameter. Backfill shall be tamped in 4-inch layers under the pipe and uniformly on both sides for the full width of the trench and the full length of the pipe. Backfill materials shall be sufficiently damp to permit thorough compaction, free of voids. Backfill shall be compacted to 90% relative compaction and shall conform to adjacent grades. Flooding in lieu of tamping is not allowed. Under no circumstances shall truck wheels be used to compact backfill. Provide sand backfill a minimum of 6 inches over and under all piping under paved areas.

Piping under existing pavement may be installed by jacking, boring, or hydraulic driving. No hydraulic driving is permitted under asphalt pavement. Cutting or breaking of existing pavement is not permitted. Carefully inspect all pipe and fittings before installation, removing dirt, scale, burrs, and reaming. Install pipe with all markings up for visual inspection and verification.

Remove all dented and damaged pipe sections. All lines shall have a minimum clearance of 6 inches from each other and 12 inches from lines of other trades. Parallel lines shall not be installed directly over each other. In solvent welding, use only the specified primer and solvent cement and make all joints in strict conformance with the manufacturer's recommended methods including wiping all excess solvent from each weld. Allow solvent welds at least 15 minutes setup time before moving or handling and 24 hours curing time before filling. PVC pipe shall be installed in a manner, which will provide for expansion and contraction as recommended by the pipe manufacturer. Center load all plastic pipe prior to pressure testing. All threaded plastic-to-plastic connections shall be assembled using Teflon tape or Teflon paste. For plastic-to-metal connections, work the metal connections first. Use a non-hardening pipe dope on all threaded plastic-to-metal connections, except where noted otherwise. All plastic-to-metal connections shall be made with plastic female adapters.

801-5.4 Installation of Valves, Valve Boxes, and Special Equipment. *ADD the following after the last paragraph:*

Automatic control valves, and gate valves shall be installed in the approximate locations indicated on the Drawings. Valves shall be installed in shrub areas whenever possible. Install all valves as indicated in the detail Drawings. Valves to be installed in valve boxes shall be installed one valve per box.

801-5.5.1 General. *ADD the following after the last paragraph:*

Irrigation heads shall be installed as indicated on the Drawings. Riser nipples shall be of the same size as the riser opening in the sprinkler body. Install all assemblies specified herein according to the respective detail Drawings or Specifications, using best standard practices.

801-5.6 Automatic Control System Installation. *ADD the following after the last paragraph:*

All Automatic Irrigation valves shall be connected to the existing irrigation controllers.

Three (3) sets of laminated 11"x17" new controller charts and 8.5"x11" data sheets shall be provided for all irrigations systems.

801-5.7.3 Sprinkler Coverage Test. *ADD the following after the last paragraph:*

Coverage testing shall be performed for overhead irrigation.

Adjust valves, align heads, and check the coverage of each system prior to coverage test. If it is determined by the Engineer that additional adjustments or nozzle changes will be required to provide proper coverage, make all necessary changes or adjustments prior to any planting. The entire system shall be operating properly before any planting operations commence.

Do not allow or cause any of the work of this Section to be covered up or enclosed until it has been observed, tested and accepted by the Engineer. Notify the Engineer a minimum of 48 hours in advance where and when the work is ready for testing. When the sprinkler system is completed, perform a coverage test of each system in its entirety to determine if the water coverage for the planted areas is complete and adequate in the presence of the Engineer.

Irrigation drip line to be installed per plans. The contractor shall be responsible for making field adjustments to provide proper drip coverage. Install drip line on finish grade per manufacturer's instructions. Immediately after installing drip line, flush system to the satisfaction of the Engineer. Drip line coverage to be observed, tested, and approved by the Engineer prior to burying with top soil. Notify the Engineer a minimum of 48 hours in advance where and when the work is ready for testing.

801-5.7.4 Operational Test. *ADD the following after the last paragraph:*

Furnish all materials and perform all work required to correct any inadequacies of coverage due to deviations from the Plans, or where the system has been willfully installed as indicated on the Drawings when it is obviously inadequate, without bringing this to the attention of the Engineer. This test shall be accepted by the Engineer and accomplished before starting any planting. Final inspection will not commence without record Drawings as prepared by the Contractor. During the maintenance period adjust and maintain the irrigation system in a fully operational condition providing complete irrigation coverage to all intended plantings. Clean-up shall be made as each portion of the work progresses. Refuse and excess dirt shall be removed from the site, all walks and paving shall be broomed, and any damage sustained on the work of others shall be repaired to original conditions.

801-6 MAINTENANCE AND PLANT ESTABLISHMENT. *DELETE entire section and SUBSTITUTE with the following:*

Landscape maintenance and plant establishment period shall be a minimum of ninety (90) days after "Date of Acceptance of Installation" of all planting areas. Request in writing from the Engineer, notification of the date of the start of the maintenance and planting establishment period. At the acceptance of all planting areas, request in writing from the Engineer notification of the date of the completion of the maintenance period. The maintenance period shall not officially begin or end without written notification from the Engineer. Construction fencing shall remain until after the maintenance period is complete or as directed by the Engineer. Maintain all planted areas on a continuous basis as they are completed during the progress of the work and during the establishment and maintenance period, and shall continue to maintain them until final acceptance in accordance with the following:

- Water, weed, fertilize, edge, prune, spray as necessary to promote a healthy growing condition. Maintain lawn at a mowing height recommended by the city. All planted areas shall be kept free of debris and weeds. Keep project neat and attractive throughout the maintenance period.
- Apply organic herbicides for weed control, as needed or directed by City, in accordance with manufacturer's instructions and applicable laws and regulations. Organic pre-emergent herbicide shall be required in all planter, shrub and ground cover areas. Remedy damage resulting from weed control.
- Exterminate rodents and insects as required and in accordance with applicable City of Irvine policies, State and Federal laws and regulations. Remedy damage from pest control.
- Adjust the irrigation system to sufficiently saturate root zone without rotting trees, shrubs, and ground cover. Do not exceed IRWD allocation.
- Repair or replace any damaged item caused by vehicles, vandals, rabbits, rodents, bicycles, or foot traffic during the maintenance period.
- Fertilize with "Organic/JTM Complete" at 30 lbs./1,000 s.f. at the beginning and end of the maintenance period (twice) or as indicated by the agronomic soils test.

All inspections herein specified shall be made by the City. Request inspection at least forty-eight (48) hours in advance of the time the inspection is required. Requested inspections, subsequently canceled without twenty-four (24) hours-notice, will be billed to the Contractor.

Inspection is required for, and not necessarily limited to, the following parts of the work:

- Incorporation of soil amendments and fine grading.
- Prior to digging plant pits for shrubs.
- During backfilling of plant pits with amended backfill.
- Final inspection at the end of the maintenance period.
- Irrigation Inspection / Coverage Test prior to planting.

801-8 PAYMENT. *DELETE entire section and SUBSTITUTE with the following:*

Payment for **Mobilization** shall be made at the contract lump sum price and shall be considered full compensation for furnishing labor, materials, tools, equipment, and incidentals, and for doing all work involved in furnishing and installing, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer, and no additional compensation will be allowed therefor.

Payment for **Clearing and Grubbing** shall be made at the contract lump sum price and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in furnishing and installing, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer, and no additional compensation will be allowed therefor.

Payment for **Weed Abatement** shall be made at the contract unit price per square foot

and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in furnishing and installing, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer, and no additional compensation will be allowed therefor.

Payment for **Soil Preparation & Fine Grading** shall be made at the contract unit price per square foot and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in furnishing and installing, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer, and no additional compensation will be allowed therefor.

Payment for **Shrub – 1 gallon** shall be made at the contract unit price per each and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in furnishing and installing, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer, and no additional compensation will be allowed therefor.

Payment for **Shrub – 5 gallon** shall be made at the contract unit price per each and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in furnishing and installing, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer, and no additional compensation will be allowed therefor.

Payment for **24” Box Tree** shall be made at the contract unit price per each and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in furnishing and installing, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer, and no additional compensation will be allowed therefor.

Payment for **36” Box Tree** shall be made at the contract unit price per each and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in furnishing and installing, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer, and no additional compensation will be allowed therefor.

Payment for **48” Box Tree** shall be made at the contract unit price per each and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in furnishing and installing, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer, and no additional compensation will be allowed therefor.

Payment for **Irrigation System** shall be made at the contract lump sum price and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in furnishing and installing, complete in place, as shown on the plans, as specified in the Standard Specifications and these

Special Provisions, and as directed by the Engineer, and no additional compensation will be allowed therefor.

Payment for **Wood Mulch – 2” Depth** shall be made at the contract unit price per square feet and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in furnishing and installing, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer, and no additional compensation will be allowed therefor.

Payment for **(90) Ninety Day Maintenance Period** shall be made at the contract lump sum price and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in furnishing and installing, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer, and no additional compensation will be allowed therefor.

801-9 GUARANTEE. *ADD the following Subsection:*

The guarantee shall be valid unless existing equipment utilized on the project fails within the guarantee period. Should any problem with the irrigation system be discovered within the guarantee period the Contractor shall correct it within ten (10) calendar days after receipt of written notice from City (and at no additional expense to City). When the nature of the repairs, as determined by the City, constitute an emergency (i.e. broken pressure line) the City may proceed to make repairs at the Contractor's expense. Any and all damages to existing improvement resulting either from faulty materials or workmanship, or from the necessary repairs to correct same, shall be repaired to the satisfaction of the owner by the Contractor, all at no additional cost to the City. Guarantee shall be submitted on Contractor's own letterhead as follows:

GUARANTEE FOR SPRINKLER IRRIGATION SYSTEM

We hereby guarantee that the sprinkler irrigation system we have furnished and installed is free from defects in materials and workmanship, and the work has been completed in accordance with the Drawings and Specifications, ordinary wear and tear and unusual abuse, or neglect excepted. We shall repair or replace any defective material during the period of one year after date of filing of the Notice of Completion and also repair or replace any damage resulting from the repairing or replacing of such defects at no additional cost to the owner. We shall make such repairs or replacements within 10 calendar days following written notification by the owner. In the event of our failure to make such repairs or replacements within the time specified after receipt of written notice from owner, we authorize the owner to proceed to have said repairs or replacements made at our expense and we will pay the costs and charges therefore upon demand.

CITY OF IRVINE

ELECTRIC VEHICLE CHARGER INSTALLATION AT IRVINE CIVIC
CENTER
CIP 361908
BID NO. 21-1814

APPENDICES

APPENDIX A

TECHNICAL SPECIFICATIONS

[See Separate Attachment]

APPENDIX B

EV CHARGER SPECIFICATIONS

[See Separate Attachment]

APPENDIX C
STANDARD PLANS

[See Separate Attachment]

Copies of the following agency standard plans and/or details referenced by the plans and Specifications are attached hereto and are made a part of these Special Provisions. See Appendix C.

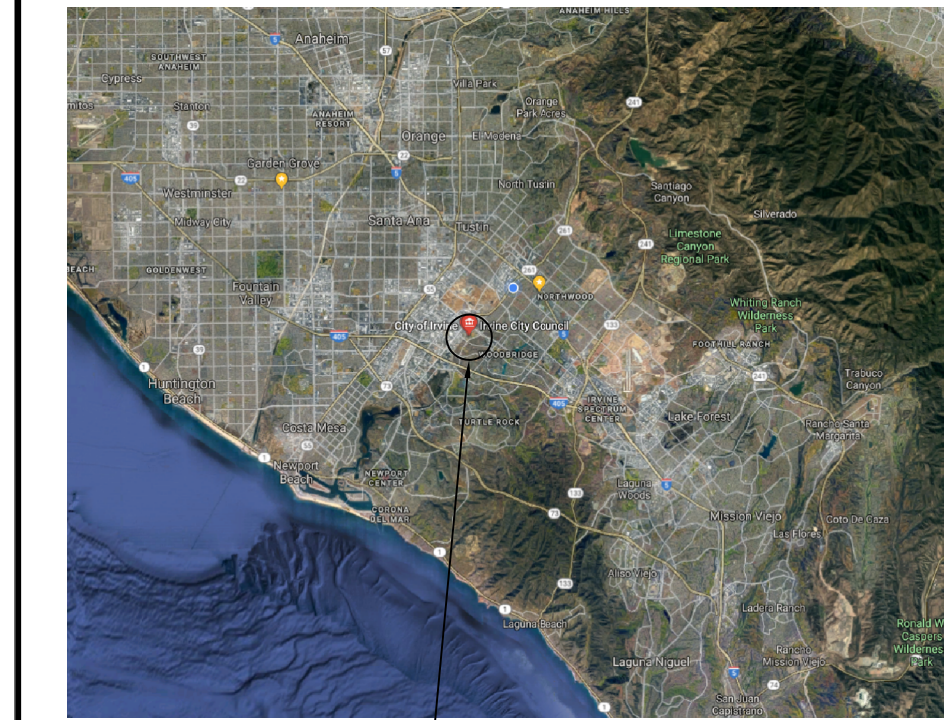
AGENCY:

STD. PLAN NO.:

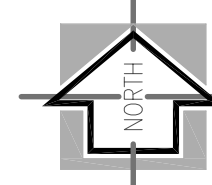
DESCRIPTION:



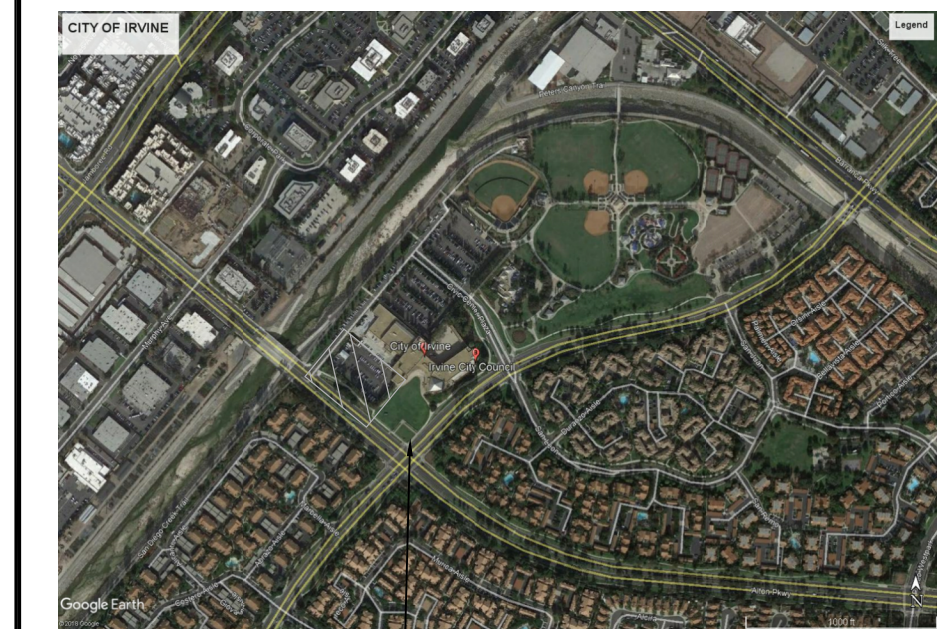
IRVINE CIVIC CENTER ELECTRIC VEHICLE CHARGING STATIONS- CIP 361908



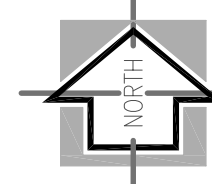
IRVINE CIVIC CENTER



VICINITY MAP



PROJECT LOCATION



LOCATION MAP

SHEET INDEX

E-0.01	PROJECT COVER SHEET
E-0.02	GENERAL NOTES, SPECIFICATIONS, ABBREVIATIONS AND SYMBOL LIST
E-1.00	ELECTRICAL SITE PLAN
E-2.00	ENLARGEMENT MAIN ELECTRICAL ROOM (NOT ISSUED)
E-3.00	SINGLE LINE DIAGRAM
E-4.00	DETAILS

SCOPE OF WORK

- PHASE 1**
- PROVIDE A NEW SOUTHERN CALIFORNIA EDISON ELECTRICAL SERVICE @ 600A, 480V, 3 PHASE, 4 WIRE TO INCLUDE A OUTDOOR TYPE PAD MOUNTED TRANSFORMER & A OUTDOOR TYPE SCE METERED PAD MOUNTED DISTRIBUTION BOARD AND TRANSFORMER
 - PROVIDE SCE PRIMARY CONDUIT AS DIRECTED SCE.
 - PROVIDE PARKING LOT AND SITE LANDSCAPE ARE SAW CUTTING AND TRENCHING FOR UNDERGROUND DISTRIBUTION FOR NEW ELECTRICAL SERVICE AND ELECTRICAL VEHICLE CHARGING STATIONS. PATCH AND REPAIR TO MATCH EXISTING CONDITIONS.
 - PROVIDE AND INSTALL FOUR (4) ELECTRICAL VEHICLE CHARGING STATIONS, DUAL PORT LEVEL 2 TYPE, AND TWO (2) DC FAST CHARGING STATIONS.
 - PROVIDE FUTURE CONDUIT STUB-UPS FOR FUTURE EV CHARGING STATIONS.
 - PROVIDE ONE ADA ACCESSIBLE LEVEL 2, DUAL PORT EV CHARGING STATION.

APPLICABLE CODES

- 2019 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE,
- 2019 TITLE 24 C.C.R.
- 2019 CALIFORNIA BUILDING CODE (CBC), TITLE 24 C.C.R.
- 2019 CALIFORNIA ELECTRICAL CODE (CEC), TITLE 24 C.C.R.
- 2019 CALIFORNIA GREEN BUILDING CODE (CGBC)
- 2019 CALIFORNIA ENERGY CODE

CLIENT



PROJECT NAME

**IRVINE
CIVIC CENTER
ELECTRIC VEHICLE
CHARGING STATIONS
- CIP 361908**

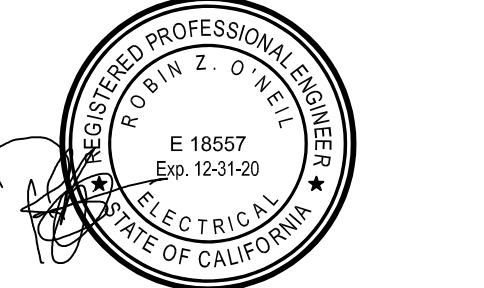
1 CIVIC CENTER PLAZA
IRVINE, CA 92606

ENGINEER/ARCHITECT



1 PETERS CANYON ROAD, SUITE 130
IRVINE, CA 92606
TEL: 949-387-8500, FAX: 949-387-0800

STAMP



AGENCY APPROVAL

ISSUE

REV.	DESCRIPTION	DATE
	PROGRESS SET	07/17/19
	PROGRESS SET	01/31/20
	PROGRESS SET	03/13/20

KEY PLAN

PROJECT NO.	18.103.00
PRINT DATE	7/16/2020
DRAWN BY	
CHECKED BY	

SHEET TITLE

**PROJECT COVER
SHEET**

SHEET NUMBER

E-0.01

NOT FOR CONSTRUCTION

GENERAL ELECTRICAL SPECIFICATIONS & SYMBOLS

PART I - GENERAL

A. CONDITIONS

- MATERIALS SHALL BE NEW AND OF QUALITY AS SPECIFIED ON THE PLANS OR SPECIFICATIONS AND MUST CARRY THE UNDERWRITER'S LABORATORIES APPROVAL COVERING THE PURPOSE FOR WHICH THEY ARE USED, IN ADDITION TO MEETING ALL REQUIREMENTS OF THE CURRENT APPLICABLE CODES AND REGULATIONS.

B. RELATED WORK BY OTHERS

- THE ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT, TRENCH, AND BACKFILL FOR ELECTRICAL SERVICE ENTRANCE FROM THE MAIN SERVICE TO UTILITY POINT OF ELECTRICAL SERVICE. ELECTRICAL CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE ELECTRICAL SERVICE ENTRANCE WITH SERVING UTILITY COMPANY.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT, TRENCH, AND BACKFILL FOR PRIMARY PHONE AND CATV SERVICE FROM THE TELEPHONE TERMINAL BOARD OR CABINET TO THE PHONE COMPANY AND CATV COMPANY POINT OF SERVICE.

CODES, REGULATIONS, AND STANDARDS

- THE INSTALLATION SHALL COMPLY WITH APPLICABLE LOCAL AND STATE CODES AND ORDINANCES, WITH THE REGULATIONS OF THE CURRENTLY ACCEPTED EDITION OF THE CALIFORNIA ELECTRICAL CODE AND WITH THE REQUIREMENTS OF THE POWER, TELEPHONE, AND CATV COMPANIES FURNISHING SERVICES TO THIS INSTALLATION.
- THE FOLLOWING INDUSTRY STANDARDS, SPECIFICATIONS, AND CODES ARE MINIMUM REQUIREMENTS:
 - THE NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION STANDARDS.
 - THE NATIONAL ELECTRICAL CODE INCLUDING LOCAL AMENDMENTS.
 - UNDERWRITER LABORATORIES INCORPORATED STANDARDS.
 - AMERICAN NATIONAL STANDARDS INSTITUTE.

D. INSPECTION OF SITE

- PRIOR TO SUBMITTING A BID FOR ELECTRICAL WORK, THE CONTRACTOR SHALL VISIT THE SITE OF THE PROPOSED CONSTRUCTION AND SHALL THOROUGHLY ACQUAINT HIMSELF WITH EXISTING UTILITIES, AND WORKING CONDITIONS TO BE ENCOUNTERED, ETC. ALLOWANCE WILL NOT BE MADE FOR NON-COMPLIANCE WITH THIS CONDITION AFTER BIDDING.

2. ELECTRICAL INSTALLATION SHALL MEET THE EXISTING CONDITIONS.

E. STORAGE AND HANDLING OF MATERIAL

- DELIVER MATERIALS AND EQUIPMENT TO THE PROJECT IN THE MANUFACTURER'S ORIGINAL, UNOPENED, LABELED CONTAINERS. PROTECT AGAINST MOISTURE, TAMPERING, OR DAMAGE FROM IMPROPER HANDLING OR STORAGE. CONTRACTOR SHALL PROTECT AND BE RESPONSIBLE FOR ANY DAMAGE TO WORK OR MATERIALS UNTIL FINAL ACCEPTANCE BY THE OWNER, AND SHALL MAKE GOOD WITHOUT COST TO THE OWNER, ANY DAMAGE OR LOSS THAT MAY OCCUR DURING THIS PERIOD.

- ARRANGE FOR TIMELY DELIVERY OF MATERIALS AND EQUIPMENT TO THE JOB SITE IN ORDER TO MINIMIZE THE LENGTH OF TIME BETWEEN DELIVERY AND INSTALLATION.

- COVER AND PROTECT ANY MATERIAL WHICH MAY BE AFFECTED BY THE WEATHER WHILE IN TRANSIT OR STORED AT THE PROJECT SITE. ANY MATERIAL FOUND DEFECTIVE OR NOT INSTALLED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS MAY BE REJECTED BY THE ENGINEER.

F. CLEAN UP

- KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIALS, OR RUBBISH CAUSED BY EMPLOYEES OR WORK UNDER THIS DIVISION OF THE SPECIFICATIONS. AT THE COMPLETION OF THE WORK REMOVE SURPLUS MATERIALS, TOOLS, AND LEAVE THE PREMISES BROOM-CLEAN.

G. DRAWINGS

- THE DRAWINGS INDICATE THE GENERAL ARRANGEMENT AND LOCATIONS OF THE ELECTRICAL WORK DATA PRESENTED ON THESE DRAWINGS ARE AS ACCURATE AS PLANNING CAN DETERMINE, BUT FIELD VERIFICATION OF DIMENSIONS, LOCATIONS, LEVELS, TO SUIT FIELD CONDITIONS IS REQUIRED.

- REVIEW ALL ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DRAWINGS AND ADJUST WORK TO MEET THE REQUIREMENTS OF CONDITIONS SHOWN. THE ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER OTHER DRAWINGS.

- DISCREPANCIES BETWEEN DIFFERENT PLANS, OR BETWEEN DRAWINGS AND SPECIFICATIONS, OR REGULATIONS AND CODES GOVERNING THE INSTALLATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING BEFORE THE DATE OF BID OPENING. IF DISCREPANCIES ARE NOT REPORTED, THE CONTRACTOR SHALL BID THE GREATER QUANTITY OR BETTER QUALITY, AND APPROPRIATE ADJUSTMENTS WILL BE MADE AFTER CONTRACT AWARD.

- CONTRACTOR SHALL BE RESPONSIBLE TO FIELD MEASURE AND CONFIRM MOUNTING HEIGHTS AND LOCATION OF ELECTRICAL EQUIPMENT WITH RESPECT TO COUNTERS, RADIATION, ETC. DO NOT SCALE DISTANCES OFF THE ELECTRICAL DRAWINGS. USE ACTUAL BUILDING DIMENSIONS.

H. EXCAVATION CUTTING, AND FITTINGS

- PERFORM THE EXCAVATION, CUTTING, FITTING, REPAIRING, AND FINISHING OF THE WORK NECESSARY FOR THE INSTALLATION OF THE EQUIPMENT OF THIS SECTION. HOWEVER, NO CUTTING OF THE WORK OF OTHER TRADES OR OF ANY STRUCTURAL MEMBERS SHALL BE DONE WITHOUT THE CONSENT OF THE ARCHITECT.

I. COOPERATION WITH OTHER CONTRACTORS

- COOPERATE WITH THE OTHER TRADES SO THAT THE INSTALLATION OF THE ELECTRICAL, OUTLETS AND EQUIPMENT WILL BE PROPERLY COORDINATED. CONDUIT, LIGHTING FIXTURES, AND OTHER EQUIPMENT LOCATIONS SHALL BE CHECKED WITH OTHER TRADES TO AVOID CONFLICT WITH THE PIPING, DUCTWORK, STEEL, BEAMS, OR OTHER OBSTRUCTIONS.

- CAREFULLY CHECK THE LOCATIONS OF THE OUTLET BOXES AND DETERMINE THAT THEY HAVE NOT BEEN DISTURBED DURING THE INSTALLATION OF MATERIALS OF OTHER TRADES.

- COORDINATE THE LOCATION OF THE TRENCHES AND CONDUITS FOR ELECTRICAL AND TELEPHONE UTILITY SERVICES WITH THE GENERAL CONTRACTOR.

- COORDINATE HVAC EQUIPMENT CONNECTION REQUIREMENTS WITH HVAC CONTRACTOR.

PART II - PRODUCTS AND EXECUTION

MATERIALS

- ALL MATERIALS SHALL BE NEW AND OF QUALITY AS SPECIFIED ON THE PLANS OR SPECIFICATIONS AND MUST CARRY THE UNDERWRITER'S LABORATORIES APPROVAL COVERING THE PURPOSE FOR WHICH THEY ARE USED, IN ADDITION TO MEETING ALL REQUIREMENTS OF THE CURRENT APPLICABLE CODES AND REGULATIONS.

CONDUIT

- ALL WIRING SHALL BE INSTALLED IN LISTED METALLIC CONDUIT EXCEPT AS PERMITTED BELOW. RGS, WITH A 20 MIL PVC COATING WILL BE USED WHEN IN CONTACT WITH EARTH. IMC MAY BE USED IN INDOOR LOCATIONS NOT IN CONTACT WITH THE EARTH. EMT MAY BE USED IN INDOOR LOCATIONS NOT IN CONTACT WITH EARTH, NOT IN CONCRETE SLABS OR WALLS AND NOT SUBJECT TO DAMAGE. PVC MAY BE USED IN OR BELOW CONCRETE AND DIRECT BURIED IN EARTH. FLEXIBLE STEEL CONDUIT SHALL BE USED FOR INDOOR FINAL CONNECTIONS TO EQUIPMENT IN LENGTHS NOT TO EXCEED 72" LIQUID-TIGHT FLEXIBLE STEEL CONDUIT SHALL BE FOR OUTDOOR FINAL CONNECTIONS TO EQUIPMENT NOT TO EXCEED 36".
- WHERE CONDUIT ENTERS OUTLET BOXES, FIXTURES OR CABINETS, FIRMLY FASTEN WITH STEEL SET SCREW, COMPRESSION CONNECTORS, OR DOUBLE LOCKNUTS FOR GRG. ALL CONNECTIONS SHALL HAVE BUSHINGS OR INSULATED THROAT CONNECTORS. FIRMLY FASTEN CONDUIT TO THE BUILDING CONSTRUCTION. RUN EXPOSED CONDUIT PARALLEL TO THE BUILDING LINES, SUPPORTED BY APPROPRIATE HANGERS (UNISTRUT, T & B OR APPLINGTON, OR EQUAL).
- COVER METALLIC CONDUIT IN CONTACT WITH EARTH WITH POLYETHYLENE TAPED SPIRAL WRAPPED, 1/2 LAPPED TO PROVIDE 20 MIL THICKNESS. TAPE SHALL BE SCOTCH NO. 50 TAPE. CONDUIT AND DUCTS NOT UNDER BUILDINGS AND FEEDER DUCTS SHALL BE INSTALLED PER N.E.C. 300-5. MAKE JOINTS WITH COMPOUND TO BE WATERTIGHT.
- FITTINGS AND CONDUIT BODIES SHALL BE STEEL. NO DIECAST FITTINGS.
- CONDUIT SIZES SHALL BE AS REQUIRED BY CODE AND AS INDICATED OR SPECIFIED.
- ALL EMPTY CONDUIT SYSTEMS SHALL HAVE A NYLON PULL STRING TO FACILITATE INSTALLATION OF FUTURE WIRE.
- SCHEDULE 40 PVC CONDUIT SHALL BE PERMITTED UNDERGROUND WITH PROPER FITTINGS, ALL UL APPROVED AND CEMENTED JOINTS. PENETRATIONS THROUGH FLOOR SLABS AND BENDS GREATER THAN 22" SHALL BE WRAPPED RIGID GALVANIZED STEEL ELBOWS.
- CONDUITS AND OUTLETS SHALL BE CONCEALED WITH THE BUILDING STRUCTURE, EXCEPT THAT CERTAIN MOTOR AND LIGHTING FEEDER CONDUITS MAY BE RUN EXPOSED IN CERTAIN AREAS AS INDICATED ON THE DRAWINGS. CONDUIT SHOWN TO BE INSTALLED IN CABINETS, COUNTERS, AND CASEWORK SHALL BE RUN AS DIRECTED BY THE ARCHITECT.
- ALL CONDUIT SYSTEMS SHALL HAVE A CODE SIZED COPPER GROUND CONDUCTOR INCREASE CONDUIT SIZE AS REQUIRED.
- CONDUIT PENETRATION THROUGH ROOF SHALL HAVE ROOF FLASHING WITH CAULK TYPE COUNTER FLASHING SLEEVE. INSTALLATION SHALL BE WATERTIGHT.
- CONDUITS SHALL BE ROUTED SURFACE ON THE STRUCTURE, PARALLEL AND PERPENDICULAR TO THE STRUCTURE.

OUTLET, PULL, AND JUNCTION BOXES

- EACH SWITCH, LIGHT, RECEPTACLE OR OTHER OUTLET SHALL BE PROVIDED WITH A CODE GAUGE, GALVANIZED STEEL OUTLET BOX. JUNCTION AND PULL BOXES SHALL BE CODE GAUGE, GALVANIZED STEEL. OUTLET BOXES SHALL BE OF THE ONE PIECE, KNOCKOUT TYPE, IN GENERAL 4" SQUARE WITH PLASTER RING. PLASTER RINGS SHALL BE SET TO PROVIDE NOT MORE THAN 1/8" FROM WALL SURFACE TO RING. IN NO CASE SHALL PLASTER RING PROJECT BEYOND SURFACE OF WALL. SINGLE GANG RINGS SIMILAR TO STEEL CITY 52950 SHALL BE USED FOR 4" BOXES IN UNFINISHED BRICK NUMBER 180 BOXES MAY BE USED FOR UNFINISHED MASONRY FLUSH WALL OUTLETS. CENTER ALL OUTLET BOXES IN BLOCK COURSE.
- BOXES INSTALLED IN POURED CEMENT FLOORS SHALL BE FLUSH TYPE CAST IRON OR STEEL WITH WATERTIGHT GASKETED COVERS. WHERE BOXES ARE INSTALLED IN FLOORS WITH TILE OR CARPET FLOOR COVERING, COVERS SHALL BE OF THE RECESSED TYPE TO ACCOMMODATE THE FLOOR COVERING.
- BOXES INSTALLED FOR THE ALARM, COMPUTER, AND SECURITY SYSTEM SHALL BE PROVIDED WITH APPROPRIATE COVER PLATES.
- BOXES FOR TELEPHONE, COMPUTER, T.V., FIRE ALARM, SECURITY, AND SIMILAR SYSTEMS SHALL BE MINIMUM 4" SQUARE AND 2-1/8" DEEP.

PANEL BOARDS

- CIRCUIT BREAKER TYPE AS INDICATED ON DRAWINGS. UNLESS INDICATED OTHERWISE, ALL PANELS SHALL HAVE PANEL BOARD TYPE CONSTRUCTION WITH BOLT-ON CIRCUIT BREAKERS FOR 30 PANELS. MANUFACTURERS SHALL BE GENERAL ELECTRIC, SQUARE D, SIEMENS, CUTLER-HAMMER OR EQUAL WITH VOLTAGE, SIZES, AND RATINGS AS INDICATED ON DRAWINGS.
- THE CIRCUIT BREAKERS SHALL BE OPERABLE IN ANY POSITION AND BE REMOVABLE FROM THE FRONT OF THE PANEL BOARD WITHOUT DISTURBING THE ADJACENT UNITS. BRANCH BREAKERS SHALL BE OF SUCH DESIGN THAT COMBINATION OF SINGLE-POLE, DOUBLE-POLE, AND THREE-POLE BREAKERS CAN BE ASSEMBLED ON THE SAME PANEL. EACH BRANCH CIRCUIT SHALL BE CLEARLY NUMBERED. BRANCH AND MAIN TERMINALS SHALL BE OF THE SOLDERLESS TYPE. HANDLE TIES TO FORM MULTI-POLE BREAKERS NOT ACCEPTABLE.
- WIRE TERMINATION FOR PANEL BOARDS AND CIRCUIT BREAKERS SHALL BE LISTED AS SUITABLE FOR 75 DEGREES C.
- PROVIDE A TYPEWRITTEN CIRCUIT INDEX BEHIND CLEAR PLASTIC COVER ON INSIDE OF DOOR. INFORMATION SHALL INCLUDE ROOM AND TYPE LOAD SERVED. ALL CIRCUIT BREAKERS SHALL BE IDENTIFIED, INCLUDING SPARES. INDEX CARD FRAME SHALL BE METAL, SECURED TO DOOR.

- WHERE PANEL BOARDS ARE INSTALLED FLUSH WITH THE WALLS, EXTEND EMPTY CONDUITS FROM THE PANEL BOARD TO AN ACCESSIBLE SPACE ABOVE OR BELOW. PROVIDE 3/4" (MINIMUM SIZE) CONDUIT FOR EVERY THREE SINGLE SPARE CIRCUIT BREAKERS OR SPACE OR EQUIVALENT MULTI-POLE ARRANGEMENT, OR FRACTION THEREOF, BUT NOT LESS THAN TWO CONDUITS FOR EACH PANEL.

- PANEL BOARDS TO BE PROVIDED WITH COPPER BUSSING ONLY.
- LOAD CENTERS SHALL NOT BE ALLOWED UNLESS NOTED OTHERWISE.

- ALL NEW PANELBOARDS SHALL COMPLY WITH NEC ARTICLE 110.16. EQUIPMENT MANUFACTURERS SHALL PROVIDE WARNING LABELS FOR ALL PANELBOARDS, GENERATORS, AUTOMATIC TRANSFER SWITCHES, ETC TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRICAL ARC FLASH HAZARDS. THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICE, OR MAINTENANCE OF THE EQUIPMENT.

WIRE

- CONDUCTOR SIZES SHOWN ON THE DRAWINGS ARE BASED ON COPPER WIRE. UNLESS OTHERWISE SPECIFIED, ALL WIRE SHALL BE TYPE XHHW FOR FEEDERS OR BRANCH CIRCUITS LARGER THAN 4 AWG. TYPE THHN/THWN INSULATION FOR FEEDERS AND BRANCH CIRCUITS 4 AWG AND SMALLER. ALL BRANCH CIRCUIT WIRING SHALL BE COPPER. SERVICE AND PANEL FEEDERS #10 AND LARGER MAY BE ALUMINUM, PROVIDED THE CONDUCTOR SIZES ARE INCREASED FOR EQUAL OR GREATER AMPACITY AND EQUAL OR LESS EQUIVALENT VOLTAGE DROP. INCREASE CONDUIT SIZE AS REQUIRED. THE WIRES SHALL BE MARKED WITH COLOR TO SIMPLIFY CIRCUIT IDENTIFICATION. UNLESS OTHERWISE REQUIRED BY LOCAL ORDINANCES GROUND WIRES SHALL BE GREEN, NEUTRAL WIRES SHALL BE 120V-WHITE, 277V-GRAY, AND LIVE WIRES 208Y/120V AND 120/240 SHALL BE BLACK (PHASE A), RED (PHASE B), AND BLUE (PHASE C). FOR 480Y/277V CIRCUITS, THE COLOR CODE SHALL BE BROWN (PHASE A), ORANGE (PHASE B), AND YELLOW (PHASE C). THE WIRE SHALL BE 12 AWG UNLESS OTHERWISE INDICATED. CIRCUIT SHALL BE LABELED IN EACH J-BOX.
- WHERE ALUMINUM WIRE IS USED, ALUMINUM CONDUCTOR MATERIAL SHALL COMPLY WITH N.E.C. 310-14 AND ALL CONNECTIONS AND TERMINATIONS SHALL BE MACHINE COMPRESSION TYPE EQUAL TO BURNDY "HI PLUS" OR "MACADAPT", NO EXCEPTIONS.
- NO WIRE SHALL BE INSTALLED IN THE CONDUIT SYSTEM UNTIL THE CONDUIT SYSTEM IS COMPLETE. USE MINERAL OIL GREASE OR EQUIVALENT AS A LUBRICANT TO FACILITATE THE INSTALLATION OF THE CONDUCTORS IN THE CONDUIT SYSTEM.
- SPICES IN EXTERIOR PULL BOXES AND MANHOLES SHALL BE WEATHERPROOF USING "SCOTCHCAST" SPLICE KIT OR APPROVED EQUAL. SEAL ENDS OF CONDUITS AND DUCTS WITH "DUCTSEAL" OR APPROVED EQUAL.
- PROVIDE SOLID CONDUCTOR FOR 12 AWG AND SMALLER.

WIRING DEVICES

- WALL SWITCHES SHALL BE SPECIFICATION GRADE AC SILENT TYPE SWITCHES, 20A, 120/277 VOLT.
- RECEPTACLES SHALL BE SPECIFICATION GRADE, DUPLEX TYPE, NEMA 5-20R, 20 AMPERE, 120 VOLT GROUNDED TYPE. SPECIAL APPLICATION RECEPTACLES SHALL BE INDICATED ON PLANS. MOUNT WITH THE GROUND DOWN.
- DEVICE PLATES SHALL BE EQUAL TO SIERRA SMOOTH-LINE PLASTIC WALL PLATES. COLOR SHALL BE WHITE, UNLESS OTHERWISE NOTED.
- RECEPTACLES IN OUTDOOR AND WET LOCATIONS SHALL BE INSTALLED WITH A HINGED OUTLET COVER/CLOSURE CLEARLY MARKED AND UL LISTED SUITABLE FOR WET LOCATIONS WHILE IN USE, EQUAL TO TAYMAC SPECIFICATION GRADE.

LIGHTING FIXTURES

- PROVIDE ALL LIGHTING FIXTURES, WIRING AND CONNECTED. THE DRAWINGS INDICATE THE FIXTURES FOR EACH LOCATION. PROVIDE LAMPS FOR ALL FIXTURES. THE LAMPS SHALL BE BY THE SAME MANUFACTURER. VERIFY CEILING CONSTRUCTION BEFORE ORDERING RECESSED UNITS. PROVIDE PLASTER FRAMES AND HANGERS AS REQUIRED. CEILING CONSTRUCTION, ARCHITECTURAL ACCESSORIES, VOLTAGE, AND BALLASTS TO MEET THE EXISTING CONDITION.

SYSTEM GROUNDING

- GROUNDING SHALL COMPLY WITH REQUIREMENTS OF ARTICLE 250. ALL EXPOSED NONCURRENT CARRYING METALLIC PARTS OF ELECTRICAL EQUIPMENT, METALLIC RACEWAY SYSTEMS, METALLIC CABLE ARMOR, GROUNDING CONDUCTOR OF NONMETALLIC SHEATHED CABLES, GROUNDING CONDUCTOR IN NONMETALLIC RACEWAYS, AND GROUNDED CONDUCTORS OF THE WIRING SYSTEM SHALL BE GROUNDED.

- GROUNDING CONDUCTOR (NEUTRAL) OF THE WIRING SYSTEM SHALL BE CONNECTED TO THE SYSTEM GROUNDING CONDUCTOR AT A SINGLE PLACE IN EACH SYSTEM BY REMOVABLE BONDING JUMPERS, SIZED ACCORDING TO THE APPLICABLE PROVISIONS OF THE NATIONAL ELECTRICAL CODE. THE GROUNDED CONDUCTOR (NEUTRAL) TO THE GROUNDING CONDUCTOR CONNECTION SHALL BE LOCATED IN THE ENCLOSURE FOR THE SYSTEM'S OVERCURRENT PROTECTION OR WHERE OTHERWISE INDICATED ON THE PLANS OR SPECIFICATIONS.

- A GROUND BUS SEPARATE FROM THE NEUTRAL BUS SHALL BE PROVIDED IN ALL SWITCHBOARDS AND PANELBOARDS. GROUND BUS SHALL BE RETORQUED (CHECKED) PRIOR TO ENERGIZING EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS.

- GROUND BUSES AND NEUTRAL BUSES IN ALL DISTRIBUTION PANELS, SWITCHBOARDS, PANELBOARDS, AND THOSE PROVIDED IN ANY EQUIPMENT SHALL BE ISOLATED EXCEPT WHERE REQUIRED TO BE CONNECTED AS SPECIFIED ABOVE FOR THE SERVICE ENTRANCE AND IN TRANSFORMER TERMINAL COMPARTMENTS.

- WHEN INDICATED ON THE DRAWINGS, EQUIPMENT GROUNDING CONDUCTORS SHALL BE EXTENDED FROM THE GROUND BUS IN THE DISTRIBUTION EQUIPMENT TO THE RECEPTACLE, FIXTURE OR DEVICE LUGS WHERE THEY ARE PROVIDED. WHERE LUGS ARE NOT PROVIDED, EQUIPMENT GROUNDING CONDUCTORS SHALL BE CONNECTED TO EQUIPMENT ENCLOSURES. THE CONNECTIONS SHALL BE ARRANGED SUCH THAT REMOVAL OF THE RECEPTACLE, EQUIPMENT GROUND CONDUCTORS, OR GROUND JUMPERS FROM GROUND BUSSING SHALL NOT AFFECT THE GROUND SYSTEM.

- RACEWAYS MAY NOT BE USED AS A GROUNDING CONDUCTOR FOR POWER AND LIGHTING CIRCUITS. ALL CONDUIT SHALL HAVE SEPARATE CODE SIZED GREEN GROUND WIRE INSTALLED IN THE CONDUIT TO INSURE A CONTINUOUS GROUNDING PATH.

- IN INACCESSIBLE LOCATIONS, MAKE CONNECTIONS BY EXOTHERMIC WELD PROCESS.

- IN ACCESSIBLE LOCATIONS, CONNECTIONS SHALL BE MADE WITH BOLTED THROUGH, APPROVED SOLDERLESS BRONZE GROUNDING DEVICES.

- BOND TOGETHER METAL SIDING NOT ATTACHED TO GROUNDED STRUCTURE BOND TO GROUND.

TELEPHONE SYSTEM

- TELEPHONE WALL OUTLETS SHALL CONSIST OF STANDARD BOXES MOUNTED 18" ABOVE THE FLOOR UNLESS OTHERWISE INDICATED. CONNECT OUTLETS TO TELEPHONE TERMINAL WITH SEPARATE 3/4" CONDUIT UNLESS OTHERWISE SHOWN ON DRAWINGS. PROVIDE A TERMINAL MOUNTING BOARD FOR THE INCOMING SERVICE CABLE.

LIGHTING CONTROL

- FURNISH AND INSTALL TIME SWITCHES, PHOTOCELLS, CONTACTORS AND FULL LIGHTING CONTROL SYSTEMS AS REQUIRED FOR LIGHTING CONTROLS INDICATED ON THE DRAWINGS.

- TIME SWITCHES SHALL BE EQUAL TO PARAGON, GENERAL ELECTRIC, TORK, OR INTERMATIC AND SHALL HAVE SIZE AND NUMBER OF POLES AS REQUIRED.

- PHOTOCELLS SHALL BE EQUAL TO TORK OR INTERMATIC WITH VOLTAGE AS INDICATED.

GUARANTEE

- GUARANTEE ALL MATERIAL FURNISHED AND ALL WORKMANSHIP PERFORMED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OF WORK. ANY DEFECTS DEVELOPING WITHIN THIS PERIOD, TRACEABLE TO MATERIAL FURNISHED AS A PART OF THIS SECTION OR WORKMANSHIP PERFORMED HEREUNDER, SHALL BE MADE GOOD AT NO EXPENSE TO THE OWNER.

SHOP DRAWINGS AND APPROVALS

- THE ITEMS SPECIFIED HEREIN AND ON DRAWINGS ARE USED AS A STANDARD OF QUALITY. ANY MATERIALS OF EQUAL QUALITY AND AESTHETIC VALUE WILL BE GIVEN CONSIDERATION AS A SUBSTITUTE FOR THE MATERIALS SPECIFIED. NO APPROVAL WILL BE GIVEN TO A SPECIFIC CATALOG NUMBER, MODEL, OR TYPE OF EQUIPMENT, PRIOR TO BIDDING. AFTER BIDDING, THE DECISION OF THE ARCHITECT AND/OR ENGINEER DETERMINING EQUAL MATERIALS WILL BE FINAL.
- THE CONTRACTOR SHALL SUBMIT SEVEN (7) IDENTICAL BOUND SETS OF SHOP DRAWINGS ON THE FOLLOWING ITEMS:
 - LIGHTING FIXTURE CUTS AND PERFORMANCE DATA.
 - OUTLINE DRAWINGS AND DATA SHEETS OF EACH PANELBOARD AND SWITCHBOARD.
 - OUTLINE DRAWINGS OF ALL SWITCHGEAR.
- SUBMIT ITEMS AT ONE TIME IN A NEAT AND ORDERLY MANNER WITHIN 15 DAYS OF AWARD OF CONTRACT. PARTIAL SUBMITTALS WILL NOT BE ACCEPTABLE.

RECORD AND AS-BUILT DRAWINGS

- THE ELECTRICAL CONTRACTOR SHALL MAINTAIN A SET OF DRAWINGS AT THE JOB SITE FOR THE EXCLUSIVE PURPOSE OF MAINTAINING A RECORD OF ALL WORK INSTALLED AND TO SHOW ANY DEVIATIONS FROM THE WORK INDICATED ON THE DRAWINGS.
- AT THE COMPLETION OF THE PROJECT, ONE SET OF REPRODUCIBLE DRAWINGS, SHOWING ALL AS-BUILT CONDITIONS, SHALL BE DELIVERED TO THE OWNER FOR ACCEPTANCE PRIOR TO FINAL PAYMENT.

CONDUIT

— RACEWAY AND CONDUCTORS CONCEALED ABOVE CEILING OR IN WALL AT ELECTRICAL CONTRACTOR'S OPTION. #12 AWG MINIMUM SIZE CONDUCTOR UNLESS NOTED OTHERWISE.

- - - CONDUIT BELOW FLOOR OR UNDERGROUND. DEPTH OF UNDERGROUND CONDUITS SHALL BE PER CEC.

— E — EXISTING CONDUIT OR BRANCH CIRCUIT TO REMAIN.

— R — RACEWAY DOWN. #12 AWG MINIMUM SIZE CONDUCTOR UNLESS NOTED OTHERWISE.

— U — RACEWAY UP. #12 AWG MINIMUM SIZE CONDUCTOR UNLESS NOTED OTHERWISE.

→ CONCEALED BRANCH CIRCUIT HOMERUN. FOR NORMAL BRANCH CIRCUIT WIRING CONTRACTOR MAY COMBINE UP TO THREE CIRCUITS IN ONE RACEWAY.

→ INDICATES CIRCUIT CONTINUATION.

— CONDUIT STUB OUT, CAP END OF CONDUIT.

— CONDUIT SLEEVE.

MISCELLANEOUS

	MECHANICAL EQUIPMENT TAG
	DIAGRAM TAG
	KEYNOTE SYMBOLS
	REVISION SYMBOL
	FEEDER SCHEDULED EQUIPMENT
	ELECTRICAL EQUIPMENT TAG
	LIGHT FIXTURE TAG

SPECIAL SYSTEMS

TELPHONE TERMINAL BACKBOARD "TTB". 3/4 INCH SANDED CPX FIRE RATED PAINTED PLYWOOD, 4' X 8' UNLESS NOTED OTHERWISE.

TELEPHONE/DATA OUTLET DEVICE BOX. PROVIDE WITH 1" MINIMUM EMPTY CONDUIT WITH PULL STRING TO 4" ABOVE ACCESSIBLE CEILING. MOUNT AT 18" AFF TO CENTERLINE UNLESS NOTED OTHERWISE. TELEPHONE/DATA WIRING AND DEVICES BY OTHERS. "NUMERAL" ADJACENT INDICATES NUMBER OF TEL/DATA DROPS.

CABLE TELEVISION OUTLET. MOUNT AT 18" AFF TO CENTERLINE UNLESS NOTED OTHERWISE. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN. USE 4-11/16" SQUARE BOX WITH SINGLE GANG PLASTER RING. PROVIDE BLANK COVERPLATE OVER ALL UNUSED OUTLETS. (SUBSCRIPT CTV INDICATES CLOSED-CIRCUIT T.V. OUTLET)

VOLUME CONTROL AND CEILING RECESS SPEAKER. CONTRACTOR TO INSTALL J-BOX WITH 3/4" EXTENDED TO THE CEILING SPACE. SPEAKERS TO BE RADIO SHACK 8" DIA. MODEL 40-1366. INCLUDE WIRING FROM EACH VOLUME CONTROL TO THE SPEAKERS.

WIRELESS ACCESS POINT.

SPEAKER, CEILING MOUNTED

WIRING

--- CONDUIT ROUTED UNDERFLOOR / UNDERGROUND

- - - RACEWAY W/ #12 CONDUCTORS UNO

→ RACEWAY TURNED UP

→ RACEWAY TURNED DOWN

→ HOMERUN TO PANELBOARD 3/4" w/ (3)#12 CONDUCTORS UON

→ CONDUIT CAP-OFF

LIGHTING

LED LIGHTING FIXTURES COMPLETE WITH INTEGRAL DRIVERS. REFER TO LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.

EXIT LIGHTS. REFER TO LIGHTING FIXTURE SCHEDULE FOR DETAILS. SURFACE MOUNT ON WALL OR CEILING AS INDICATED.

LIGHTING FIXTURE NOTATION A, 1, b INDICATES:
A = FIXTURE TYPE, REFER TO SCHEDULE
1 = CIRCUIT NUMBER
b = SWITCH CONTROLLING FIXTURE
ab = Bi-LEVEL/DUAL SWITCH CONTROL

HALF SHADED FIXTURE FURNISHED WITH EMERGENCY BATTERY PACK BALLAST. UNSWITCHED CIRCUIT TO BATTERY CHARGER. REFER TO LIGHT FIXTURE SCHEDULE FOR LUMEN OUTPUT REQUIREMENTS.

20 AMP, LINE VOLTAGE, SINGLE POLE SWITCH. MOUNT AT 44" AFF TO CENTERLINE UNLESS NOTED OTHERWISE.
SUBSCRIPTS:
"ab" - NUMBER OF SWITCH CONTROL OR CHANNELS.
"3" - 3-WAY SWITCH.
"4" - 4-WAY SWITCH.
"D" - DIMMER SWITCH.
"M" - MOTOR-RATED TOGGLE SWITCH WITH OVERLOAD PROTECTION.

20 AMP, LINE VOLTAGE, DUAL TECHNOLOGY OCCUPANCY SENSOR. "D" DENOTES DIMMABLE WITH ON/OFF, RAISE/LOWER CONTROL. "ab" INDICATES NUMBER OF CHANNELS. MOUNT AT +44" AFF UNLESS NOTED OTHERWISE.

20 AMP, DIMMER SWITCH WITH ON/OFF, RAISE/LOWER CONTROL. "ab" INDICATES NUMBER OF CHANNELS. MOUNT AT +44" AFF UNLESS NOTED OTHERWISE.

TIME CLOCK.

CEILING OR WALL MOUNTED DUAL TECHNOLOGY PHOTOCCELL WITH DIMMING. COMPLETE WITH POWER PACKS AND RELAYS AS NECESSARY.

CEILING OR WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR/PHOTOCCELL WITH DIMMING. COMPLETE WITH POWER PACKS AND RELAYS AS NECESSARY.

OCCUPANCY SENSOR

2 HR. PROGRAMMABLE LOW VOLTAGE OVERRIDE SWITCH.

LOW VOLTAGE DIMMER SWITCH.

LOW VOLTAGE COMBINATION DIMMER SWITCH OCCUPANCY SENSOR

BUG EYE FIXTURE WITH 90° BATTERY PACK

POWER

480V - LIGHTING AND APPLIANCE PANELBOARD - FLUSH MOUNTED.

480V - LIGHTING AND APPLIANCE PANELBOARD - SURFACE MOUNTED.

208V - LIGHTING AND APPLIANCE PANELBOARD - FLUSH MOUNTED.

208V - LIGHTING AND APPLIANCE PANELBOARD - SURFACE MOUNTED.

JUNCTION BOX IN ACCESSIBLE CEILING SPACE OR FLUSH IN WALL WITH BLANK COVER PLATE TO MATCH DEVICE PLATES.

SPECIFICATION GRADE 15 AMP, 125 VOLT, DUPLEX RECEPTACLE, GROUNDING TYPE. HUBBELL # HBL 5252. MOUNT AT 15" AFF TO THE BOTTOM OF DEVICE, UNLESS OTHERWISE NOTES. CENTER SHADE INDICATES DEDICATED CIRCUIT.

SPECIFICATION GRADE 15 AMP, 125 VOLT, DUPLEX RECEPTACLE IN FLOOR SINGLE GANG FLOOR BOX WITH COVER AS NOTED.

SPECIAL PURPOSE OUTLET, 1 PHASE, AS NOTED.

SPECIAL PURPOSE OUTLET, 3 PHASE, AS NOTED.

DUPLEX RECEPTACLE, ISOLATED GROUND TYPE; ORANGE FACE. NEMA 5-20R WITH WHITE PLASTIC COVER PLATE. 18" AFF U.O.N.

DOUBLE DUPLEX RECEPTACLE, CEILING MOUNTED.

SPLIT WIRED 15 AMP, 125 VOLT, DUPLEX RECEPTACLE (UPPER HALF SWITCHED, LOWER HALF ENERGIZED CONTINUOUSLY). MOUNT 18" AFF TO CENTER LINE UNLESS NOTED OTHERWISE.

20 AMP, 125 VOLT, DOUBLE DUPLEX RECEPTACLE, ISOLATED GROUNDING TYPE MOUNT IN COMMON BOX WITH COMMON WHITE PLASTIC COVER PLATE. 18" AFF U.O.N. TO CENTERLINE UNLESS NOTED OTHERWISE.

15 AMP, 125 VOLT, GFCl TYPE OR PROTECTED DUPLEX TYPE RECEPTACLE ON A DEDICATED CIRCUIT. MOUNT ABOVE COUNTER BACK SPLASH.

(2) 15 AMP, 125 VOLT DUPLEX GFCl TYPE OR PROTECTED RECEPTACLE. MOUNT IN COMMON BOX WITH COMMON PLATE AT 15" AFF TO THE BOTTOM OF DEVICE, UNLESS OTHERWISE NOTED.

MOTOR FURNISHED AND INSTALLED BY OTHERS, WIRED BY ELECTRICAL CONTRACTOR. CONNECT AS DIRECTED BY MOTOR SUPPLIER. NUMERAL INDICATES HORSEPOWER RATING "HP".

DISCONNECT SWITCH "F" DENOTES FUSIBLE, HEAVY DUTY TYPE (UNLESS NOTED OTHERWISE) COMPLETE WITH FUSETRONS SIZED TO PROTECT MOTOR. EQUIPMENT OR CONDUCTORS (WHICHEVER IS APPLICABLE), SIZE, POLES, AND TYPE AS INDICATED. HORSEPOWER RATED, QUICK-MAKE, QUICK-BREAK. DISCONNECT SWITCH AND SPECIFICATIONS FOR DETAILS. 30/15/3 REFERS TO FRAME/TRIP/POLE. NEMA 3R SHOWN IF LOCATED OUTDOORS.

COMBINATION MOTOR STARTER AND HEAVY DUTY DISCONNECT SWITCH. 30/15/3 REFERS TO FRAME/TRIP/POLE. NUMERAL REFERS NEMA SIZE STARTER MOTOR STARTER. NUMERAL REFERS TO NEMA SIZE STARTER.

POWER TRANSFORMER. SIZE AND TYPE NOTED ON PLANS. REFER TO SPECIFICATIONS FOR DETAILS.

MOTOR RATED SWITCH (1HP), SPST, VOLTAGE PER PLAN. VARIABLE AIR VOLUME BOX w/ MOTOR RATED SPST SWITCH (BY DIV 15).

COMBINATION FIRE SMOKE DAMPER BOX w/ MOTOR RATED SPST SWITCH (BY DIV 15).

MOTORIZED VAMPER w/ MOTOR RATED SPST SWITCH (BY DIV 15)

ELECTRICAL VEHICLE CHARGING STATION

APPLICABLE CODES

2019 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE, TITLE 24 C.C.R.

2019 CALIFORNIA BUILDING CODE (CBC), TITLE 24 C.C.R.

2019 CALIFORNIA ELECTRICAL CODE (CEC), TITLE 24 C.C.R.

2019 CALIFORNIA MECHANICAL CODE (CMC), TITLE 24 C.C.R.

2019 CALIFORNIA PLUMBING CODE (CPC), TITLE 24 C.C.R.

2019 CALIFORNIA GREEN BUILDING CODE (CGBC)

2019 CALIFORNIA ENERGY CODE

2019 CALIFORNIA FIRE CODE

ANY OTHER LOCAL AND STATE LAWS AND REGULATIONS



PROJECT NAME

IRVINE CIVIC CENTER ELECTRIC VEHICLE CHARGING STATIONS - CIP 361908

1 CIVIC CENTER PLAZA
IRVINE, CA 92606

ENGINEER/ARCHITECT

1 PETERS CANYON ROAD, SUITE 130
IRVINE, CA, 92606
TEL: 949-387-8500, FAX: 949-387-0800

STAMP

AGENCY APPROVAL

ISSUE	REV.	DESCRIPTION	DATE

KEY PLAN

PROJECT NO. 18.103.00

DRAWN BY 7/16/2020

CHECKED BY

GENERAL NOTES, SPECIFICATIONS, ABBREVIATIONS AND SYMBOL LIST

SHEET NUMBER

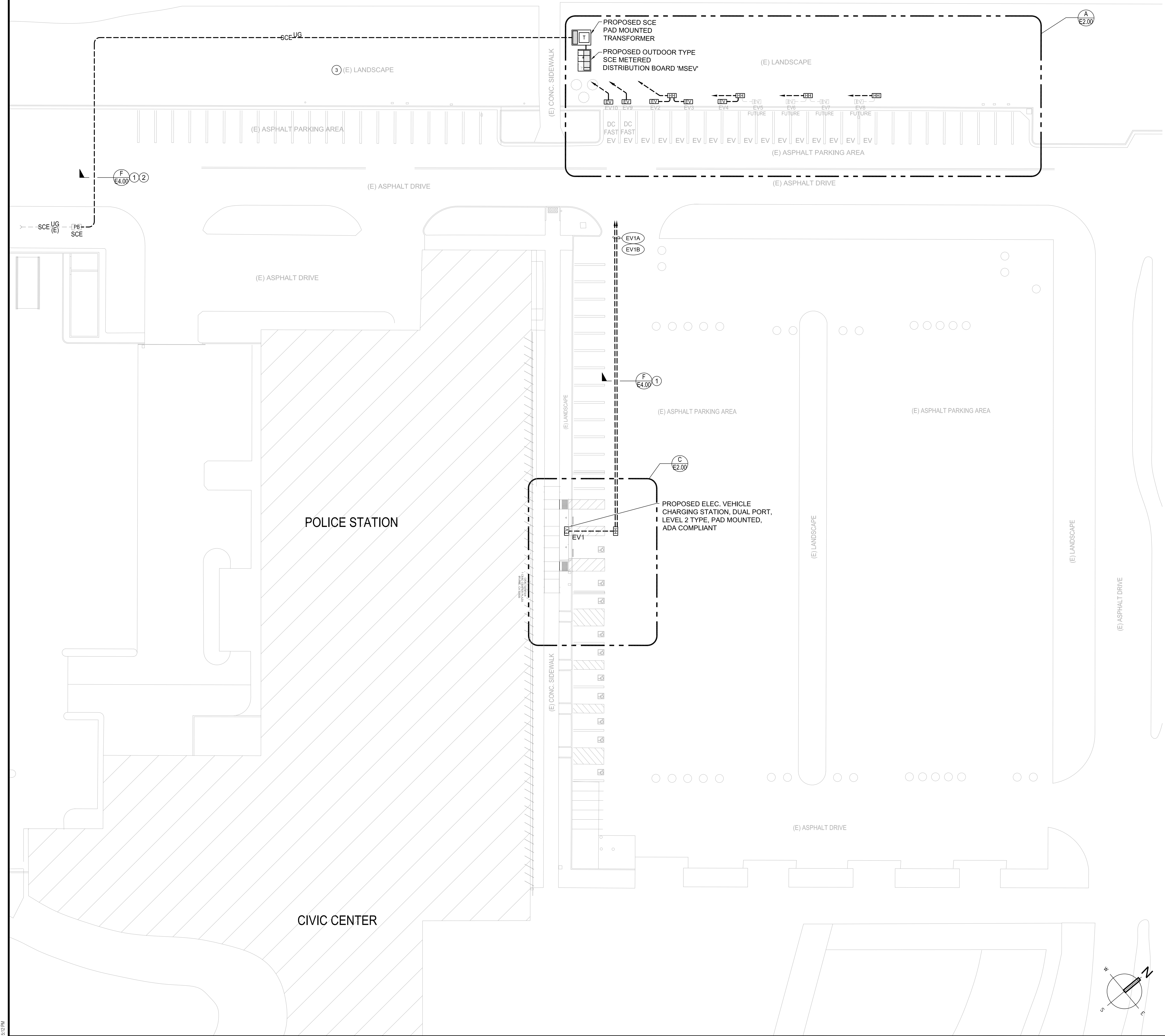
E-0.02

NOT FOR CONSTRUCTION

S:\PROJECTS\2019\02\18103\00\18103-ELECTRICAL\GENERAL SPECIFICATIONS - 7/16/2020

SAN DIEGO CREEK TRAIL

(E) ASPHALT DRIVE

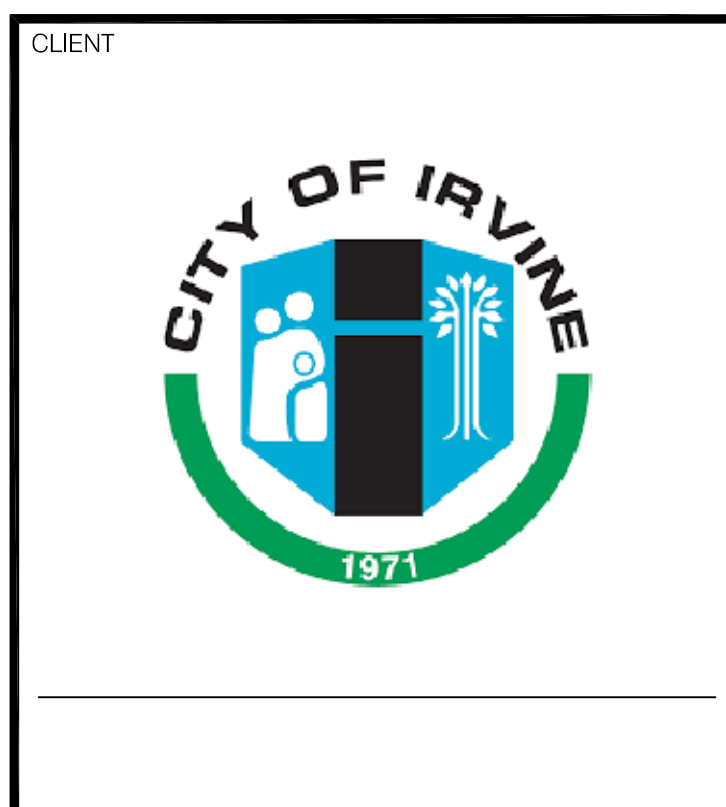


GENERAL NOTES

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. WALL MOUNTED EQUIPMENT SHALL BE SECURELY FASTENED UTILIZING UNISTRUT AND APPROPRIATE FASTENERS.
5. CONTRACTOR SHALL PROVIDE EROSION CONTROL IN ACCORDANCE WITH CITY OF IRVINE'S 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.

KEYED NOTES

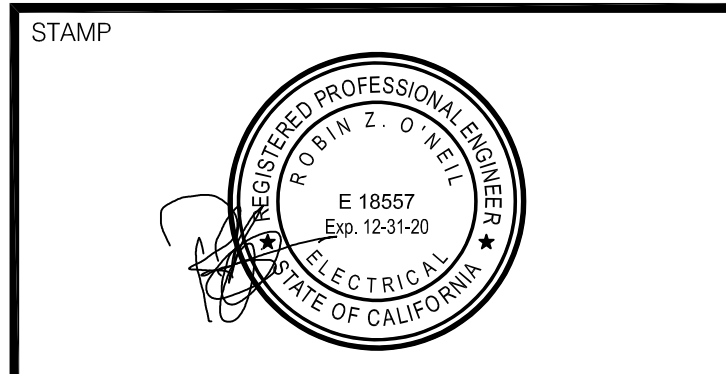
- ① SAW CUT EXISTING ASPHALT, TRENCH, INSTALL CONDUIT 24" BELOW GRADE TO THE TOP OF CONDUIT ON 3" BED OF SAND. UPON INSPECTION, BACKFILL, COMPACT TO 95% PROCTOR, AND REPAIR ASPHALT TO MATCH EXISTING CONDITIONS.
- ② SCE EDISON CONDUIT SHALL SCHEDULE 40 PVC AND INSTALLED 30" TO THE TOP OF CONDUIT ON 3" OF SAND.
- ③ RESTORE LANDSCAPE TO MATCH EXISTING CONDITIONS UPON TRENCH COMPACTION AND BACKFILL.



PROJECT NAME
IRVINE CIVIC CENTER ELECTRIC VEHICLE CHARGING STATIONS - CIP 361908
1 CIVIC CENTER PLAZA
IRVINE, CA 92606

ENGINEER/ARCHITECT

IDS GROUP
1 PETERS CANYON ROAD, SUITE 130
IRVINE, CA 92606
TEL: 949-387-8500, FAX: 949-387-0800



AGENCY APPROVAL

REV.	DESCRIPTION	DATE
	PROGRESS SET	07/17/19
	PROGRESS SET	01/31/20
	PROGRESS SET	03/13/20

KEY PLAN

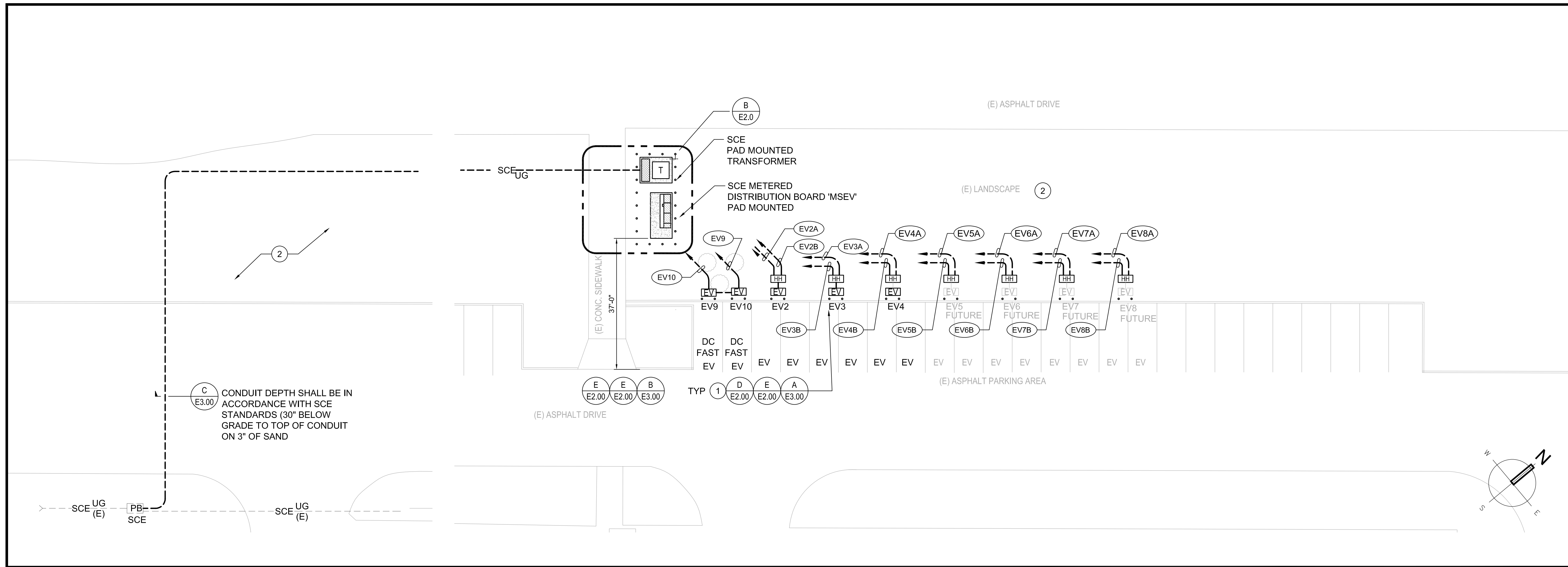
PROJECT NO. 18.103.00
PRINT DATE 7/17/2020
DRAWN BY
CHECKED BY

SHEET TITLE
ELECTRICAL SITE PLAN

SHEET NUMBER
E-1.00

NOT FOR CONSTRUCTION

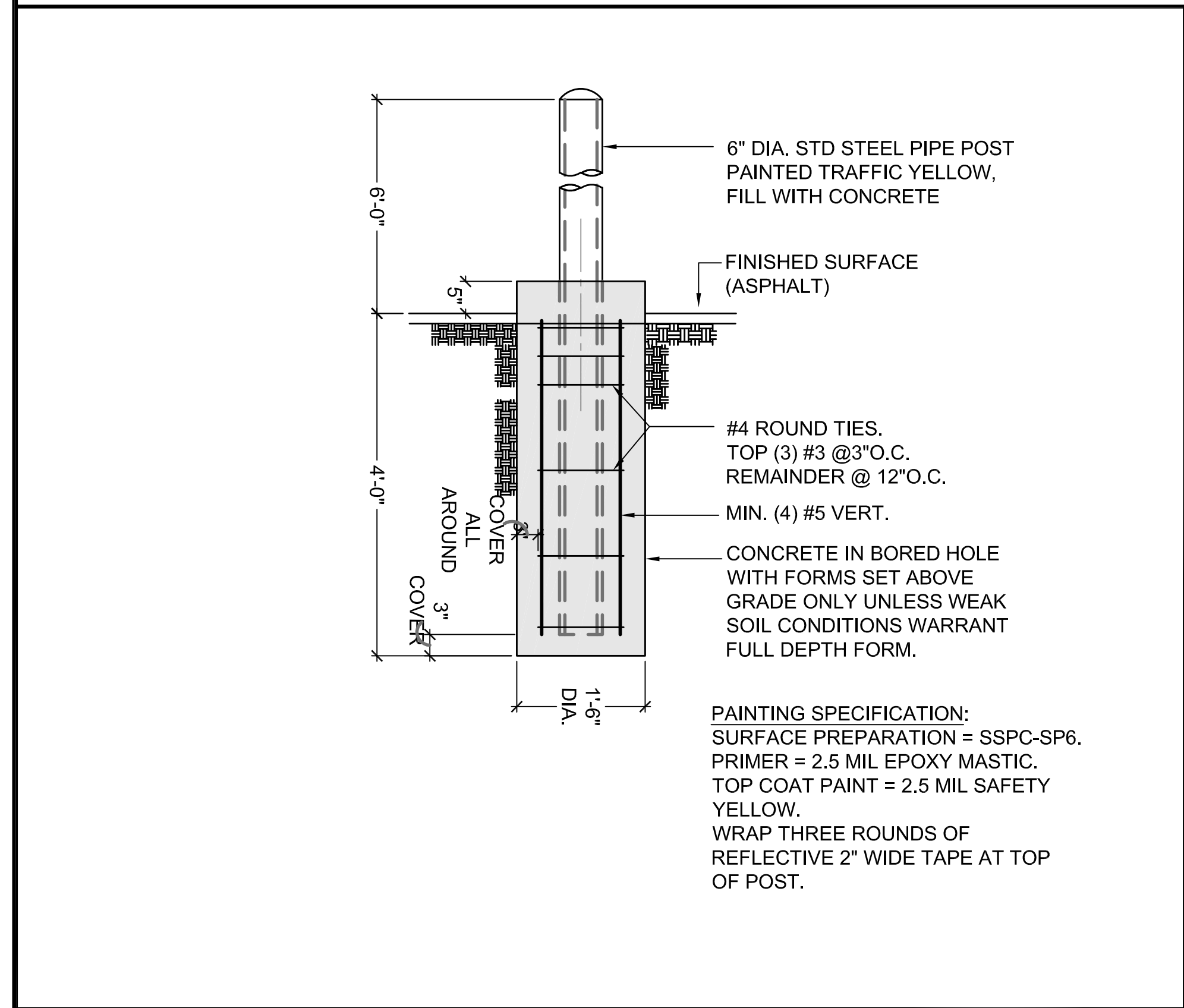
S:\PROJECTS\2019\18103\18103010\IRVINE CIVIC CENTER EV CHARGING STATIONS\GIS\DWG\ELECTRICAL SITE PLAN.DWG 7/17/2020 2:54 PM



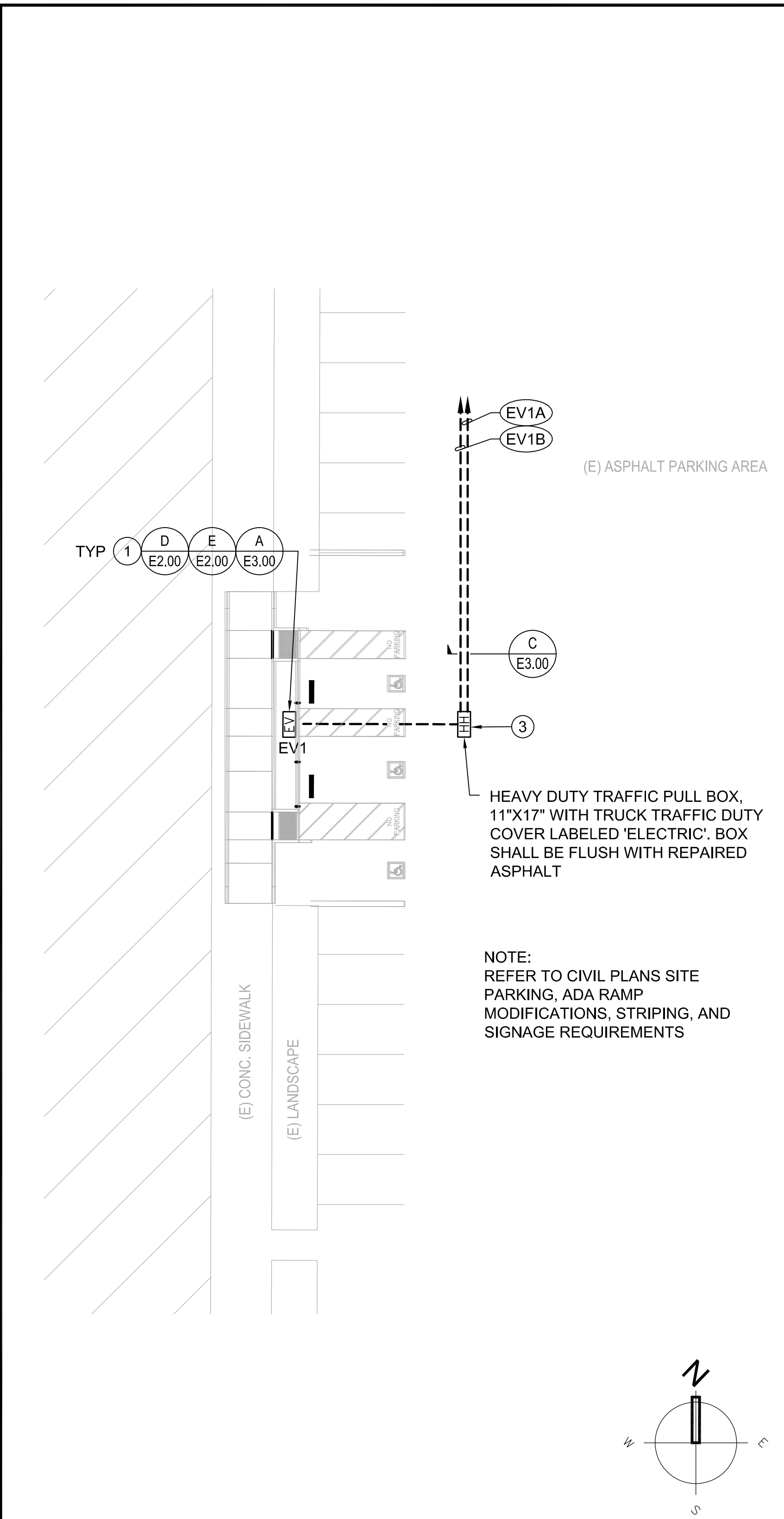
- GENERAL NOTES**
- CONTRACTOR SHALL FIELD COORDINATE WITH OWNER FOR EXACT LOCATIONS FOR NEW EQUIPMENT.
 - CONTRACTOR SHALL REPAIR ASPHALT SURFACE TO MATCH EXISTING CONDITIONS.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSING ANY UNUSED EARTH, ASPHALT AND DISPOSAL FEES.
 - CONTRACTOR SHALL PROVIDE EROSION CONTROL IN ACCORDANCE WITH CITY OF IRVINE'S REQUIREMENTS.
 - CONTRACTOR SHALL PROVIDE DIRECT BORING UNDER EXISTING CONCRETE CURBS AND SIDEWALKS.
 - ANY DISTURBED CONCRETE CURBS OR SIDEWALKS SHALL BE RESTORED TO MATCH EXISTING CONDITIONS.
 - CONTRACTOR SHALL INSTALL NEW SOUTHERN CALIFORNIA EDISON (SCE) CONDUIT IN ACCORDANCE WITH APPROVED SCE PLANS.

- KEYED NOTES**
- HEAVY DUTY CONCRETE HAND HOLE PULL BOX WITH A TRUCK TRAFFIC DUTY TYPE COVER.
 - CONTRACTOR SHALL RESTORE LANDSCAPING TO MATCH EXISTING CONDITIONS UPON RESTORING TRENCH AND BACKFILL.
 - PROVIDE CONDUCTOR TAPS TO REDUCE EV CIRCUITS TO BE (2 SETS) OF (2)#8 THWN & (1)#10 THWN GROUND IN 1" C. (PVC).
 - SCE SHALL DISCONNECT, REMOVE, AND REPLACE EXISTING PULL BOX TO BE IN ACCORDANCE WITH SCE STANDARDS. CONTRACTOR SHALL PROVIDE NEW CONDUIT WITHIN 5' OF THE PULL BOX. SCE SHALL MAKE FINAL CONNECTIONS.
 - PROVIDE (3) 2" C.O. PVC CONDUIT UNDERGROUND STUB-OUTS WITH CONDUIT MARKERS.

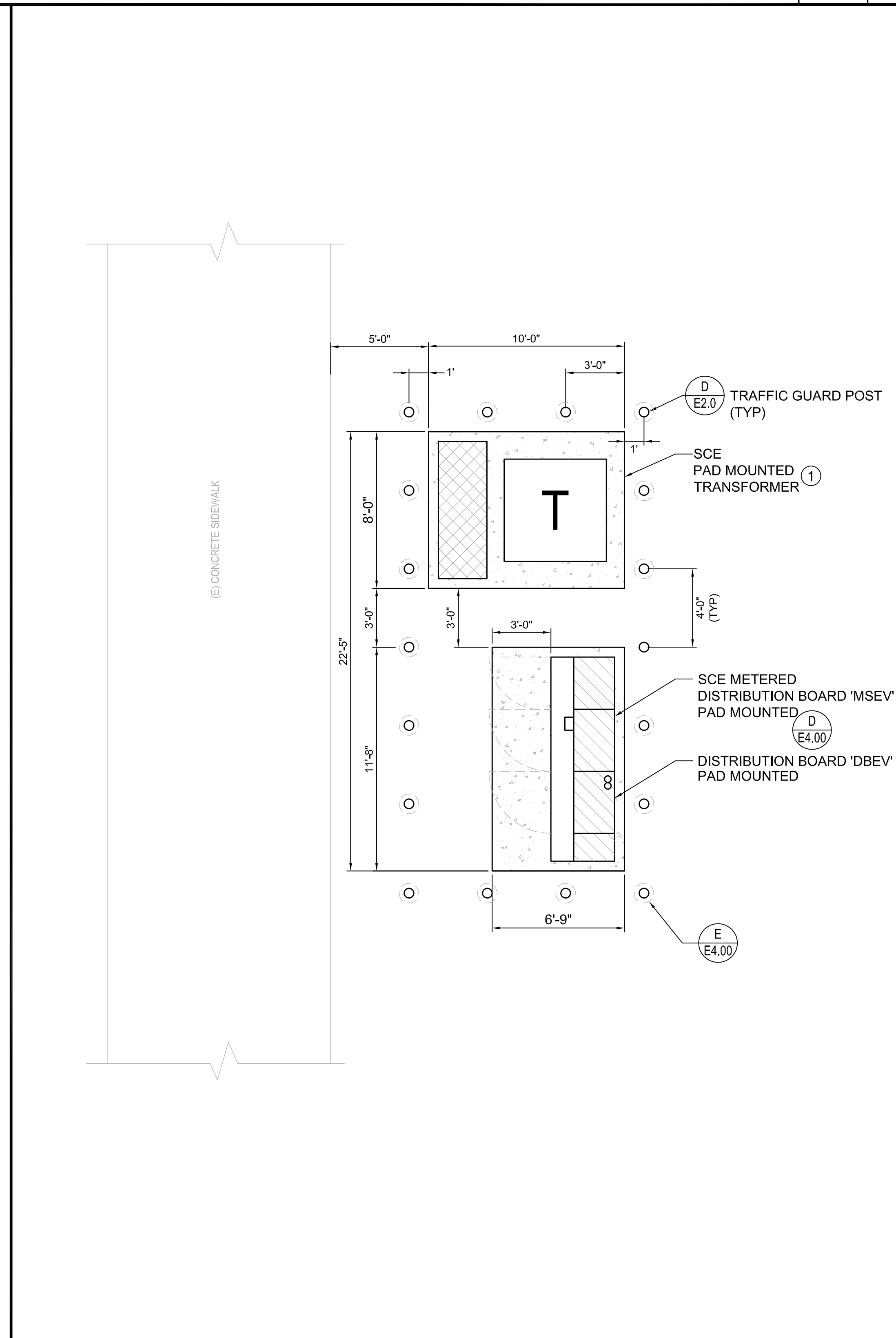
ENLARGED SITE PLAN 1/16"=1'-0" A



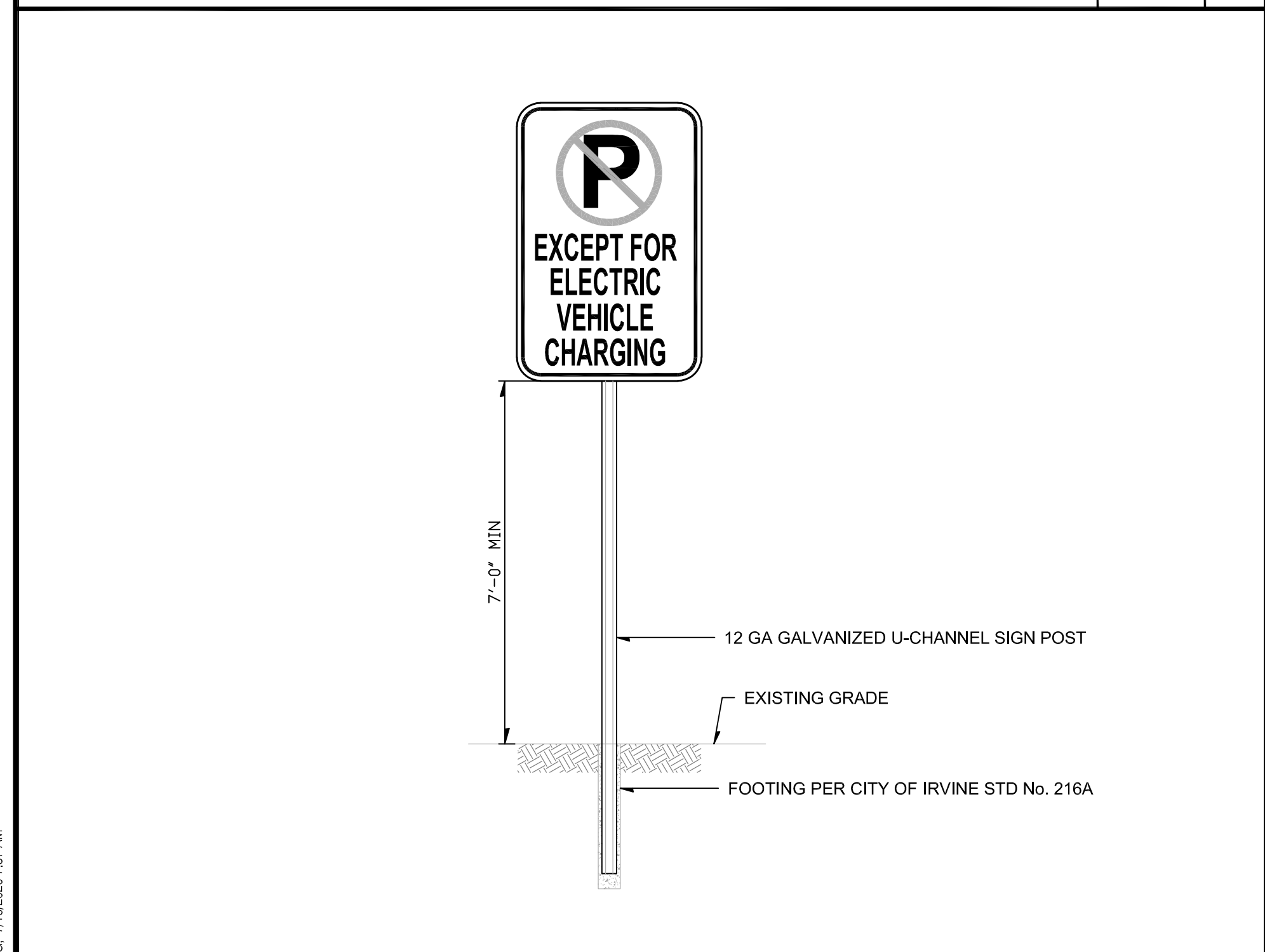
TRAFFIC GUARD POST DETAIL 3/4"=1'-0" D



ENLARGED ADA PARKING PLAN-EV CHARGER STATION 1/2"=1'-0" C



ENLARGED ELECTRICAL EQUIPMENT PLAN 1/4"=1'-0" B



EV PARKING STATION SIGN DETAIL 1/16"=1'-0" E

GENERAL NOTES

- KEYED NOTES**
- HEAVY DUTY CONCRETE HAND HOLE PULL BOX WITH A TRUCK TRAFFIC DUTY TYPE COVER.
 - CONTRACTOR SHALL RESTORE LANDSCAPING TO MATCH EXISTING CONDITIONS UPON RESTORING TRENCH AND BACKFILL.
 - PROVIDE CONDUCTOR TAPS TO REDUCE EV CIRCUITS TO BE (2 SETS) OF (2)#8 THWN & (1)#10 THWN GROUND IN 1" C. (PVC).
 - SCE SHALL DISCONNECT, REMOVE, AND REPLACE EXISTING PULL BOX TO BE IN ACCORDANCE WITH SCE STANDARDS. CONTRACTOR SHALL PROVIDE NEW CONDUIT WITHIN 5' OF THE PULL BOX. SCE SHALL MAKE FINAL CONNECTIONS.
 - PROVIDE (3) 2" C.O. PVC CONDUIT UNDERGROUND STUB-OUTS WITH CONDUIT MARKERS.



PROJECT NAME
IRVINE CIVIC CENTER ELECTRIC VEHICLE CHARGING STATIONS - CIP 361908
 1 CIVIC CENTER PLAZA
 IRVINE, CA 92606

ENGINEER/ARCHITECT

IDS GROUP
 1 PETERS CANYON ROAD, SUITE 130
 IRVINE, CA 92606
 TEL: 949-387-8500, FAX: 949-387-0800



AGENCY APPROVAL

--	--

ISSUE

REV.	DESCRIPTION	DATE

KEY PLAN

--	--

PROJECT NO.	18.103.00
PRINT DATE	7/16/2020
DRAWN BY	
CHECKED BY	

SHEET TITLE
ENLARGED MAIN ELECTRICAL ROOM

SHEET NUMBER
E-2.00

NOT FOR CONSTRUCTION

S:\PROJECTS\2019\18103.00 IRVINE CIVIC CENTER\EV CHARGING\STANDARD\CAD\66 ELECT\18103.00 E-2.00 - ENLARGED MAIN ELECTRICAL ROOM.dwg, 7/16/2020 7:52 AM

General Specifications

Station Electrical Input

Input Rating	400V AC, 3-phase, 95A, 50 Hz
	480V AC, 3-phase, 85A, 60 Hz
Wiring	L1, L2, L3, Neutral & Earth

Station Electrical Output

Max Output Power	82.5 kW
Output Voltage - Charging	250-1,000V DC
Max Output Current	188A
Max Modules per Station	2

Paired Station Electrical Output

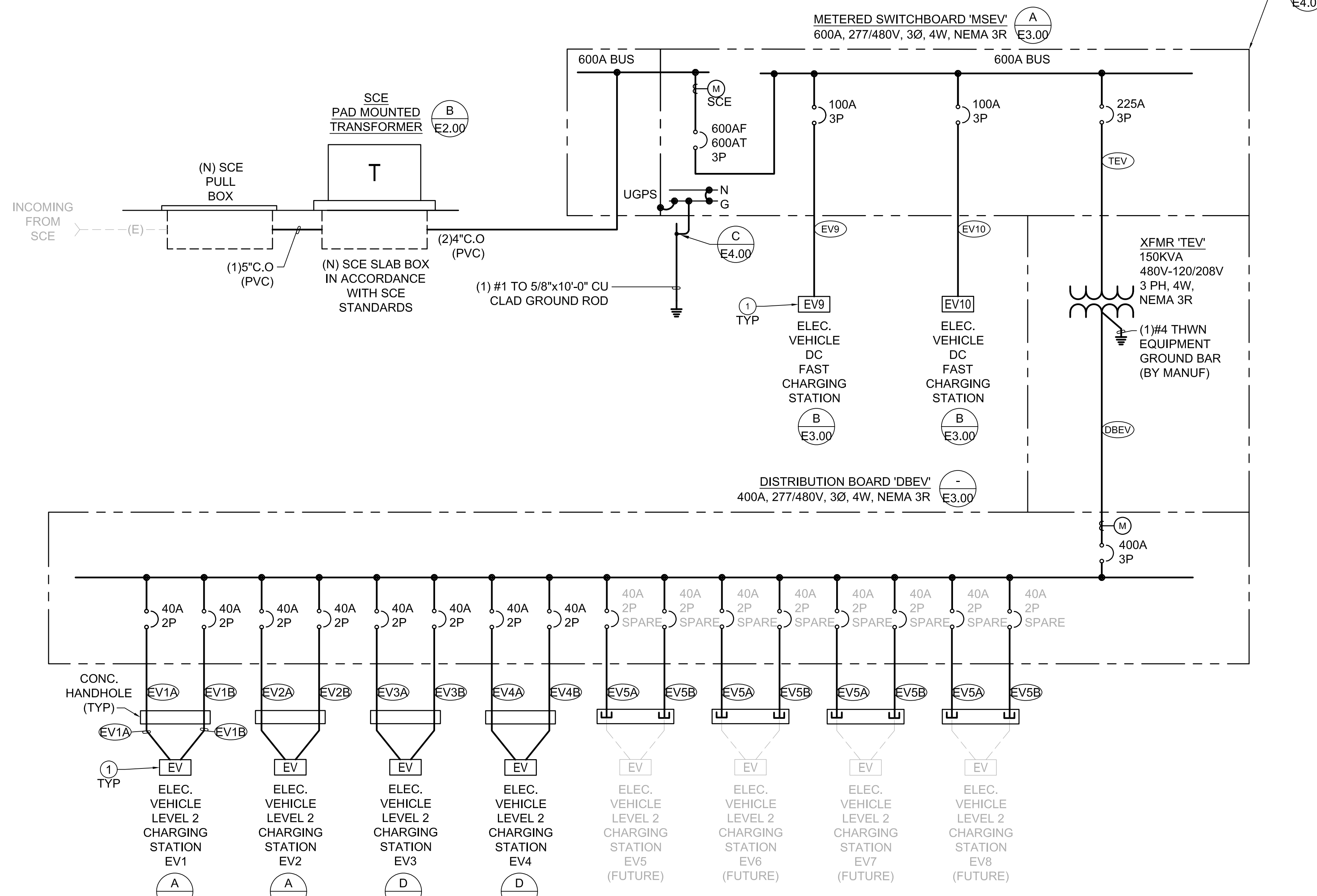
Paired Max Output Power	125 kW
Paired Max Output Current	CCS1: 176A or 200A CCS2: 200A CHAdeMO: US: 140A, EU: 125A

Power Module

Max Output Power	31.25 kW
Max Output Current	78 A
Power Conversion Efficiency	> 95%
Power Factor	0.99 at full load
Harmonics	THD < 5% (Complies with IEEE 519 Requirements)
Power Module Cooling	Liquid Cooling Technology

ELECTRICAL LOAD ANALYSIS - ELECTRIC VEHICLE CHARGING STATIONS

PANEL NAME	VOLTS	Ø	LOAD IN KVA			TOTAL AMPS	REMARKS	
			CONNECTED QTY	DEMAND LOAD TOTAL	%			
EV CHARGING STATION (L2)	480	3	7,200	16.00	115.2	1.25	144.0	CEC ARTICLE 625
DC FAST CHARGERS	480	3	50,000	2.00	100.0	1.25	125.0	CEC ARTICLE 625
TOTAL LOAD					215.2		269.0	SYSTEM SERVICE =400A



CHARGE POINT EXPRESS 250 - DC FAST SPECIFICATIONS NTS B

CT4000 CHARGE POINT SPECIFICATIONS

Electrical Input	Single Port	Dual Port
AC Power Input Rating - Standard	20kVA/20kVA/10kVA single phase @ 3ØA	20kVA/20kVA/10kVA single phase @ 3Ø x 2
AC Power Input Rating - Power Sharing	N/A	20kVA/20kVA/10kVA single phase @ 3ØA
Input Power Connections - Standard	One 40A branch circuit	Two 40A branch circuits
Input Power Connections - Power Sharing	N/A	One 40A branch circuit
Required Service Panel Breaker - Standard	40A dual pole (non-GFCI type)	40A dual pole (non-GFCI type) x 2
Required Service Panel Breaker - Power Sharing	N/A	40A dual pole (non-GFCI type)
Service Panel GFCI	Do not provide optional GFCI as it may conflict with internal GFCI device	
Wiring - Standard	3-wire (L1, L2, Earth)	3-wire (L1, L2, L3, Earth)
Wiring - Power Sharing	N/A	3-wire (L1, L2, Earth)
Station Power	8W (total onboard), 5W (maximum operating)	

Electrical Output	Standard	Power Sharing
AC - Standard	23kW (20kVA @ 3ØA)	23kW (20kVA @ 3ØA) x 2
AC - Power Sharing	N/A	23kW (20kVA @ 3ØA) x 2

Functional Interfacing	Standard	Power Sharing
Connectors Type	SAE J1772*	SAE J1772* x 2
Charging Cable Length	10' U.S. meters	10' U.S. meters x 2
Overhead Cable Management System	Yes	Yes
LCD Display	5.7" full color, 640x480, 30fps full motion video, active matrix, LV protected	
Cable Reel	150 METERS, MAXIMUM	
Locking Holder	Yes	Yes x 2

CT4000 Family

ChargePoint® Charging Stations

The CT4000 is the latest generation of ChargePoint charging stations. Refined yet rugged, the CT4000 meets the industry standard for functionality and aesthetics. A robust cord retraction system comes standard on all CT4000 models to eliminate unsightly coils on the ground, and to keep your drivers from having to touch charging cables.

The CT4000 full motion color LCD display instructs drivers while supporting dynamic updates of custom branded videos and advertisements.

The intelligent power sharing feature of the CT4000 doubles the number of parking spaces served by allowing two charging ports to share a single circuit. Sites with single port EV charging stations can upgrade to dual port stations without requiring additional electrical service.

All CT4000 models offer one or two standard SAE J1772® Level 2 charging ports with locking holders, each port supplying up to 32kW.

Available in bollard and wall mount configurations, the CT4000 supports easy installation anywhere. To future proof your investment all stations are fully software upgradable over the air. All ChargePoint stations are networked and managed through ChargePoint's Service Host and backed by ChargePoint's world class 24/7 driver support.

Corporate Branding and Video Advertising

- Download full motion color videos to your station*
- Customize the display to promote your brand
- Custom "top" pricing available**

Clean Cord Technology™

- Maintenance-free, light weight, self-retracting cords come standard on all models.
- Keep charging cords off the ground and out of your and driver's hands.
- Flexible over wire -22°F to +52°F product temperature range

Intelligent Power Sharing (patent pending)

- Reduced installation and operating costs
- Dynamically share one 40A circuit between two parking spaces
- Double the number of parking spaces for a given site power capacity
- Upgrade a single port station to dual port with no electrical upgrade

Driver Friendly User Interface

- Interactive video shows how to use the station
- Multi-language (English, French, Spanish)
- Touch button interface, works in rain, fog and with gloves
- Backed by ChargePoint's world class 24/7 driver support

Energy Measurement and Management

- Real-time energy measurement
- 30-minute interval recording
- Time of Day (TOD) pricing
- Load shed by % of remaining average or to fixed power output

3.5" LCD display provides full motion video, navigation, and service menu. It also allows drivers to interact with advertising messages.

Driver instructions to be supported in any weather by the display backlit by the responsive backlit.

SINGLE LINE DIAGRAM - ELECTRICAL VEHICLE CHARGING STATIONS NTS 1

NAME	LOAD			FEEDERS			VOLTAGE DROP CALCULATIONS			AFC CALCULATIONS												
	PF	VOLTS	Ø	CONNECTED HP	DEMAND KVA	AMPS	CONDUITS #	EST. DIST.	REMARKS	FEEDER SEGMENT DROP ONLY		NET DROP AT DEVICE		AFC FROM SOURCE	MOTOR CONTR. BUTION	NET AFC AT DEVICE						
										VOLTS DROP	%	VOLTS DROP	%									
LOAD ANALYSIS w/ LCL		480	3		280	342	411							65,000		65,000						
DC FAST EV CHARGER	1.00	480	3		64.8	64.8	78	EV9	1	2"	2	#1	#8	40	PVC / COPPER	0.86	0.2%	0.86	0.2%	65,000		28,426
DC FAST EV CHARGER	1.00	480	3		64.8	64.8	78	EV10	1	2"	2	#1	#8	40	PVC / COPPER	0.86	0.2%	0.86	0.2%	65,000		28,426
XFMR - 'TEV'	1.00	480	3		150.0	180	180	TEV	1	2 1/2"	3	3/0	#6	10	BY MANUF.	0.28	0.1%	1.14	0.2%	65,000		54,962
DIST. BD. 'DBEV'	1.00	208	3		144	400	400	DBEV	3	2 1/2"	4	3/0	#1	10	BY MANUF.	0.20	0.1%	0.20	0.1%	54,962		9,215

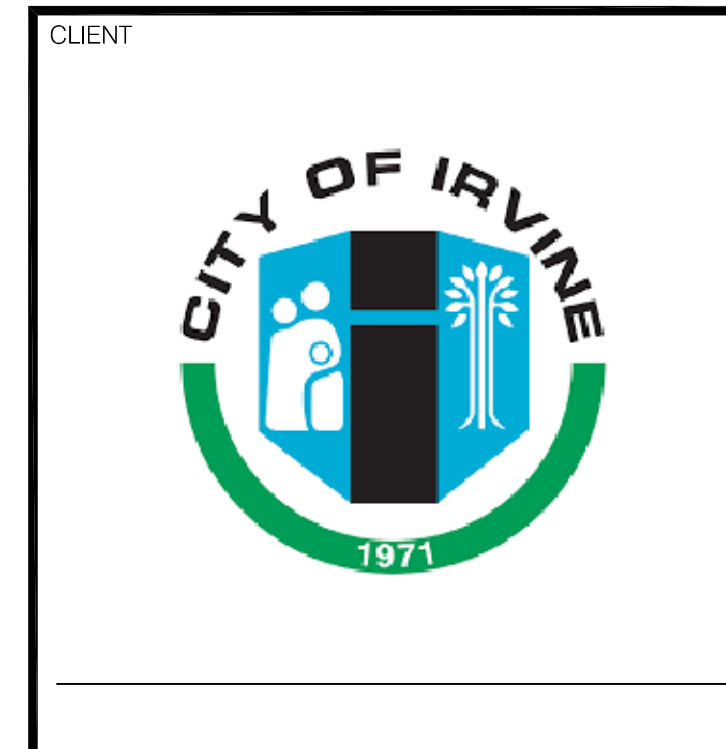
NAME	LOAD			FEEDERS			VOLTAGE DROP CALCULATIONS			AFC CALCULATIONS												
	PF	VOLTS	Ø	CONNECTED HP	DEMAND KVA	AMPS	CONDUITS #	EST. DIST.	REMARKS	FEEDER SEGMENT DROP ONLY		NET DROP AT DEVICE		AFC FROM SOURCE	MOTOR CONTR. BUTION	NET AFC AT DEVICE						
										VOLTS DROP	%	VOLTS DROP	%									
LOAD ANALYSIS w/ LCL		208	3		115	144	400							50,000		50,000						
EV1 CHARGING STATION DUAL PORT (ADA)	1.00	208	1		7.2	7.2	35	EV1A	1	1 1/4"	2	#3	#4	320	PVC / COPPER	4.41	2.1%	4.41	2.1%	50,000		1,501
EV2 CHARGING STATION-DUAL PORT	1.00	208	1		7.2	7.2	35	EV2A	1	3/4"	2	#8	#10	20	PVC / COPPER	0.83	0.4%	0.83	0.4%	50,000		6,968
EV3 CHARGING STATION-DUAL PORT	1.00	208	1		7.2	7.2	35	EV3A	1	3/4"	2	#8	#10	45	PVC / COPPER	1.86	0.9%	1.86	0.9%	50,000		3,357
EV4 CHARGING STATION-DUAL PORT	1.00	208	1		7.2	7.2	35	EV4A	1	3/4"	2	#8	#10	45	PVC / COPPER	1.86	0.9%	1.86	0.9%	50,000		3,357
EV5 CHARGING STATION-DUAL PORT	1.00	208	1		7.2	7.2	35	EV5A	1	1 1/4"				170	PVC CONDUIT ONLY							2,070
EV6 CHARGING STATION-DUAL PORT	1.00	208	1		7.2	7.2	35	EV6A	1	1 1/4"				210	PVC CONDUIT ONLY							2,070
EV7 CHARGING STATION-DUAL PORT	1.00	208	1		7.2	7.2	35	EV7A	1	1 1/4"				170	PVC CONDUIT ONLY							2,070
EV8 CHARGING STATION-DUAL PORT	1.00	208	1		7.2	7.2	35	EV8A	1	1 1/4"				170	PVC CONDUIT ONLY							2,070

SINGLE LINE DIAGRAM GENERAL NOTES

- ELECTRICAL SYSTEMS SHALL BE INSTALLED FOR FINAL INSPECTIONS.
- PROVIDE GROUND BONDING TO ELECTRICAL EQUIPMENT ENCLOSURES.
-
- 600V CONDUCTORS SHALL BE RATED WITH THWN INSULATION AT 75° CELSIUS.
- FINAL TERMINATION'S OF CONDUCTORS TO ELECTRICAL EQUIPMENT AND DEVICES SHALL BE TORQUE WRENCH TIGHTENED TO THE MANUFACTURER'S RECOMMENDED SPECIFICATION, NO EXCEPTIONS.
- LENGTHS OF FEEDERS INDICATED ON THE FEEDER SCHEDULE ARE NOT TO BE USED FOR DETERMINING COST OF CONSTRUCTION.
- AIC RATINGS INDICATED ARE MINIMUM FULLY RATED.
- NO PIPING, DUCTS OR EQUIPMENT FOREIGN TO ELECTRICAL EQUIPMENT AND/OR CONDUIT SHALL BE PERMITTED TO BE LOCATED WITHIN THE DEDICATED SPACE ABOVE THE ELECTRICAL EQUIPMENT.

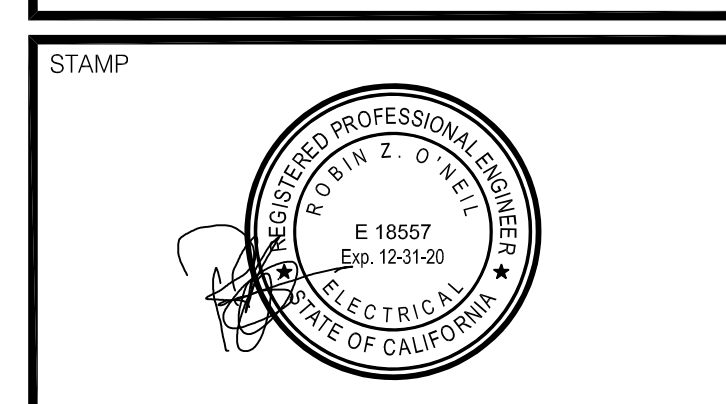
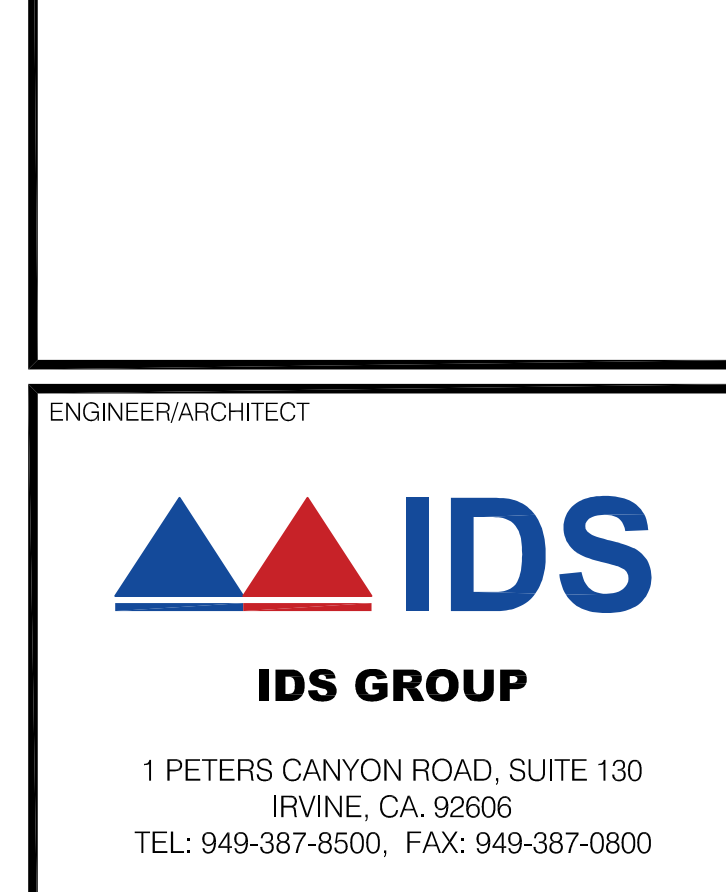
KEY NOTES

- ELECTRICAL VEHICLE DUAL PORT CHARGING STATION, COMMERCIAL GRADE, LEVEL 2 TYPE AND MANUFACTURED IN ACCORDANCE WITH CEC ARTICLE 625. EACH PORT REQUIRES A DEDICATED CIRCUIT PER PEDESTAL, REFER TO EV CHARGER SPECIFICATIONS, DETAIL A, SHEET E-3.00.
- DC FAST EV CHARGER CONTROLLER, PER MANUFACTURER, CONNECT IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.



IRVINE CIVIC CENTER ELECTRIC VEHICLE CHARGING STATIONS - CIP 361908

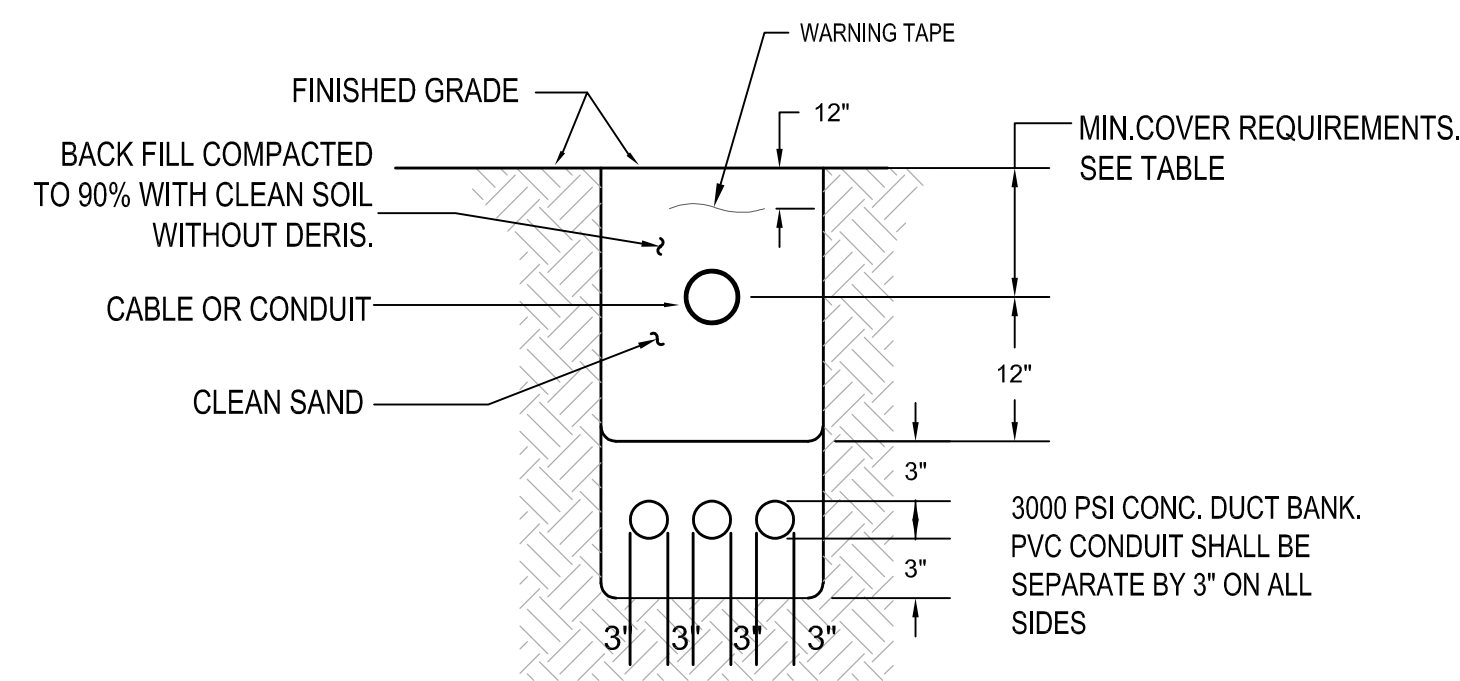
1 CIVIC CENTER PLAZA
IRVINE, CA 92606



REV.	DESCRIPTION	DATE
	PROGRESS SET	07/17/19
	PROGRESS SET	01/31/20
	PROGRESS SET	03/13/20

PROJECT NO.	18-103.00
PROJECT DATE	7/16/2020
DRAWN BY	
CHECKED BY	
SHEET TITLE	SINGLE LINE DIAGRAM
SHEET NUMBER	E-3.00

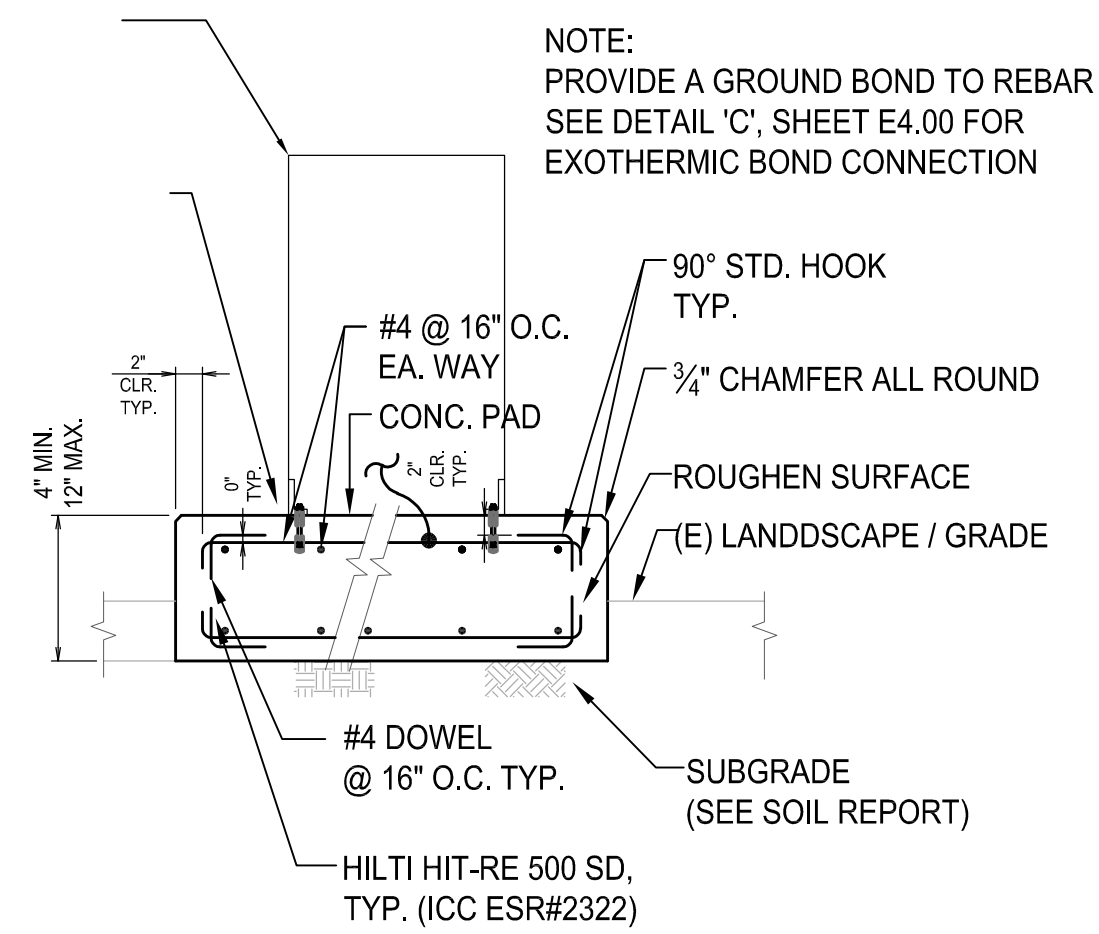
NOT FOR CONSTRUCTION



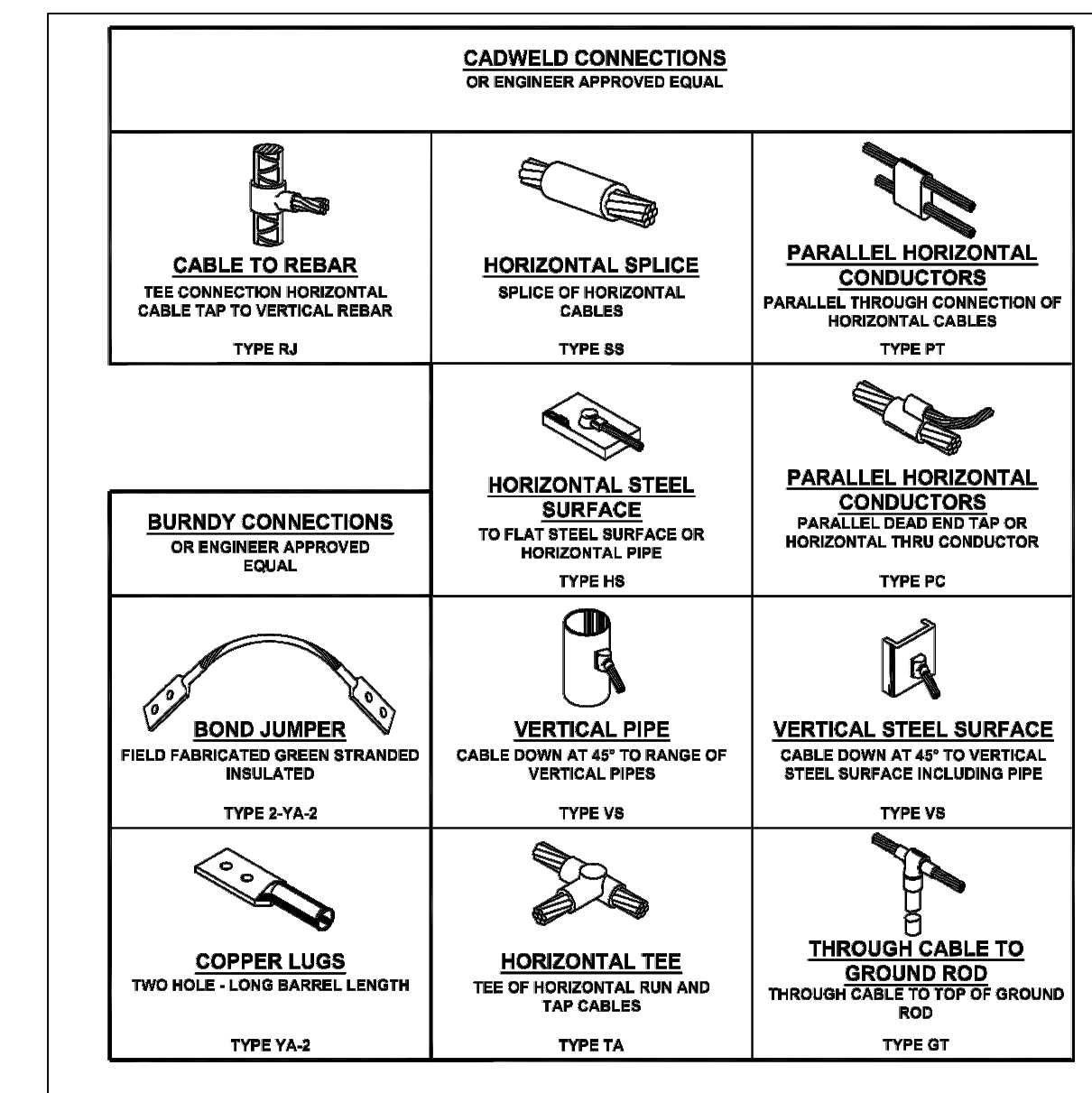
MINIMUM COVER REQUIREMENTS
(IN INCHES)
0-600 VOLTS, NEC TABLE 300.5 (PARTIAL)

LOCATION OF WIRING METHOD OR CIRCUIT	DIRECT BURIAL CABLES OR CONDUCTORS	NONMETALLIC RACEWAYS LISTED FOR DIRECT BURIAL WITHOUT CONCRETE ENCASUREMENT OR OTHER APPROVED RACEWAYS
ALL LOCATIONS NOT SPECIFIED IN NEC TABLE 300.5	30	18
IN TRENCH BELOW 2" THICK CONCRETE OR EQUIVALENT	18	12
UNDER A BUILDING	0	0
UNDER STREETS, HIGHWAYS, ROADS, ALLEYS, DRIVEWAYS AND PARKING LOTS	24	24

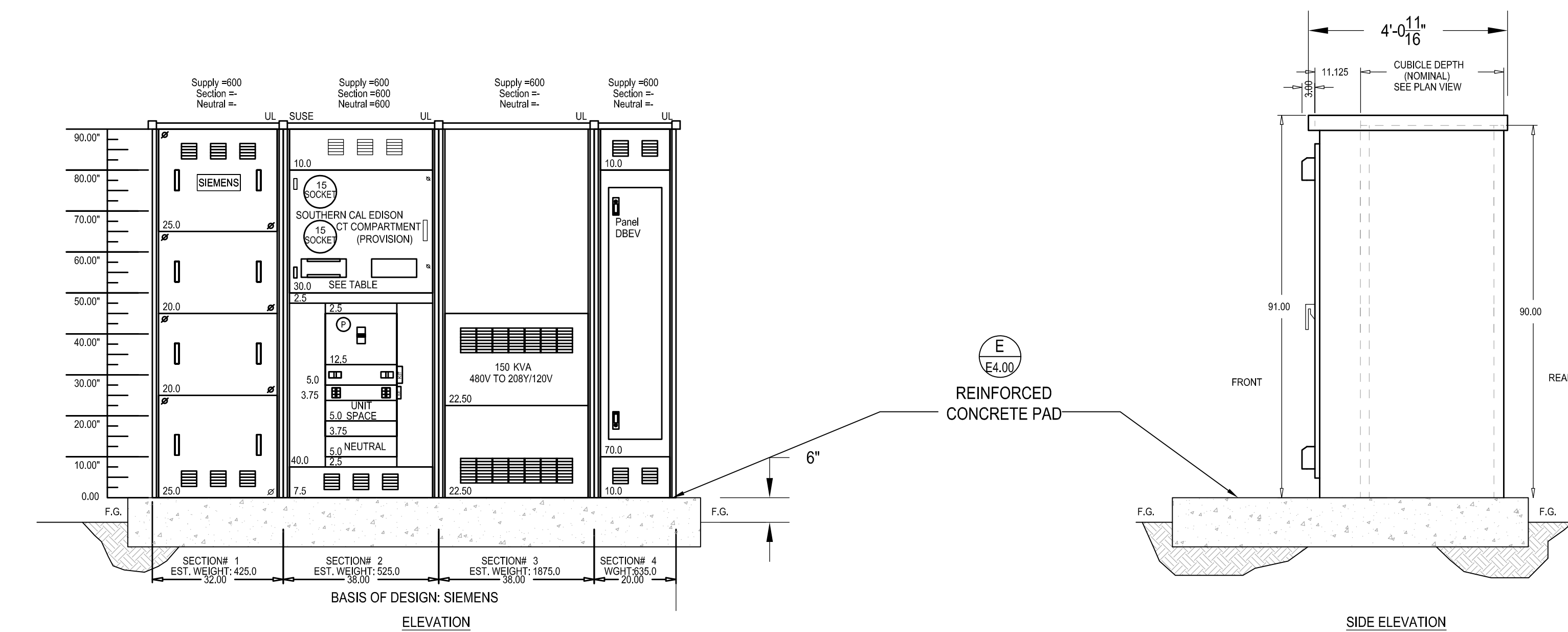
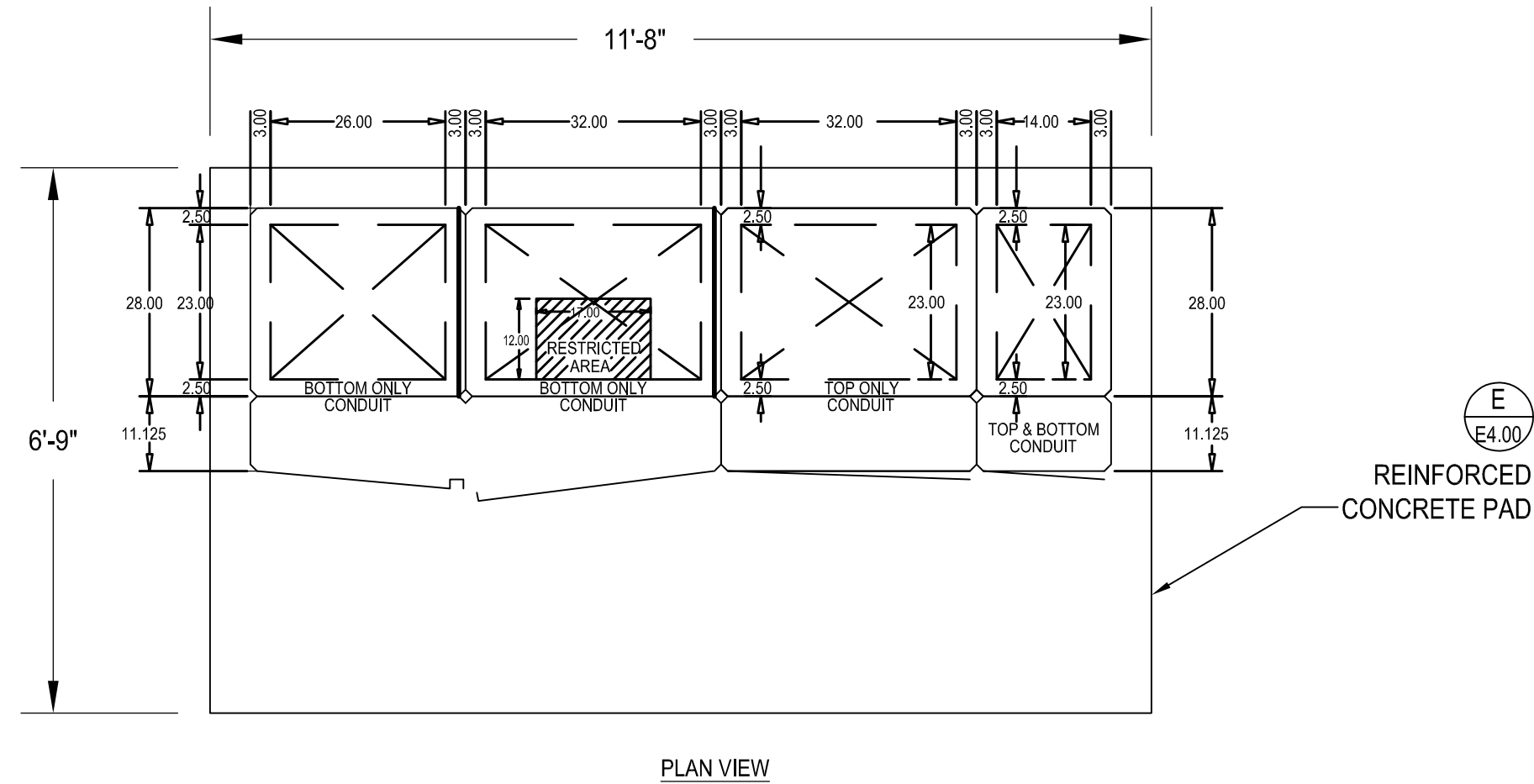
TRENCHING DETAIL NO SCALE F



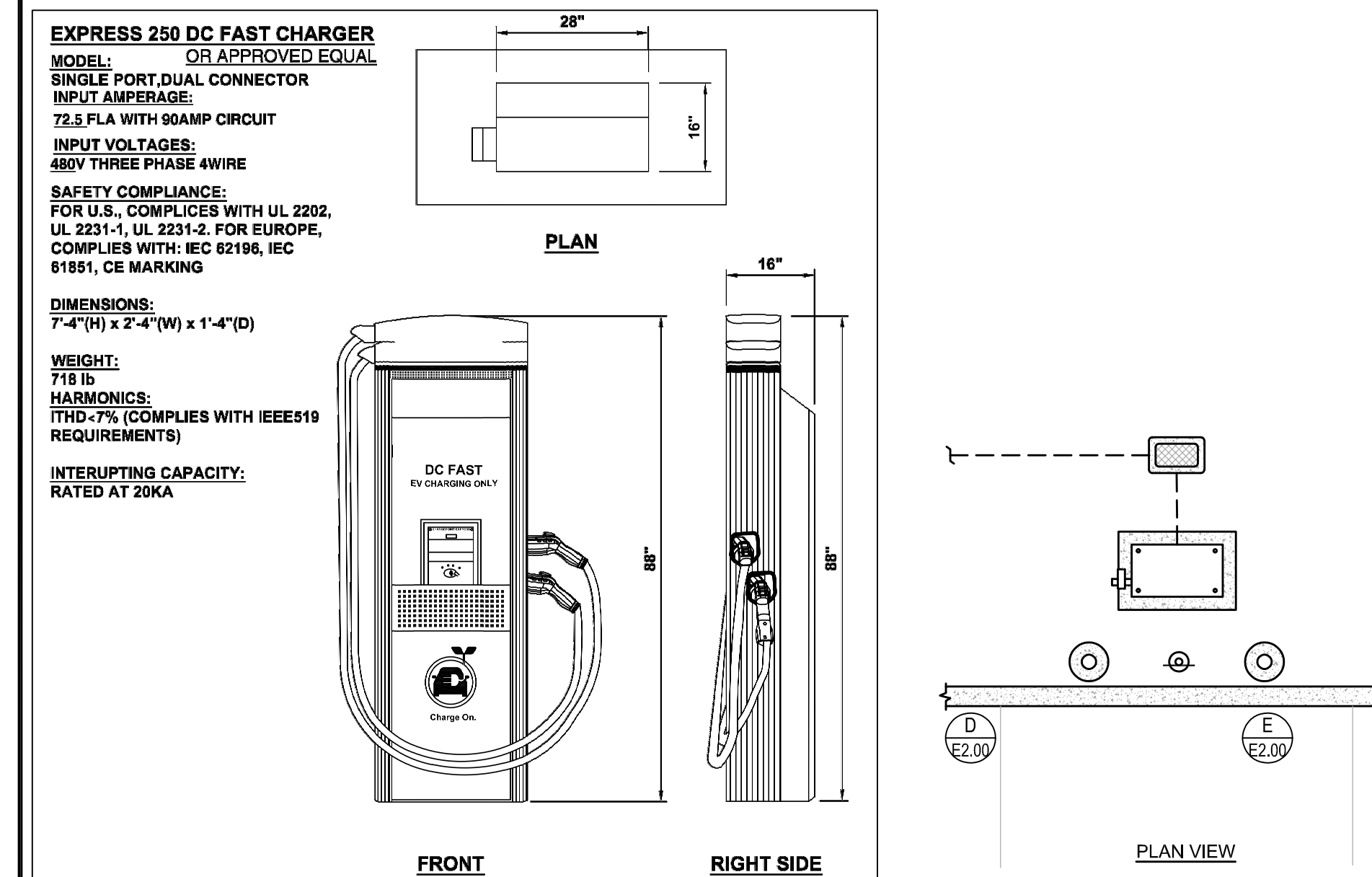
ELECTRICAL EQUIPMENT ANCHORING DETAIL NO SCALE E



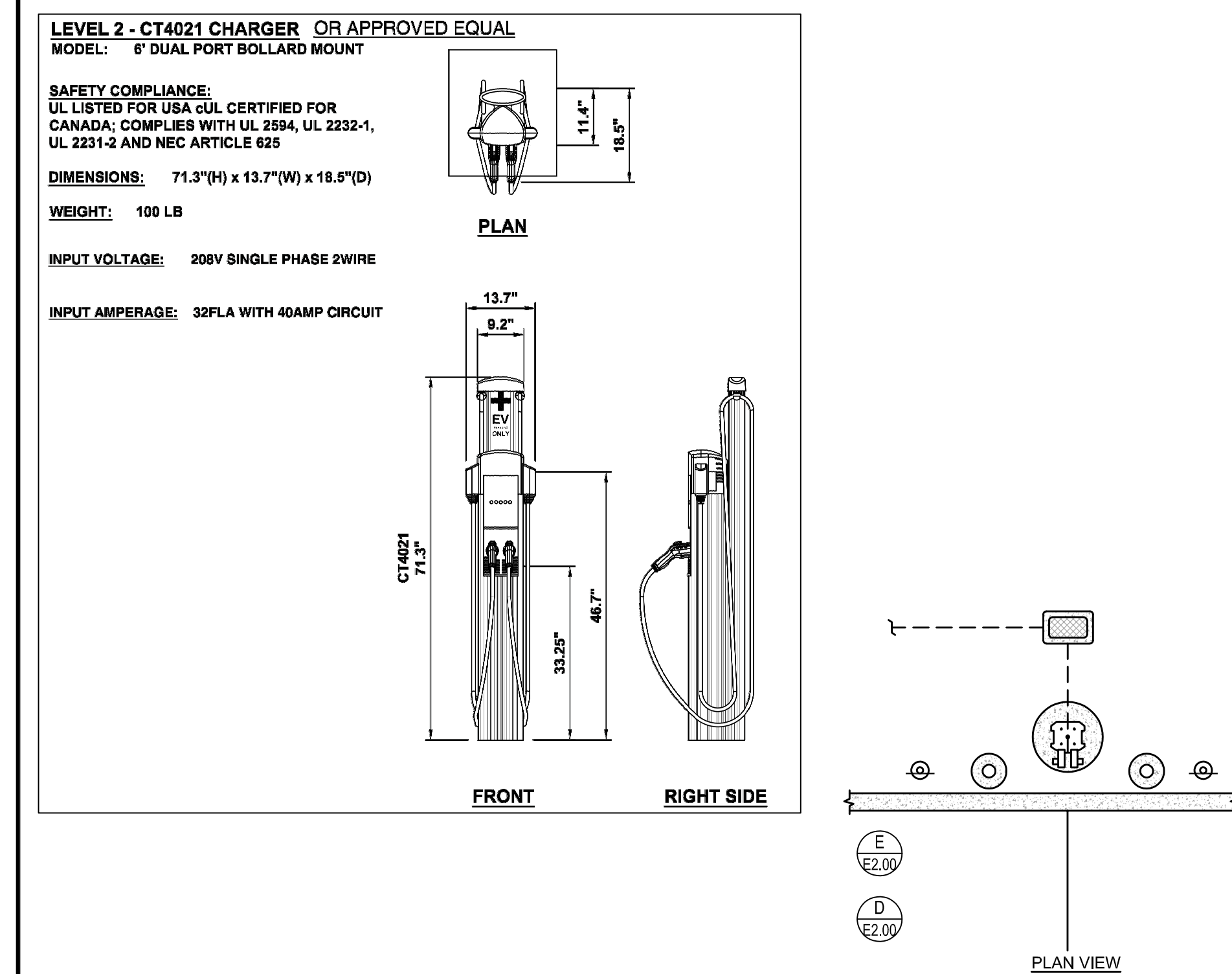
CADWELD CONNECTION DETAIL NO SCALE C



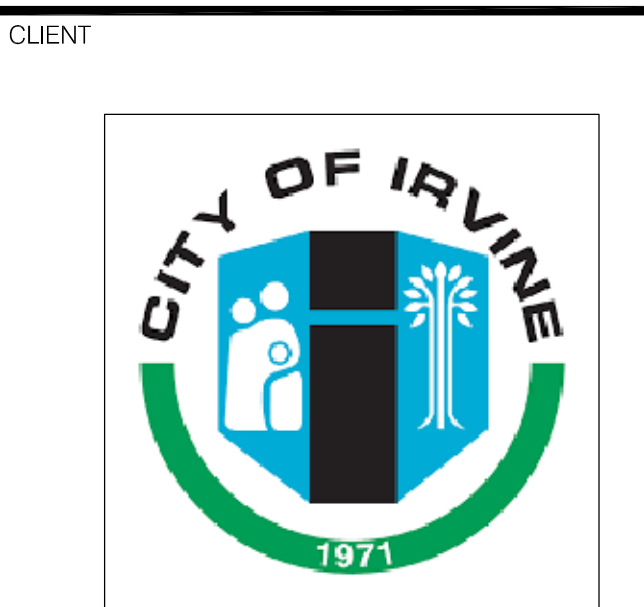
SWITCHBOARD "MSEV" - PLAN ELEVATION NO SCALE D



DC FAST CHARGER DETAIL NO SCALE B



DUAL PORT LEVEL 2 CHARGER NO SCALE A



PROJECT NAME
**IRVINE
CIVIC CENTER
ELECTRIC VEHICLE
CHARGING STATIONS
- CIP 361908**
1 CIVIC CENTER PLAZA
IRVINE, CA 92606

ENGINEER/ARCHITECT
IDS
IDS GROUP
1 PETERS CANYON ROAD, SUITE 130
IRVINE, CA 92606
TEL: 949-387-8500, FAX: 949-387-0800



AGENCY APPROVAL

ISSUE

REV.	DESCRIPTION	DATE
	PROGRESS SET	07/17/19
	PROGRESS SET	01/31/20
	PROGRESS SET	03/13/20

KEY PLAN

PROJECT NO. 18.103.00
PRINT DATE 7/16/2020
DRAWN BY
CHECKED BY

SHEET TITLE
**ELECTRICAL
DETAILS**

SHEET NUMBER
E-4.00

NOT FOR CONSTRUCTION

S:\PROJECTS\2018\SHARED\18103.00\PMN - CIVIC CENTER\EV CHARGING STATIONS\CAD\06 ELECT\04\03\00 E4.00 - DETAILS.DWG - 7/16/2020 8:02 AM

NOTICE TO CONTRACTOR

PURSUANT TO CALIFORNIA GOVERNMENT CODE SECTION 4216, NO EXCAVATION PERMIT IS VALID UNLESS THE FOLLOWING IS PERFORMED:

- 1. UNDERGROUND SERVICES ALERT HAS BEEN CONTACTED AND HAS PROVIDED INQUIRY I.D. #
2. THE UNDERSIGNED AGREES TO CONTACT AND OBTAIN AN INQUIRY I.D.# FROM UNDERGROUND SERVICES ALERT (800) 422-4133 AT LEAST TWO (2) WORKING DAYS PRIOR TO THE COMMENCEMENT OF EXCAVATION.

SIGNED _____ DATE _____

GENERAL NOTES:

- 1. ALL WORK SHALL CONFORM TO THE MOST CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, CITY OF IRVINE STANDARD DRAWINGS, CITY OF IRVINE STANDARD SPECIFICATIONS, THE UNIFORM BUILDING CODE, THE WORK AREA TRAFFIC CONTROL HANDBOOK (W.A.T.C.H. MANUAL), CALTRANS STANDARD SPECIFICATIONS, ADA, CALIFORNIA MUTCD AND TITLE 24.
2. THE CONTRACTOR SHALL TELEPHONE THE CITY OF IRVINE INSPEC-TIONS (949) 724-6500 AND THE CITY OF IRVINE TRAFFIC OPERA-TIONS (949) 724-7649, AT LEAST TWO WORKING DAYS (48 HOURS) PRIOR TO STARTING CONSTRUCTION.
3. ALL UNDERGROUND FACILITIES SHALL BE INSTALLED PRIOR TO SURFACING OF STREETS. THE INSTALLATION OF ALL UNDERGROUND FACILITIES CROSSING EXISTING ARTERIAL STREETS REQUIRES BORING OR JACKING, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
4. ANY EXISTING PAVEMENT DISTURBED BY THE CONSTRUCTION OF UNDERGROUND INSTALLATIONS SHALL BE COVERED BY A PERMIT ISSUED BY THE CITY OF IRVINE.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR AND COORDINATE THE RELOCATION OF ANY EXISTING UTILITIES DEEMED NECESSARY BY THE PROPOSED IMPROVEMENT.
6. WHENEVER IT BECOMES NECESSARY TO TUNNEL UNDER EXISTING IMPROVEMENTS, THE CONTRACTOR SHALL SUPPORT THOSE IMPROVEMENTS IN A MANNER APPROVED BY THE CITY ENGINEER, OR THE CONTRACTOR SHALL SAWCUT, REMOVE AND REPLACE THOSE IMPROVEMENTS IN ACCORDANCE WITH THE CITY OF IRVINE STANDARD DRAWINGS.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE NEW SEWER LATERALS CONSTRUCTED AND TO STAMP THE CURB WITH AN "S" ABOVE THE NEW LATERAL. INDIVIDUAL SEWER AND WATER SERVICES SHALL NOT BE LOCATED UNDER A DRIVEWAY.
8. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND STAMP THE CURB ON EACH SIDE OF THE STREET WITH THE APPROPRIATE LETTER: "E" FOR EDISON, "T" FOR TELEPHONE, ETC., WHEREVER UNDERGROUND FACILITIES CROSS A STREET.
9. PRIOR TO PLACING OF UNDERGROUND UTILITIES, THE LOCATION OF ALL UNDERGROUND FACILITIES (ELECTRICAL, TELEPHONE, CABLE TV, GAS, ETC.) SHALL BE ADDED TO IMPROVEMENT PLANS.
10. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES (BY POTHOLING OR OTHER MEANS). CONTRACTORS SHALL NOTIFY UNDERGROUND SERVICE ALERT (U.S.A.) (800) 422-4133 AT LEAST TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION TO LOCATE EXISTING UTILITIES.
11. ALL CONCRETE WORK AS SHOWN ON PLANS (CURB & GUTTER, STORM DRAIN, PIPE, MANHOLES, SIDEWALK, ETC.) SHALL BE EXTRA STRENGTH CONCRETE WITH 7 SACK TYPE II CEMENT OR 6 SACK TYPE V CEMENT, UNLESS DEEMED UNNECESSARY BY SULPHATE CONTENT TESTS AS APPROVED BY THE CITY OF IRVINE.
12. CONTRACTOR SHALL OBTAIN ANY REQUIRED O.S.H.A. PERMITS PRIOR TO ANY EXCAVATIONS.
13. ARROW BOARDS SHALL BE USED ON ANY LANE CLOSURES ON ARTERIAL STREETS.
14. SLURRY BACKFILL SHALL BE REQUIRED WHEN TUNNELING UNDER CURB AND GUTTER. SLURRY BACKFILL IS REQUIRED AROUND ALL MANHOLE CONSTRUCTION WITHIN PAVED STREETS.
15. THE FOLLOWING SIGN SHALL BE POSTED AT ALL STREET INTERSECTIONS AND TRACT ENTRANCES.
MAINTENANCE OF THIS STREET AND RIGHT-OF-WAY IS THE DEVELOPER'S RESPONSIBILITY.
DEVELOPER ----- PHONE -----
THE SIGN SHALL HAVE 3" HIGH (MINIMUM) LETTERING AND MUST BE INSTALLED PRIOR TO ANY OCCUPANCY. DEVELOPERS SHALL REMOVE SIGNS AT THE TIME OF CITY ACCEPTANCE OF STREET IMPROVEMENTS.
16. STREET CONSTRUCTION AND IMPROVEMENTS SHALL NOT BE OPENED FOR PUBLIC USE UNTIL ACCEPTED BY THE CITY.
17. ALL IMPROVEMENTS AND TRAFFIC SIGNAL WORK WITHIN THE STATE RIGHT-OF-WAY SHALL CONFORM TO CURRENT CALTRANS STANDARD SPECIFICATIONS.
18. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE STARTING WORK. SHOULD CONDITIONS EXIST WHICH ARE CONTRARY TO THOSE SHOWN ON PLANS, THE DESIGN ENGINEER SHALL BE NOTIFIED BEFORE PROCEEDING WITH WORK.
19. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ASSURE THAT ALL PIPES WALLS, ETC. ARE ADEQUATELY BRACED DURING CONSTRUCTION.
20. ALL WORK SHALL CONFORM TO THE PLANS AND SPECIFICATIONS IN ALL RESPECTS AND SHALL BE SUBJECT TO APPROVAL BY THE CITY'S INSPECTOR.
21. PURSUANT TO SECTION 8771 OF THE BUSINESS AND PROFESSIONS CODE, EXISTING SURVEY MONUMENTS SHALL BE NOTED AND DOCUMENTED BEFORE CONSTRUCTION. IF MONUMENTS ARE DISTURBED DURING CONSTRUCTION, THE CONTRACTOR SHALL PAY A LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER TO RESET SUCH MONUMENTS, UNLESS OTHERWISE SPECIFIED OR DESIGNATED.
22. CONSTRUCTION ACTIVITIES MAY OCCUR BETWEEN 7:00 A.M. AND 7:00 P.M. MONDAYS THROUGH FRIDAYS, AND 9:00 A.M. AND 6:00 P.M. ON SATURDAYS. NO CONSTRUCTION ACTIVITIES SHALL BE PERMITTED OUTSIDE OF THESE HOURS OR ON SUNDAYS AND FEDERAL HOLIDAYS UNLESS A TEMPORARY WAIVER IS GRANTED BY THE CHIEF BUILDING OFFICIAL OR HIS OR HER AUTHORIZED REPRESENTATIVE.
23. NO WORK MAY OCCUR ON ARTERIAL STREETS BEFORE 9:00 A.M. OR CONTINUE AFTER 3:00 P.M. UNLESS A TEMPORARY WAIVER IS GRANTED BY THE CHIEF BUILDING OFFICIAL OR HIS OR HER AUTHORIZED REPRESENTATIVE.

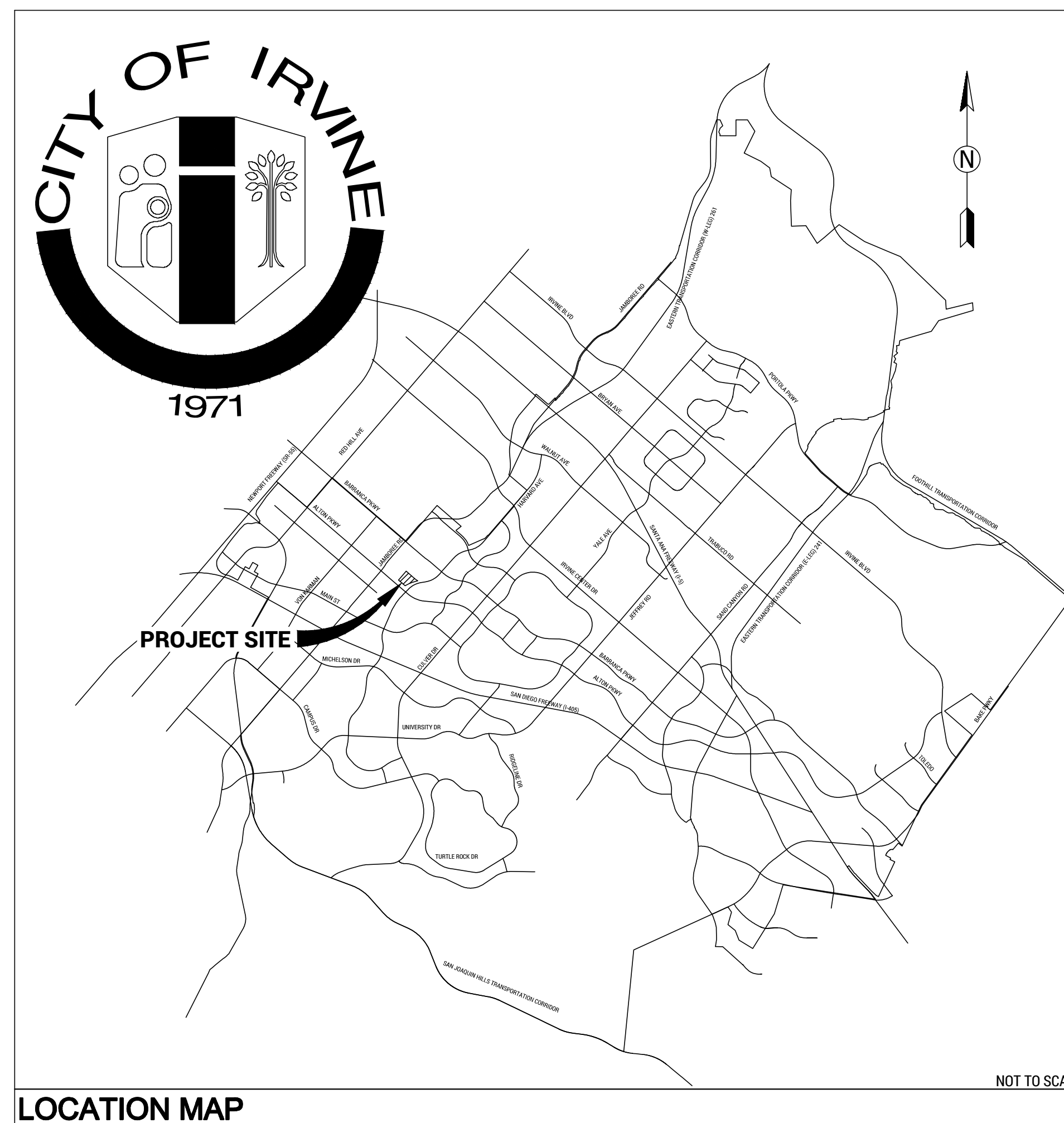
CONSTRUCTION PLANS FOR THE IMPROVEMENT OF IRVINE CIVIC CENTER EV CHARGING STATION

GENERAL NOTES CONTINUED:

- 24. IF THE CONTRACTOR WISHES TO ENGAGE IN CRUSHING OPERATIONS AT THE PROJECT SITE, HE OR SHE MUST PROVIDE A WRITTEN REQUEST AND OBTAIN THE CITY'S WRITTEN APPROVAL PRIOR TO AWARD OF THE CONSTRUCTION CONTRACT. THE WRITTEN REQUEST MUST STATE THE PROPOSED LOCATION OF THE CRUSHER AND THE SOURCE OF RUBBLE TO BE CRUSHED. THE CITY HAS THE OPTION TO PERMIT OR PROHIBIT CRUSHING OPERATIONS FOR UNTREATED BASE MATERIAL IN THE IMMEDIATE VICINITY OF THE PROJECT SITE. IF ALLOWED, THE CRUSHING OPERATION MUST BE IN COMPLIANCE WITH SECTION 200-2 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

NOMENCLATURE

Table with 2 columns: Abbreviation and Description. Includes AC (Asphalt Concrete), AB (Aggregate Base), AP (Asphalt Pavement), BC (Beginning of Curve), BCR (Beginning of Curb Radius), BEG (Begin), BLDG (Building), BW (Back of Walk), CF (Curb Face), DTL (Detail), EC (Edge of Concrete, End of Curve), EG (Edge of Gutter), EP (Edge of Pavement), EV (Electric Vehicle), EQ (Equal), EX (Existing), EXT (Extension, Exterior), FF (Finish Floor), FG (Finish Grade), FH (Fire Hydrant), FL (Flow Line), FS (Finish Surface), GB (Grade Break), ICVB (Irrigation Control Valve Box), L (Length), LP (Light Pole), MIN (Minimum), MUTCD (Manual on Uniform Traffic Control Devices), No. (Number), O/C (On Center), PA (Planting Area), PCC (Point of Compound Curve), PCC (Portland Cement Concrete), POT (Path of Travel), PS (Pavement Stripe), PVMT (Pavement), R (Radius), SHT (Sheet), SPPWC (Standard Plans for Public Works Construction ("Greenbook")), STD (Standard), SW (Sidewalk), TC (Top of Curb), TRANS (Transition), TYP (Typical).



DRAWINGS INDEX

Table with 2 columns: NO. and DESCRIPTION. Lists sheets C-0.1 (Title Sheet), C-1.1 (Details), C-2.1 (Demolition Plan), and C-3.1 (Precise Grading Plan).

UTILITY PURVEYORS

Table listing utility providers for Electric (Southern California Edison), Gas (Southern California Gas Company), Sanitary Sewer & Water (Irvine Ranch Water District), and Storm Drain (City of Irvine Public Works).

CONSTRUCTION NOTES

- PROTECT - IN - PLACE
31 CONSTRUCT 1-INCH DIAMETER WEEP HOLE THROUGH CURB PER DETAIL 30 SHEET C-1.1.
31 CONSTRUCT 6-INCH CURB ONLY PER CITY OF IRVINE STD NO. 200 TYPE "B-6".
32 CONSTRUCT 0-INCH CURB
33 CONSTRUCT FULL DEPTH AC
34 CONSTRUCT 4-INCH CONCRETE SIDEWALK PER CITY OF IRVINE STD NO. 201
35 INSTALL TRUNCATED DOME PER CITY OF IRVINE STD NO. 202
36 JOIN EXISTING SIDEWALK PER CITY OF IRVINE STD NO. 201
37 SLURRY SEAL TYPE I
41 INSTALL PAVEMENT MARKING PER DETAIL 41 SHEET C-1.1
42 INSTALL WHEEL STOP PER DETAIL 42 SHEET C-1.1
43 INSTALL NEW POST AND VAN ACCESSIBLE SIGN PER DETAIL 43 SHEET C-1.1
44 INSTALL NEW POST AND ACCESSIBLE SIGN PER DETAIL 44 SHEET C-1.1
45 INSTALL EV CHARGING STATION SIGN PER DETAIL 45 SHEET C-1.1

DEMOLITION NOTES

- REMOVE & DISPOSE ITEM NOTED PER PLAN
PROTECT - IN - PLACE
REMOVE AND DISPOSE OF INTERFERING PORTIONS OF EXISTING LANDSCAPING AND IRRIGATION (PROVIDE BYPASS IRRIGATION LINES AS REQUIRED). RE-GRADE AS NECESSARY TO INSTALL PROPOSED IMPROVEMENTS (EXPORT SPOILS OR IMPORT MATERIAL AS REQUIRED).
1 REMOVE & DISPOSE OF 0-INCH CURB
2 REMOVE & DISPOSE OF VARIABLE HEIGHT CURB
3 SAW CUT EXISTING CURB
4 REMOVE AND DISPOSE OF EXISTING CONCRETE PAVEMENT
5 REMOVE EXISTING CONCRETE RAMP
6 SAW CUT EXISTING SIDEWALK
7 REMOVE EXISTING STRIPING BY POWER WATER WASHING.
8 REMOVE AND DISPOSE OF EXISTING ASPHALT PAVEMENT
9 REMOVE TREE AND ROOT BALL AND BACKFILL PER CITY OF IRVINE STANDARD PLANS AND SPECIFICATIONS.

BENCH MARK:

ORANGE COUNTY BENCH MARK 3H-21-03, SOUTHERLY CORNER OF THE INTERSECTION OF CULVER DRIVE AND BARRANCA PARKWAY, 50 FT. SOUTHEASTERLY OF THE CENTERLINE OF CULVER AND 80 FT. SOUTHWESTERLY OF THE CENTERLINE OF BARRANCA. ORANGE COUNTY SURVEYOR'S 3-3/4" ALUMINUM DISK SET IN THE NORTHEASTERLY CORNER OF A 4FT. BY 4.5FT. CONCRETE CATCH BASIN. ELEV. = 74.040 FEET NAVD88

BASIS OF BEARINGS:

THE BEARINGS SHOWN HEREON ARE BASED ON THE BEARING BETWEEN O.C.S. HORIZONTAL CONTROL STATION GPS NO. 6580 AND STATION GPS NO. 6576 BEING NORTH 62°02'39" WEST PER RECORDS ON FILE IN THE OFFICE OF THE ORANGE COUNTY SURVEYOR

IDS Civil Engineers logo and contact information: 1 PETERS CANYON ROAD, SUITE 130, IRVINE, CA. 92606, TEL: 949-387-8500, FAX: 949-387-0800

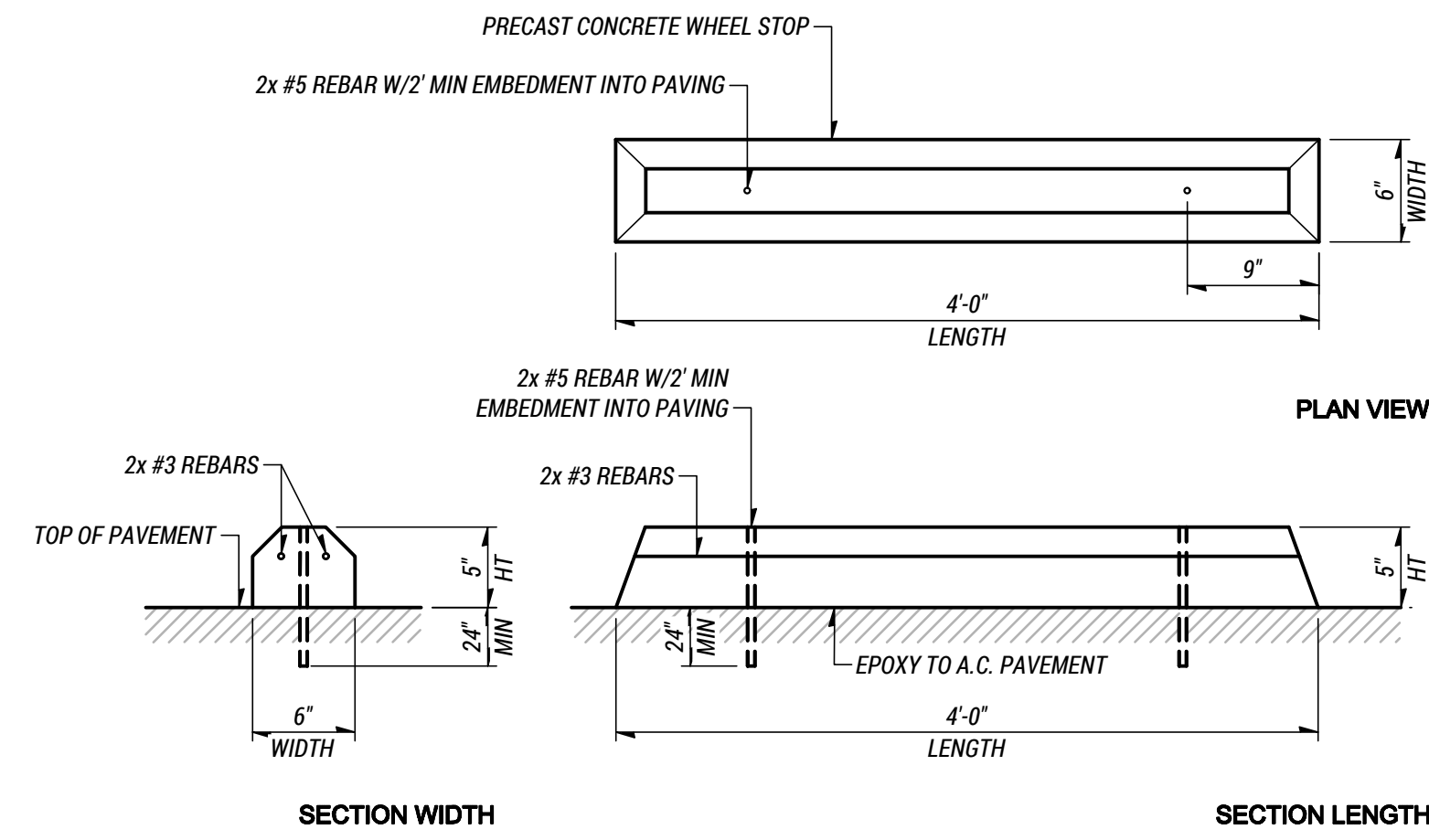
CITY APPROVAL: CITY OF IRVINE PUBLIC WORKS APPROVED. This plan is signed by the City of Irvine Public Works Department for concept and adherence to City of Irvine standards and requirements only. Steven Carrillo, P.E. City Engineer.

Professional Engineer Seal for Steven Carrillo, State of California, No. 55577, Exp. 07-14.

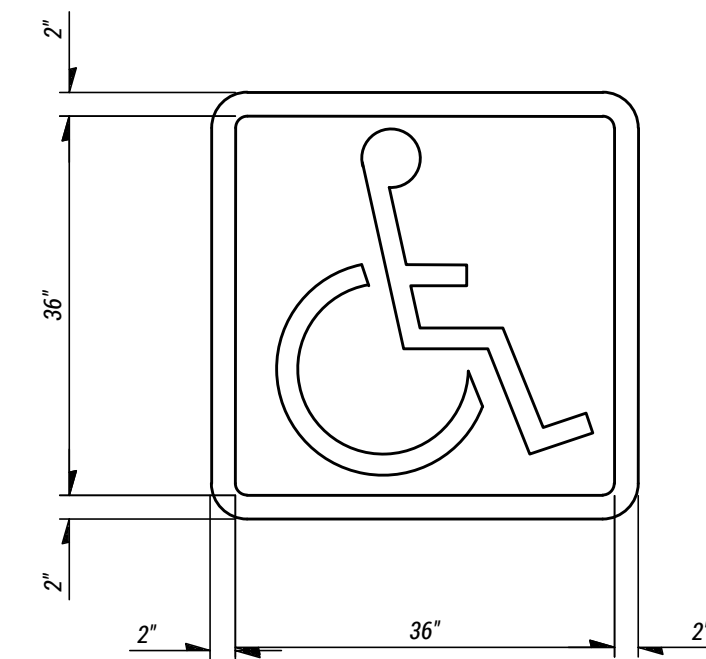
Approval table with columns for APPROVED BY, CITY ENGINEER (Steven Carrillo), ORANGE COUNTY FIRE MARSHAL, and IRVINE RANCH WATER DISTRICT SANITARY SEWER FACILITIES/WATER FACILITIES.

TITLE SHEET LOCATION MAP, BENCH MARK BASIS OF BEARING AND GENERAL NOTES. CITY OF IRVINE PUBLIC WORKS DEPARTMENT

811 logo and utility information: Know what's below. Call 811 before you dig. PLAN CHECK NO. 00815155-EMC, PERMIT NO. X, PROJECT NO. 18X103, SHEET C-0.1, 1 OF 4.

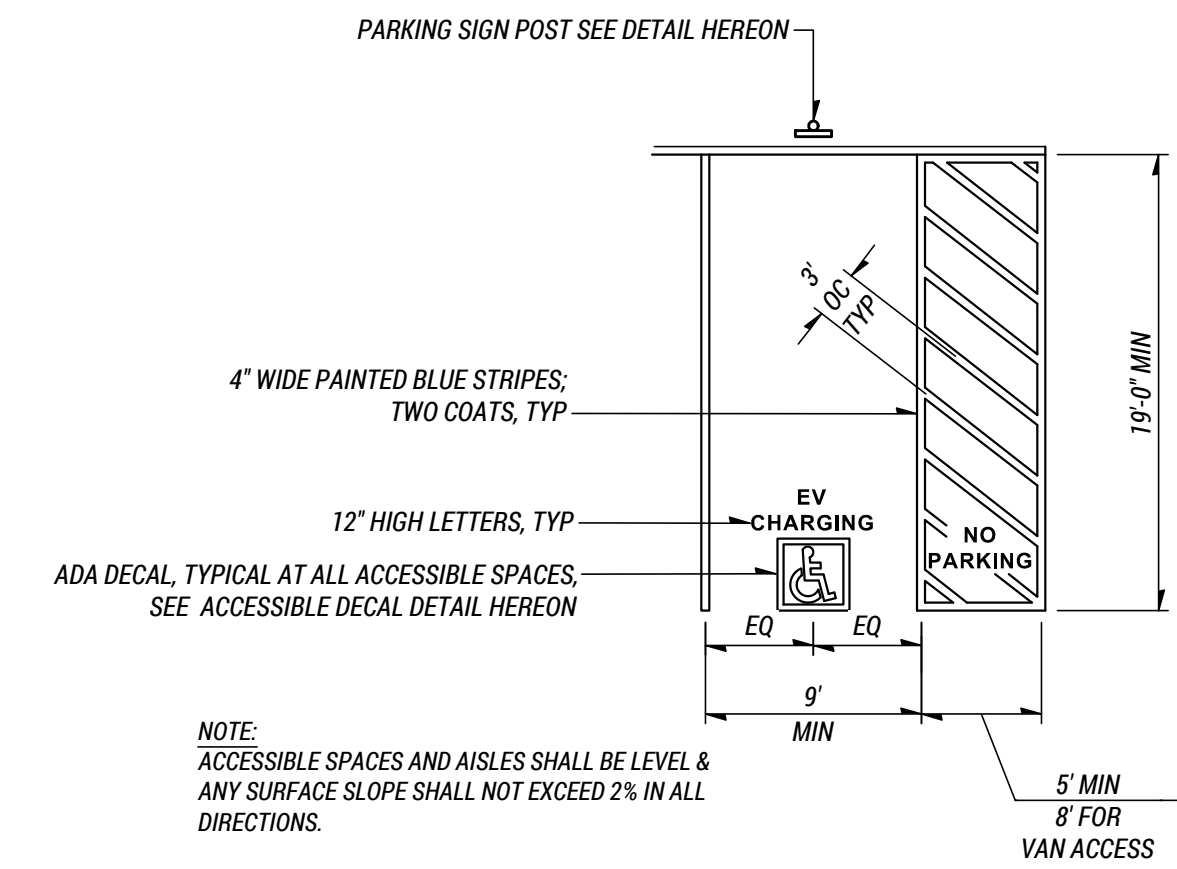


WHEEL STOP DETAIL NOT TO SCALE 42

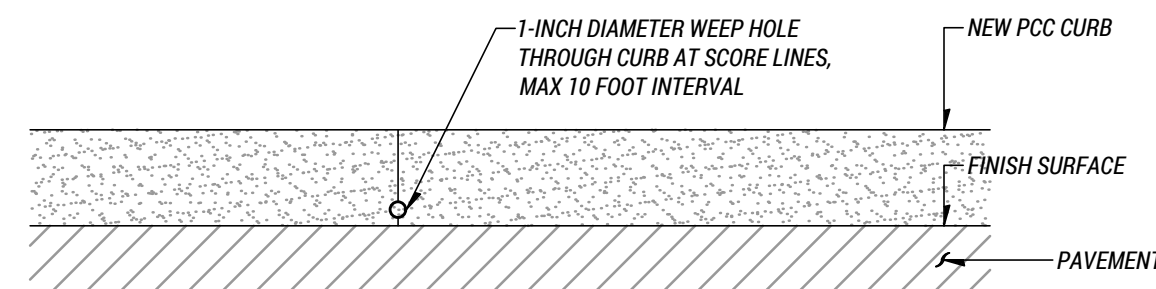


- NOTES:
1. ALL STROKES TO BE 2" WIDE.
 2. PROVIDE TWO COATS OF PAINT.
 3. BLUE BACKGROUND WITH WHITE SYMBOL.
 4. LOCATE SYMBOL AT CENTER OF STALL WHERE SHOWN ON SITE PLAN.
 5. ONE SYMBOL FOR EACH HANDICAP PARKING SPACE.

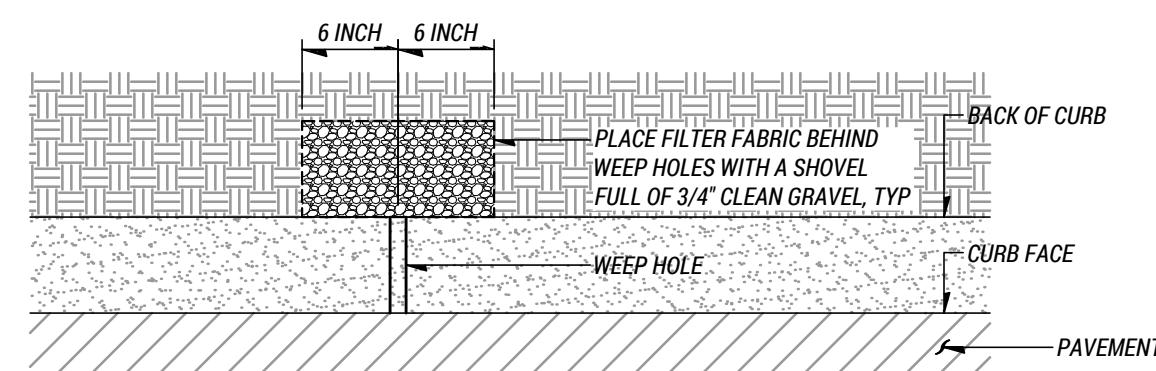
ACCESSIBLE DECAL NOT TO SCALE 41



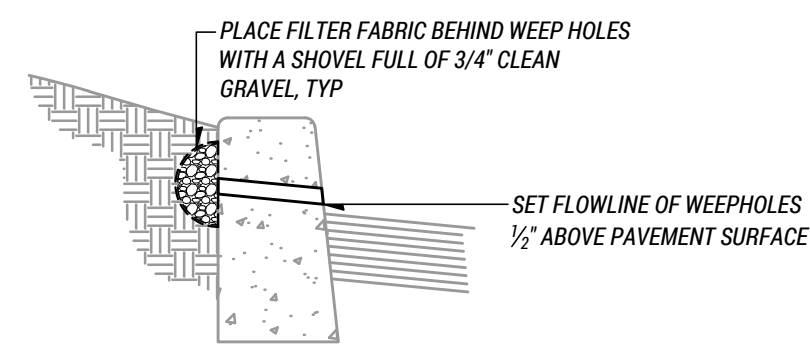
PAVEMENT MARKING NOT TO SCALE 41



ELEVATION

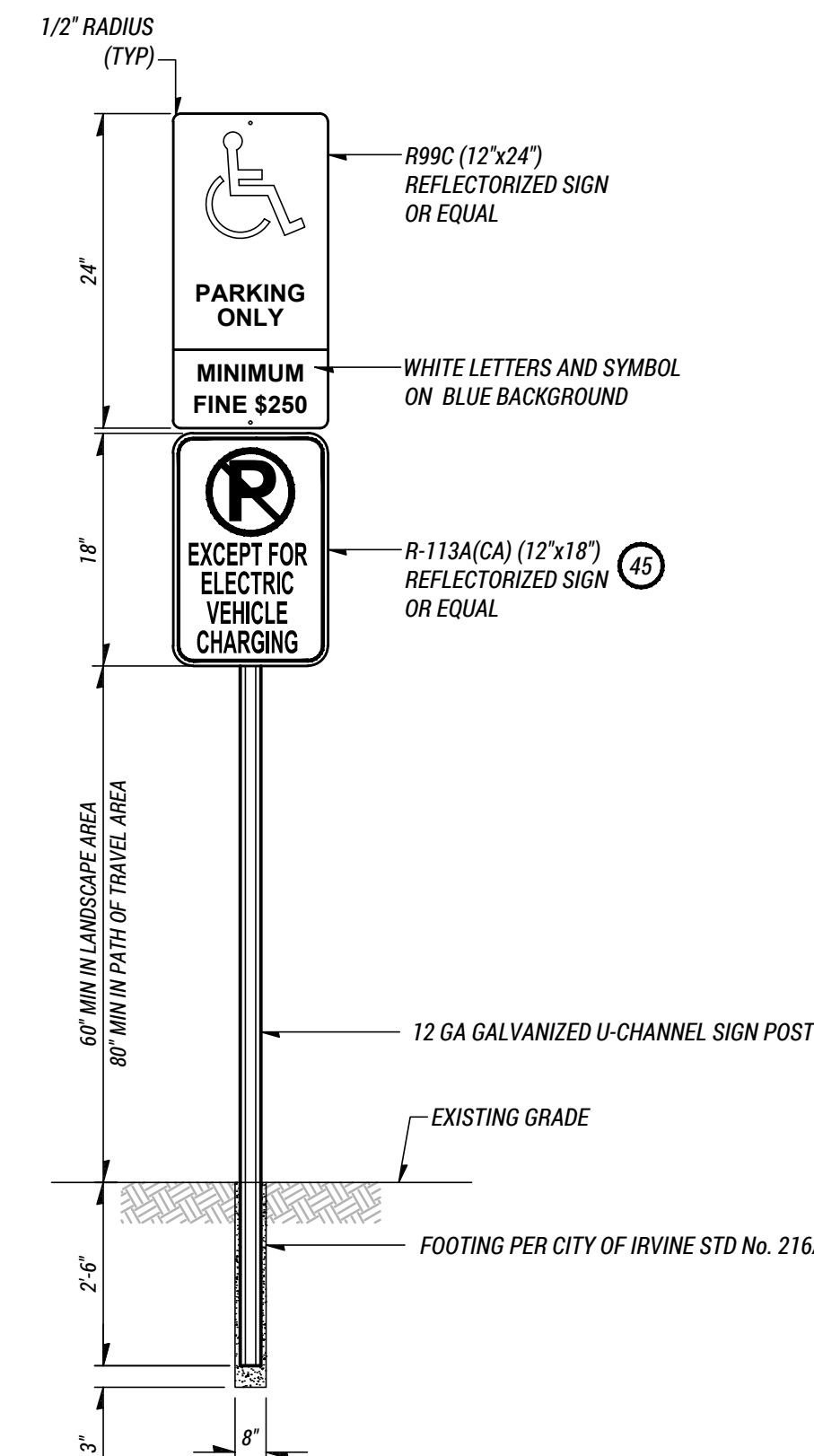


PLAN VIEW

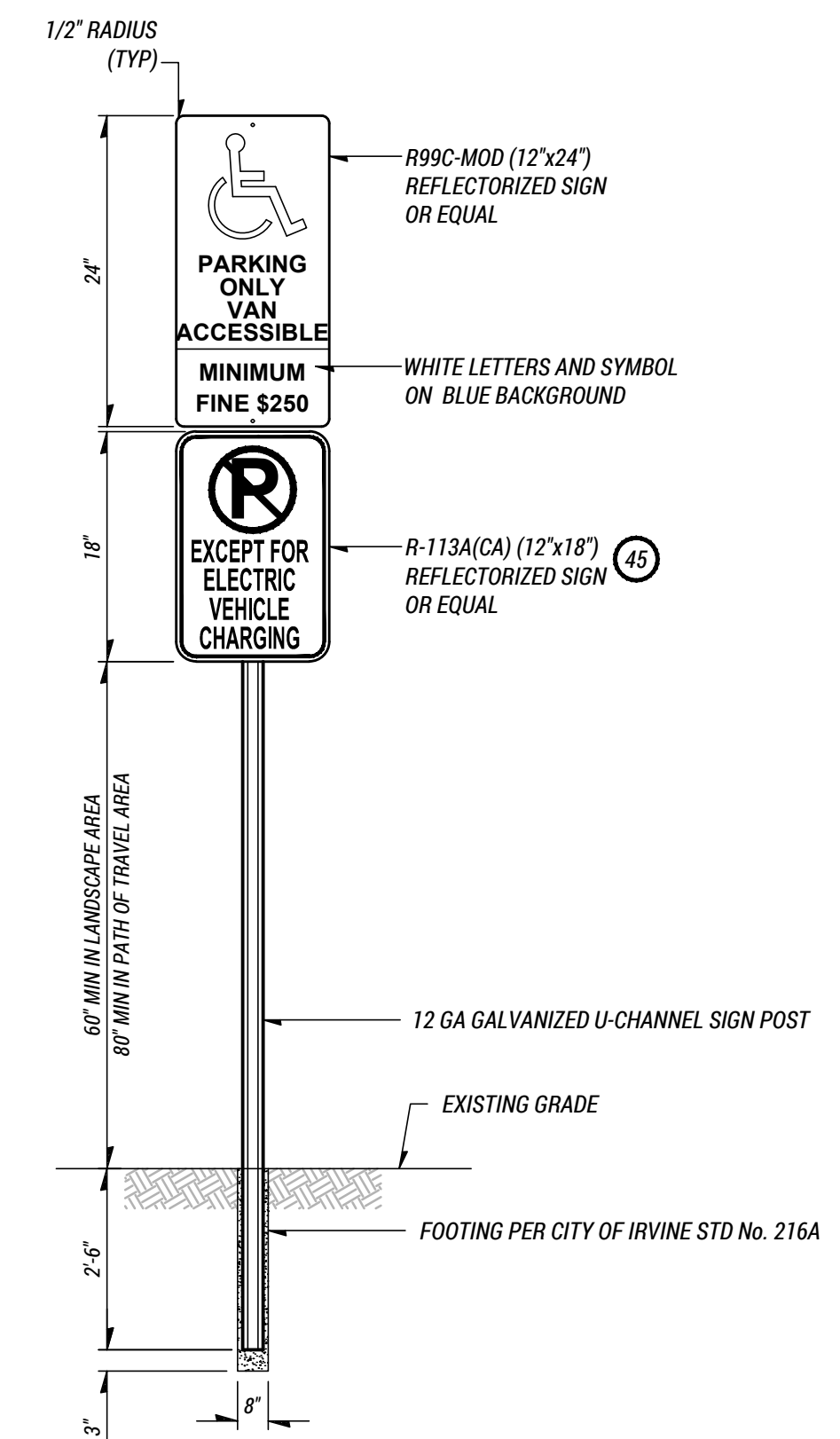


SECTION

WEEP HOLE THROUGH CURB DETAIL NOT TO SCALE 30



ACCESSIBLE EV PARKING SPACE PARKING SIGN NOT TO SCALE 44,45



- NOTES:
1. ALL MATERIAL AND WORK SHALL CONFORM TO THE CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD 2014, REV 5).
 2. ALL SALVAGED SIGNS AND POSTS SHALL BE DISPOSED OF AT THE CONTRACTORS EXPENSE.

TYPICAL PARKING SIGN & POST DETAIL NOT TO SCALE 43,45

S:\PROJECTS\2018\Shared\18X103.00 Irvine Civic Center EV Charging Stations\05 CAD\02 Civil\02 Civil\18X103-05-C0101.dwg 7/14/2020 14:41:15

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
5					
4					
3					
2					
1					

PLAN PREPARED BY:

DESIGNED BY: IDS CIVIL

CHECKED BY: PG/RMB

DATE: 2020-07-14

IRVINE CIVIC CENTER
EV CHARGING STATIONS
DETAILS

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. 00815155-EMC

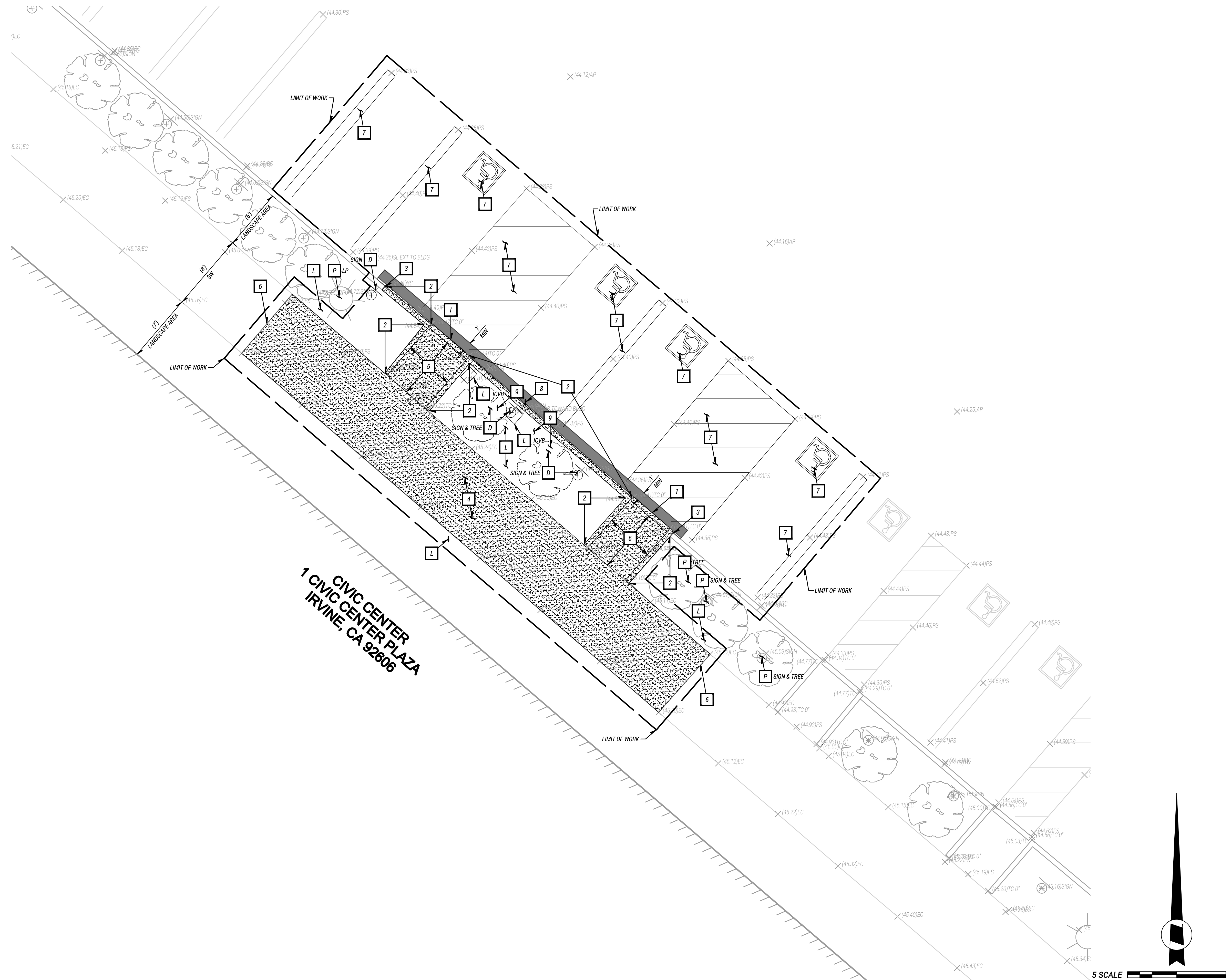
PERMIT NO.

PROJECT NO. JOB NO. 18X103

SHEET C-1.1

2 OF 4

S:\PROJECTS\2018\Shared\18X103\Irvine Civic Center EV Charging Stations\05 CAD\02 Civil\02 CAD\18X103-C201.dwg 7/14/2020 14:41:22

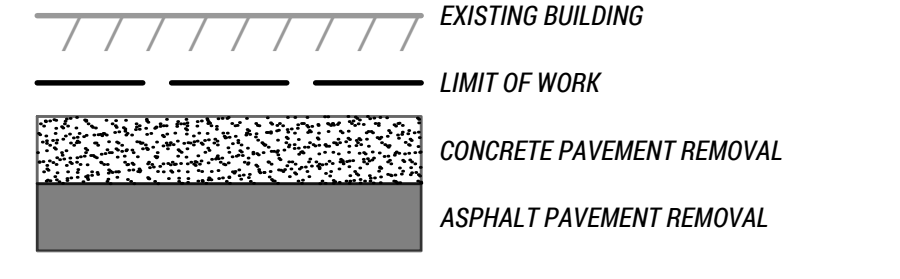


**1 CIVIC CENTER PLAZA
IRVINE, CA 92606**

DEMOLITION NOTES

- D** REMOVE & DISPOSE. ITEM NOTED PER PLAN
- P** PROTECT - IN - PLACE
- L** REMOVE AND DISPOSE OF INTERFERING PORTIONS OF EXISTING LANDSCAPING AND IRRIGATION (PROVIDE BYPASS IRRIGATION LINES AS REQUIRED). RE-GRADE AS NECESSARY TO INSTALL PROPOSED IMPROVEMENTS (EXPORT SPOILS OR IMPORT MATERIAL AS REQUIRED).
- 1** REMOVE & DISPOSE OF 0-INCH CURB
- 2** REMOVE & DISPOSE OF VARIABLE HEIGHT CURB
- 3** SAW CUT EXISTING CURB
- 4** REMOVE AND DISPOSE OF EXISTING CONCRETE PAVEMENT
- 5** REMOVE EXISTING CONCRETE RAMP
- 6** SAW CUT EXISTING SIDEWALK
- 7** REMOVE EXISTING STRIPING BY POWER WATER WASHING.
- 8** REMOVE AND DISPOSE OF EXISTING ASPHALT PAVEMENT
- 9** REMOVE TREE AND ROOT BALL AND BACKFILL PER CITY OF IRVINE STANDARD PLANS AND SPECIFICATIONS.

LEGEND



NOTES
PROTECT ALL EXISTING FACILITIES NOT NOTED FOR DEMOLITION.



PLAN CHECK NO.
00815155-EMC

PERMIT NO.

PROJECT NO.
JOB NO. 18X103
SHEET
C-2.1
3 OF 4

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
5					
4					
3					
2					
1					

PLAN PREPARED BY: *[Signature]*

DRAWN BY: KT DATE

DESIGNED BY: IDS CIVIL DATE

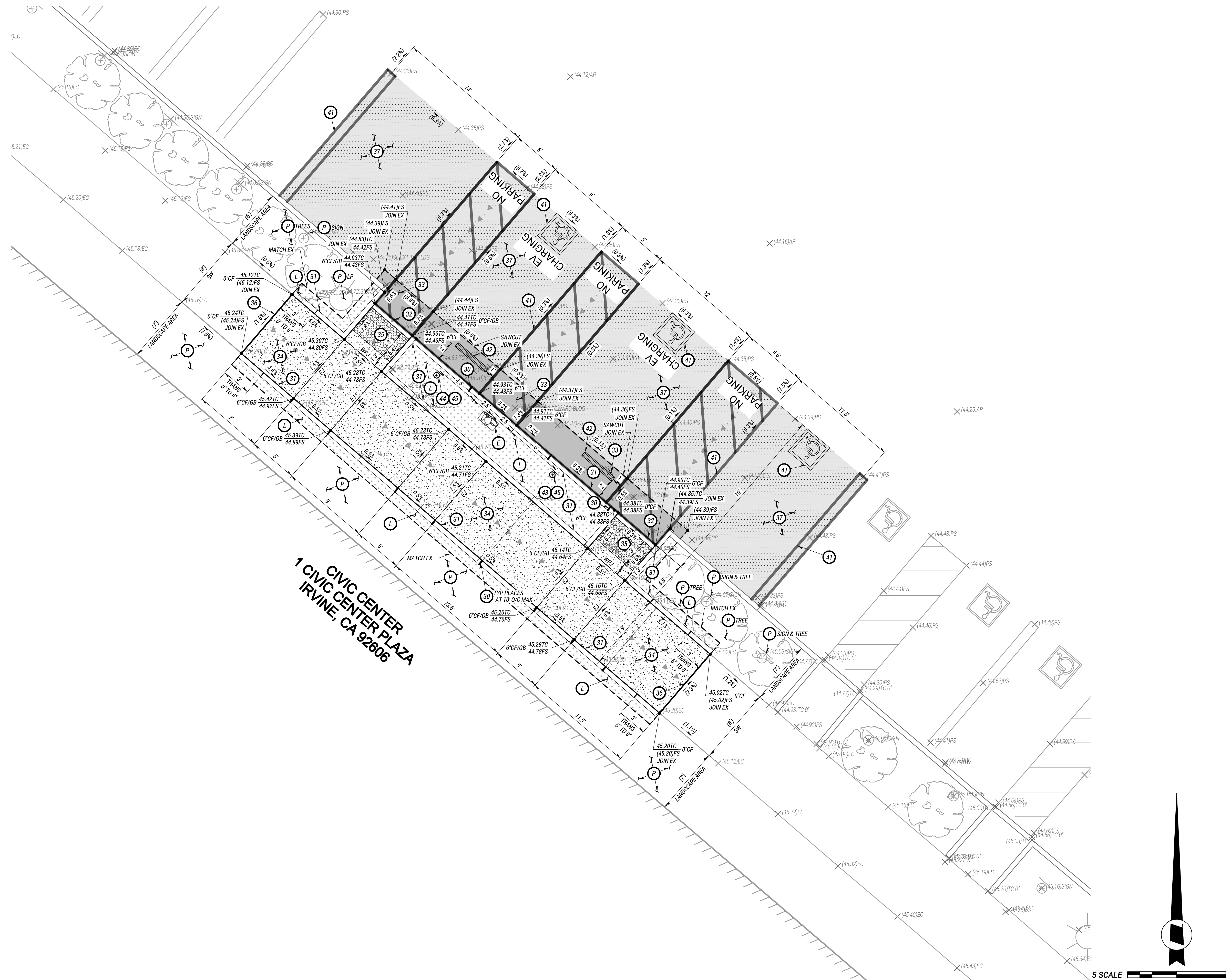
CHECKED BY: PG/RMB DATE

DATE: 2020-07-14

REGISTERED PROFESSIONAL ENGINEER
PETER M. CAWTON
CIVIL
STATE OF CALIFORNIA
55577

IRVINE CIVIC CENTER
EV CHARGING STATIONS
DEMOLITION PLAN

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT



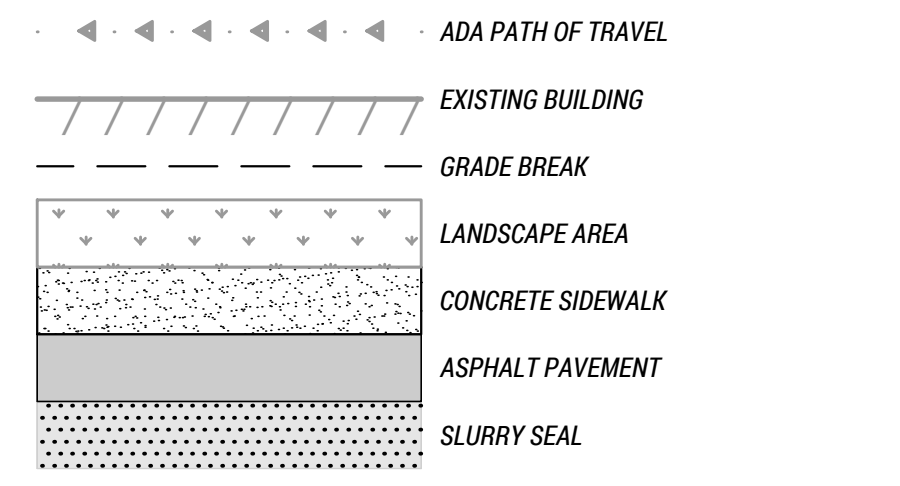
**1 CIVIC CENTER PLAZA
IRVINE, CA 92606**

CONSTRUCTION NOTES

- (P) PROTECT - IN - PLACE
- (30) CONSTRUCT 1-INCH DIAMETER WEEP HOLE THROUGH CURB PER DETAIL 30 SHEET C-1.1.
- (31) CONSTRUCT 6-INCH CURB ONLY PER CITY OF IRVINE STD NO. 200 TYPE "B-6".
- (32) CONSTRUCT 8-INCH CURB
- (33) CONSTRUCT FULL DEPTH AC
- (34) CONSTRUCT 4-INCH CONCRETE SIDEWALK PER CITY OF IRVINE STD NO. 201
- (35) INSTALL TRUNCATED DOME PER CITY OF IRVINE STD NO. 202
- (36) JOIN EXISTING SIDEWALK PER CITY OF IRVINE STD NO. 201
- (37) SLURRY SEAL TYPE I
- (41) INSTALL PAVEMENT MARKING PER DETAIL 41 SHEET C-1.1
- (42) INSTALL WHEEL STOP PER DETAIL 42 SHEET C-1.1
- (43) INSTALL NEW POST AND VAN ACCESSIBLE SIGN PER DETAIL 43 SHEET C-1.1
- (44) INSTALL NEW POST AND ACCESSIBLE SIGN PER DETAIL 44 SHEET C-1.1
- (45) INSTALL EV CHARGING STATION SIGN PER DETAIL 45 SHEET C-1.1

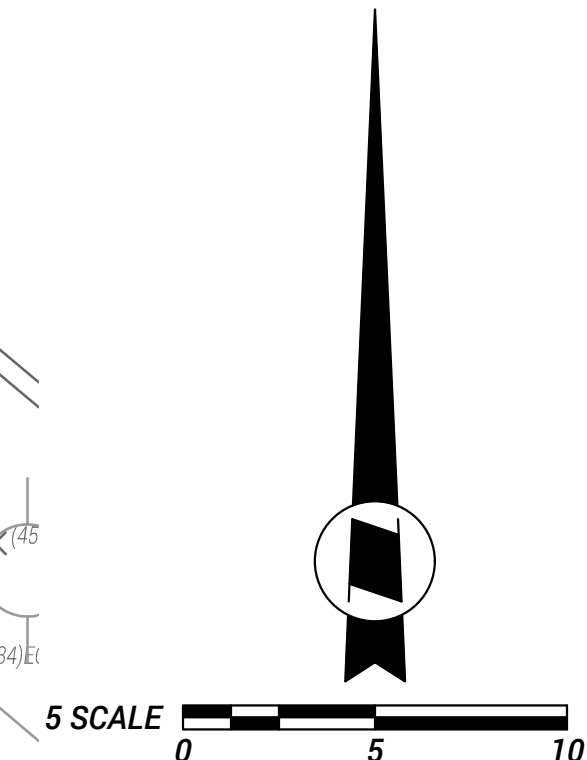
- (E) EV CHARGING STATION PER ELECTRICAL PLAN. PLAN No. (TO BE DETERMINED UPON PLAN CHECK).
- (L) FURNISH AND INSTALL LANDSCAPING AND IRRIGATION IN AREAS DISTURBED BY PROJECT PER DIRECTION OF CITY (INCLUDING BACKFILL BEHIND CURBS). LANDSCAPE TO MATCH EXISTING CONDITION.

LEGEND



NOTES

- PROTECT ALL EXISTING FACILITIES NOT NOTED FOR DEMOLITION.
- PCC JOINTS CONSIST OF EXPANSION JOINTS (E.J.), WEAKENED PLANE JOINTS (WP.J), AND SCORE MARK PER CITY OF IRVINE STD NO. 201. JOINTS WHICH ARE NOT SPECIFICALLY CALLED OUT ON THE PLAN SHALL BE SCORE MARK.



NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
5					
4					
3					
2					
1					

PLAN PREPARED BY: *[Signature]*

DRAWN BY: KT DATE: _____

DESIGNED BY: IDS CIVIL DATE: _____

CHECKED BY: PG/RMB DATE: _____

DATE: 2020-07-14

IRVINE CIVIC CENTER
EV CHARGING STATIONS
PRECISE GRADING PLAN

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO.
00815155-EMC

PERMIT NO.

PROJECT NO.
JOB NO. 18X103

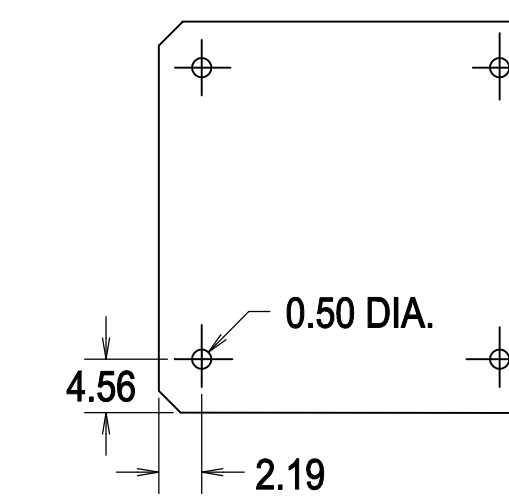
SHEET
C-3.1

4 OF 4

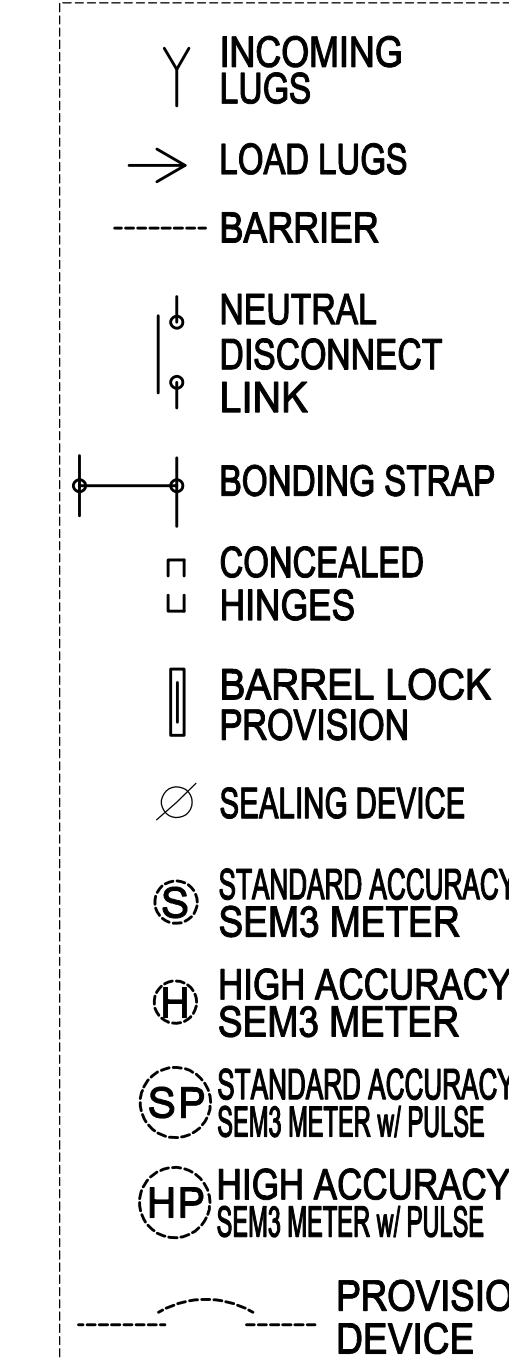
S:\PROJECTS\2018\Shared\18X103\Irvine Civic Center EV Charging Stations\05 CAD\02 Civil\02 CAD\18X103-CC301 grad.dwg 7/14/2020 14:41:35

NOTES

- CONSTRUCTION : SWITCHBOARD IS BUILT AND LABELED PER UL 891 IN EFFECT.
 INCOMING : AMPERES: 600
 SERVICE : SYSTEM VOLTAGE: 480Y/277 3Ø4W Wye AC
 INTERRUPTING : THE SHORT CIRCUIT INTERRUPTING CAPABILITY IS 65,000
 RATING : RMS SYMMETRICAL AMPERES AT 480 VOLTS BASED ON THE LOWEST SHORT CIRCUIT CURRENT RATING OF THE INDIVIDUAL OR SERIES RATED COMBINATION DEVICES INSTALLED AT TIME OF MANUFACTURE OF BUSSING STRUCTURE. THE BUSSING STRUCTURE IS CONSTRUCTED TO WITHSTAND FAULTS OF 65,000 RMS SYMMETRICAL AMPERES.
 ENCLOSURE : ENCLOSURE IS TYPE NEMA 3R FOR OUTDOOR APPLICATION.
 EXTERIOR : ANSI 61 LIGHT GREY PAINT.
 TERMINATIONS : TERMINATIONS ARE ACCESSIBLE FROM THE FRONT.
 BUS BARS : TIN PLATED ALUMINUM BUS BARS SIZED ON BASIS OF 65°C MAXIMUM TEMPERATURE RISE.
 BUS BARS : THE GROUND BUS IN THIS SWITCHBOARD IS ALUMINUM SIZED PER UL 891 OR GREATER.
 UTILITY : SOUTHERN CAL EDISON

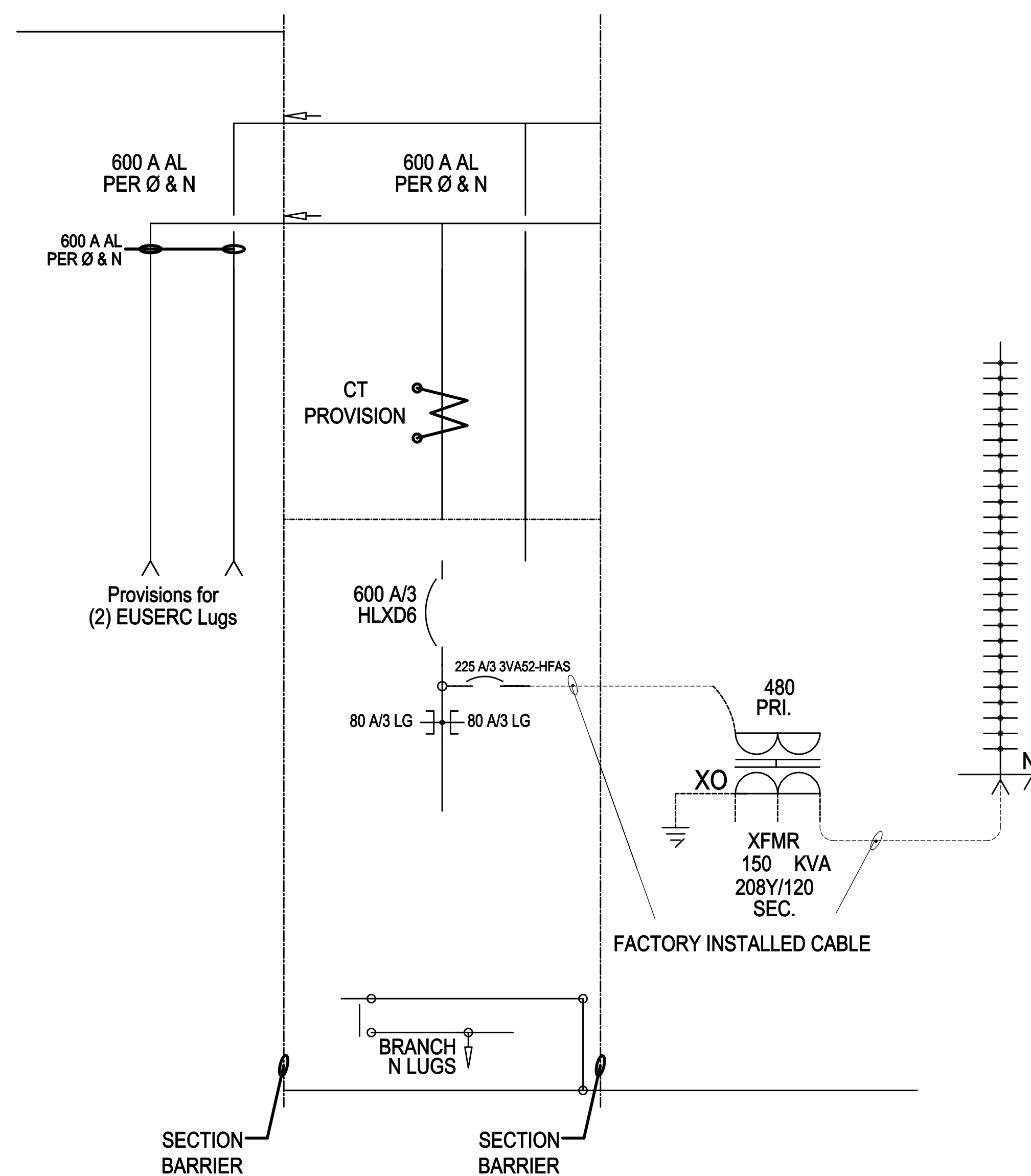
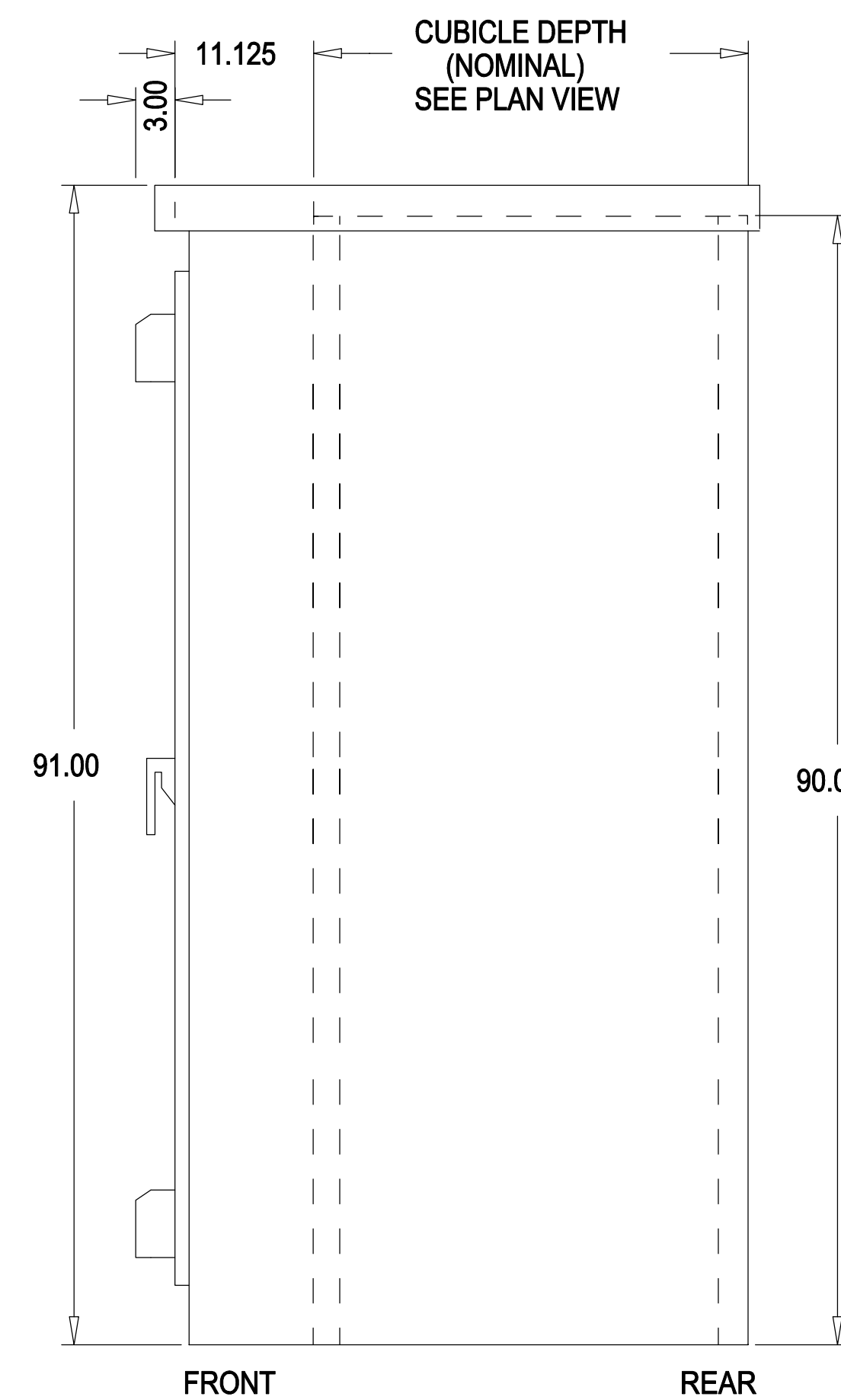
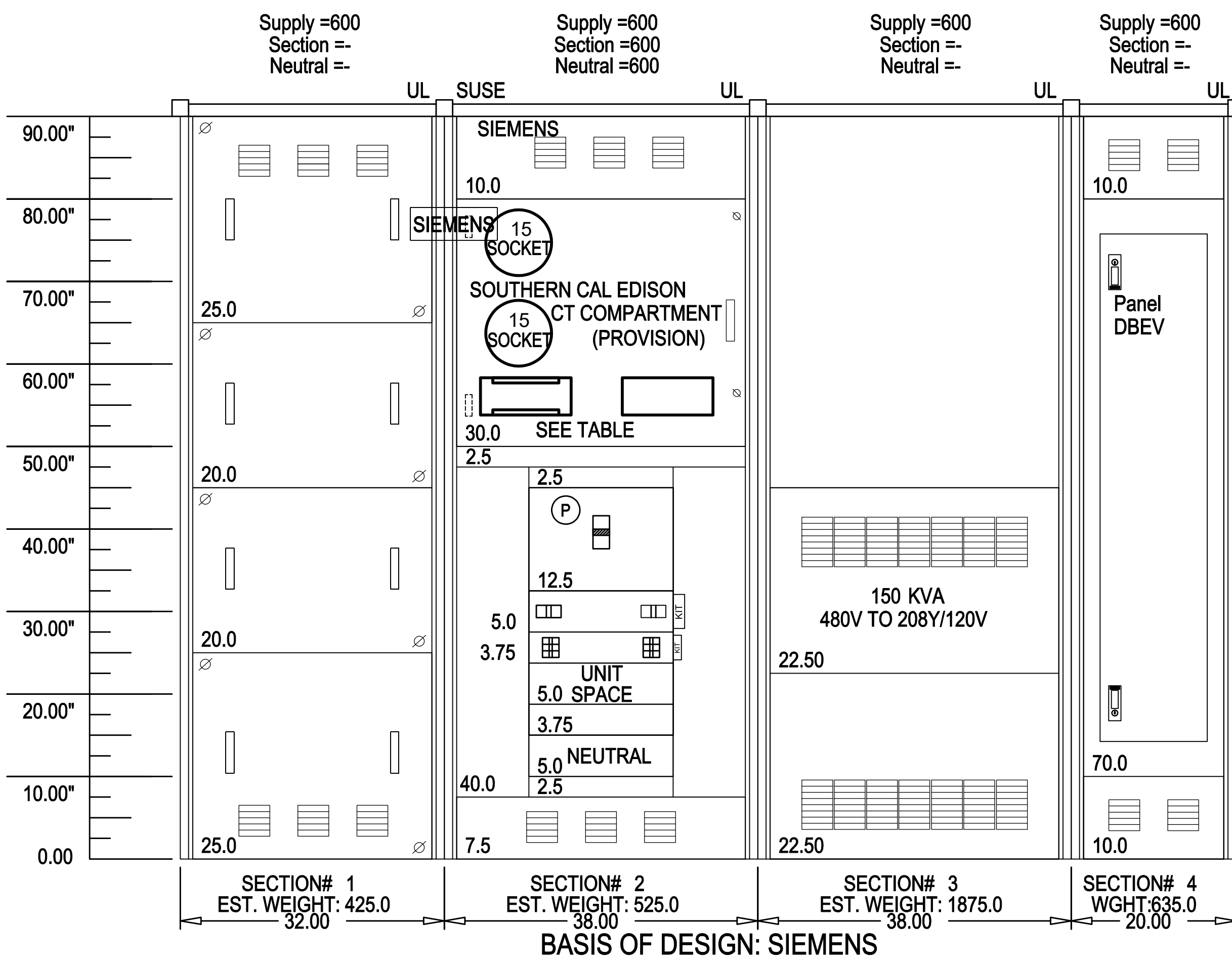
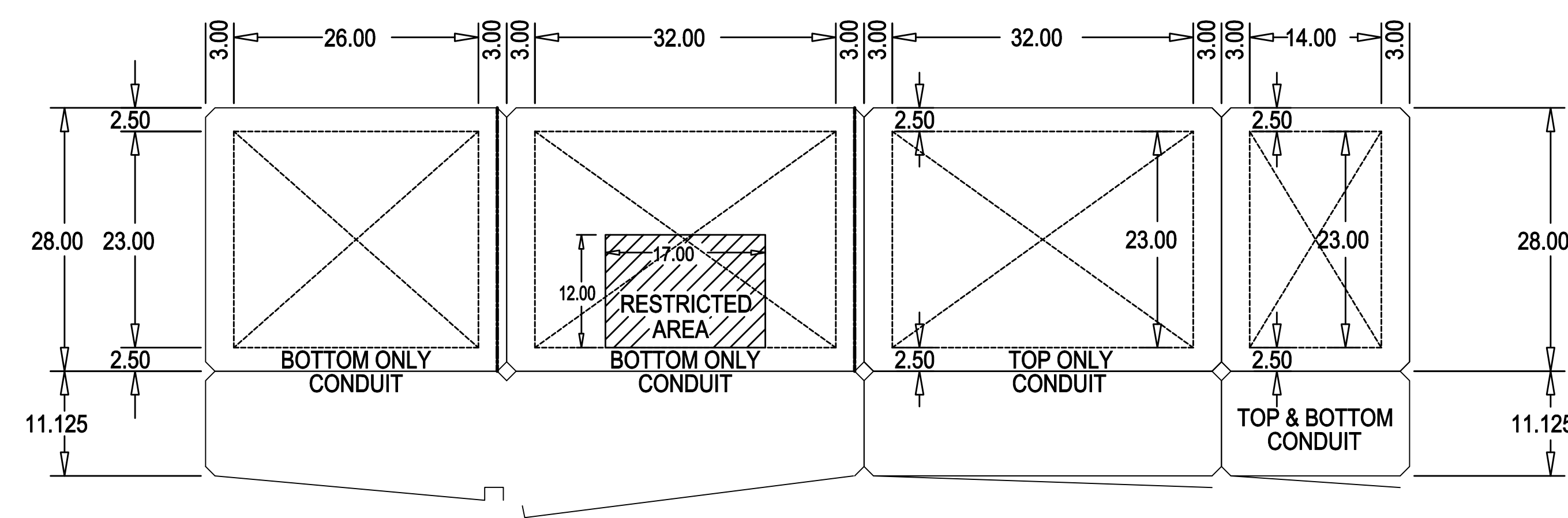


TYPICAL BOLT-DOWN HOLE PROVISION FOR CUBICLE BOTTOM EACH SECTION



ABBREVIATIONS

- 'UL' INDICATES THAT THE MARKED SWITCHBOARD SECTION COMPLIES WITH ALL APPLICABLE UNDERWRITERS LABORATORIES STANDARDS AND IS IDENTIFIED WITH A UL LABEL.
 'SUSE' INDICATES THAT THE MARKED SWITCHBOARD SECTION IS SUITABLE ONLY FOR USE AS SERVICE ENTRANCE EQUIPMENT.
 'UNIT SPACE' INDICATES UNOCCUPIED AREA INTENDED FOR FUTURE USE.
 'P' INDICATES PADLOCK PROVISION.



UTILITY CO. : SOUTHERN CAL EDISON	
DESCRIPTION	PG NO.
CT COMPARTMENT	6-18/EUSERC P320
UGPS	6-14, 6-15/EUSERC P345
LINE TERMINATION	6-12, 6-13/EUSERC P347
METER PLATES	332
SMM METERING	-
SUPPORT	None

INSTALLATION NOTE

Caution: If switchboard is installed on a housekeeping slab greater than 2-1/2" the meter may be over the 6'3" maximum allowable meter height. Consult utility if you need more information.

JOB Civic Center EV Charging Irvine			
P.O.	CUST.		
CONTR	CONSLT		
TIE	BY menmj	ENG. LOC.	DESIGNATION
S.O.	DATE 2-18-2020	-	MSEV
DWG. NO. --1			
APP.		MFG. LOC.	SHEET 1 of 1
APP.		DWG. FILE	
Siemens Industry, Inc. Norcross, Georgia			
NO.	REVISIONS	DRAWN BY:	DATE
1	0	menmj	2-18-2020
			REV. 1

CONSTRUCTION NOTES:

Unless otherwise specified on the working drawing which forms a part of the specification, the Contractor/Developer shall furnish the following items or be held to the Edison Company...

- 1. FOR GENERAL SPECIFICATIONS SEE UGS 0 001.
2. CONDUIT:
a. Minimum cover in street or roadway is 30" below gutter grade, unless noted otherwise.
b. Minimum cover on private property is 30" below finished grade, unless noted otherwise.

NOTE: ALL ELECTRICAL DUCTS AND STRUCTURES WILL CONFORM TO GENERAL ORDERS #109 (RULES) FOR CONSTRUCTION OF UNDERGROUND FACILITIES...

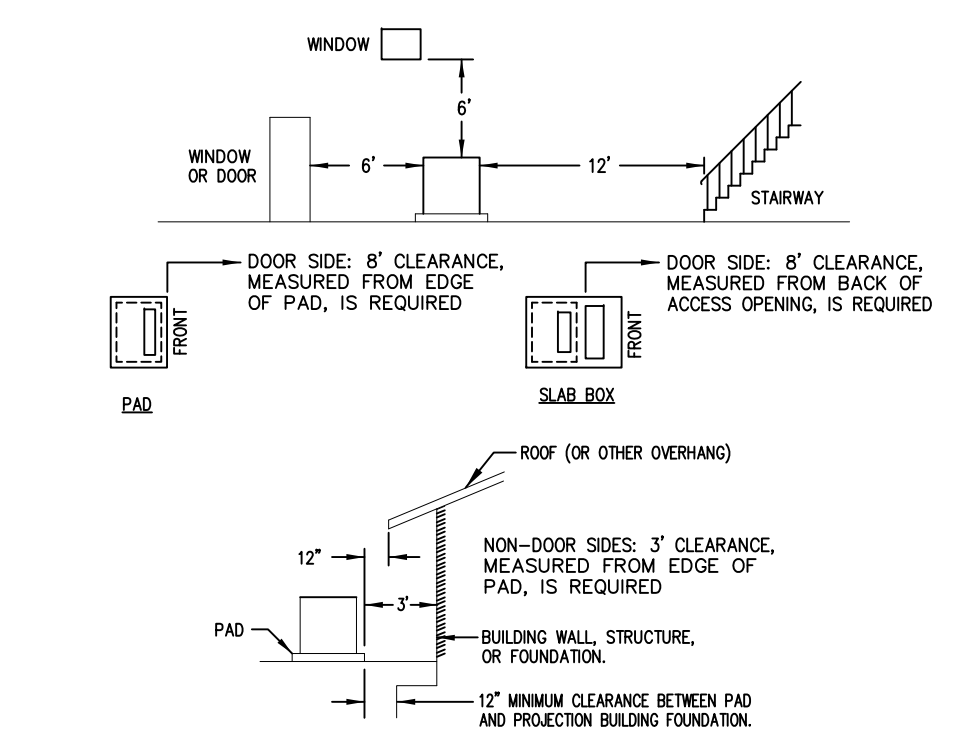
WHERE CONDUITS ARE PICKED UP OR INTERCEPTED, CONDUIT SHALL BE MANIPULATED AND PULL ROPS INSTALLED FROM TERMINAL TO TERMINAL.

JIE-IN MADE THROUGH SIDE WALL OF STRUCTURE: Vault, Manhole, Pile, SCE/USEI BULK, Side Box, Pull Box, Panel.

WARNING: THE EXCAVATOR MUST TAKE ALL NECESSARY TO AVOID CONTACT WITH UNDERGROUND FACILITIES WHICH MAY RESULT IN WATER INJECTION OR GASES ESCAPING IN THE WORK AREA...

CUSTOMER-OWNED CONDUIT MATERIAL AND CONCRETE ENCASUREMENT ARE TO BE INSTALLED IN ACCORDANCE WITH Edison ELECTRICAL SERVICE REQUIREMENTS.

MINIMUM CLEARANCES FOR PADMOUNTED TRANSFORMERS SEE DDS-3, 3-40



NOTE: IF MINIMUM CLEARANCE IS REQUIRED ON DOOR SIDE OF TRANSFORMER THE OPERATING AREA MUST BE KEPT CLEAR OF ALL OBSTRUCTIONS INCLUDING, BUT NOT LIMITED TO, SIGNS, TREES, SHADES, TRAILS, WALLS, SIGN AND FLAG POLES...

SS 504 Pad for Surface-Mounted Transformer Poured in Field Construction and Precast Construction (Concrete)

Scope SS 504.1 Pad for Surface-Mounted Transformer Poured in Field Construction and Precast Construction (Concrete)

Figure SS 504-1: Pad for Surface-Mounted Transformer Poured in Field Construction and Precast Construction (Concrete)

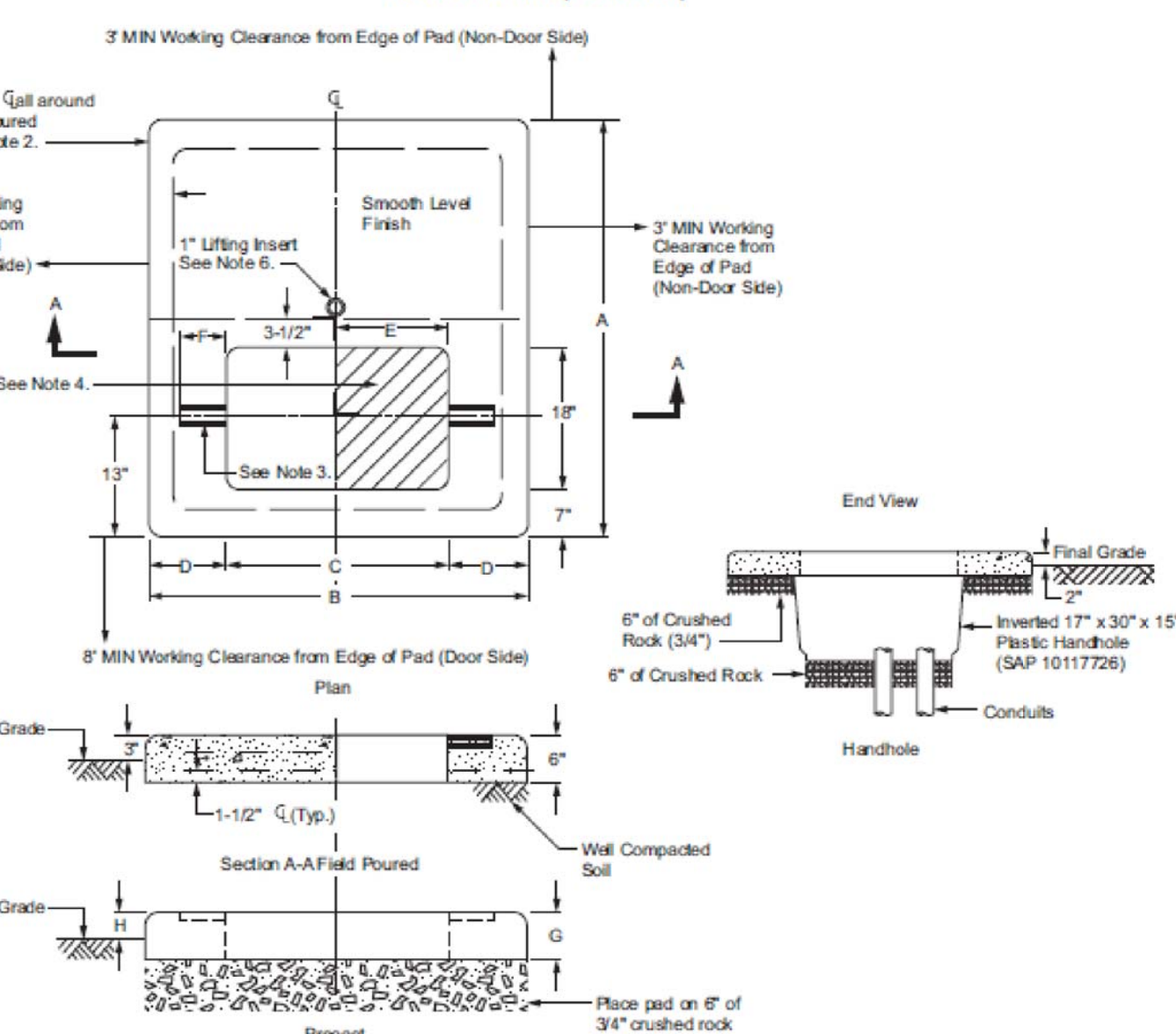


Table SS 504-1: Surface-Mounted Transformer Pads - Dimensions

Table with columns: Transformer, Pad Dimensions (ft) A, B, C, D, E, F, G, H, Weight (lb), SAP. Includes rows for 10T, 25 kVA-167 kVA, 75 kVA-150 kVA, and 75 kVA-500 kVA.

- Notes: 1. Concrete to be 3,000 psi (minimum) at 28 days. 2. Reinforcing steel to be No. 4 bars installed in a double mat. 3. Hoop-down transformers to be P-2000 unless stated or equal.

UNDERGROUND SERVICE ALERT Dial 811

Call USA For Underground Locating 2 Working Days Before You Dig

PROJECT SCHEDULING MILESTONES

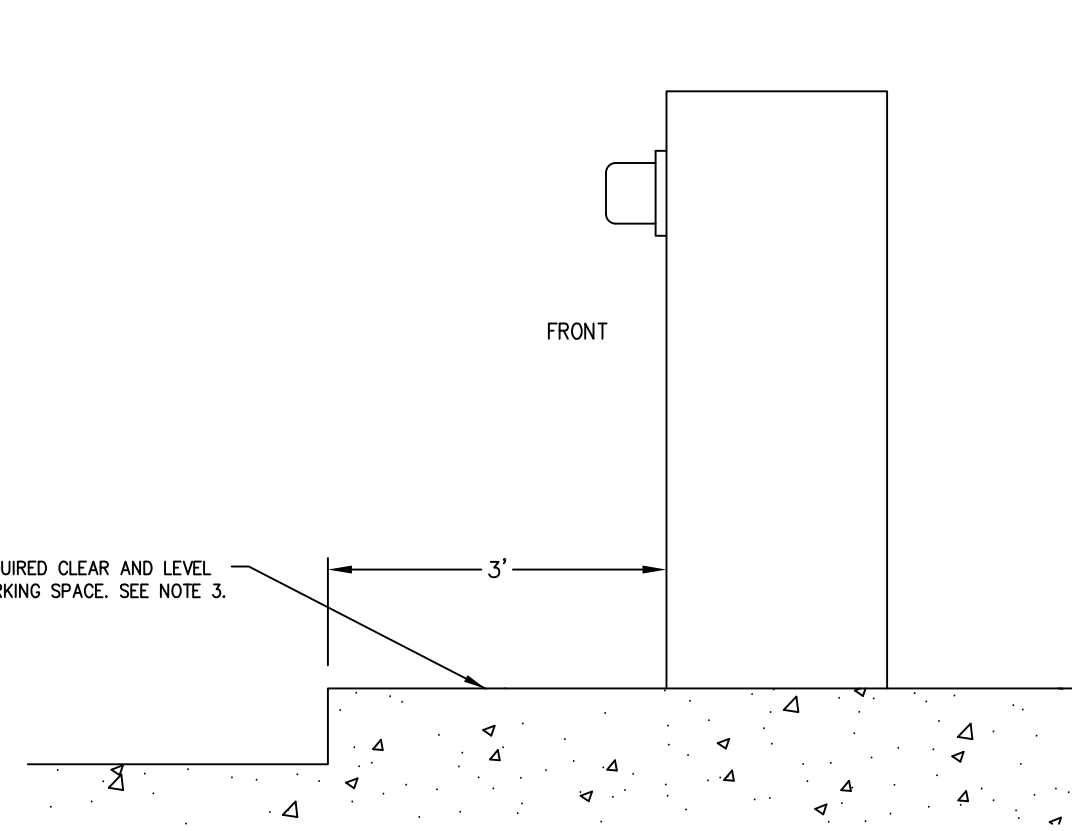
PLEASE CONTACT THE SERVICE PLANNER ONCE DUCTS AND STRUCTURES HAVE BEEN RELEASED IN ORDER TO SCHEDULE THE EDISON CONSTRUCTION CREW

- Final Design Received
SCE Pre trench
SCE Structure Release
SCE Panel Installation
Application Made
City Panel Release
Site Readiness
Energize Date

TO ENSURE THAT YOU ARE ENERGIZED BY YOUR REQUIRED DATE, PLEASE MAKE SURE THE ABOVE ITEMS HAVE BEEN, OR ARE IN THE PROCESS OF BEING, COMPLETED.

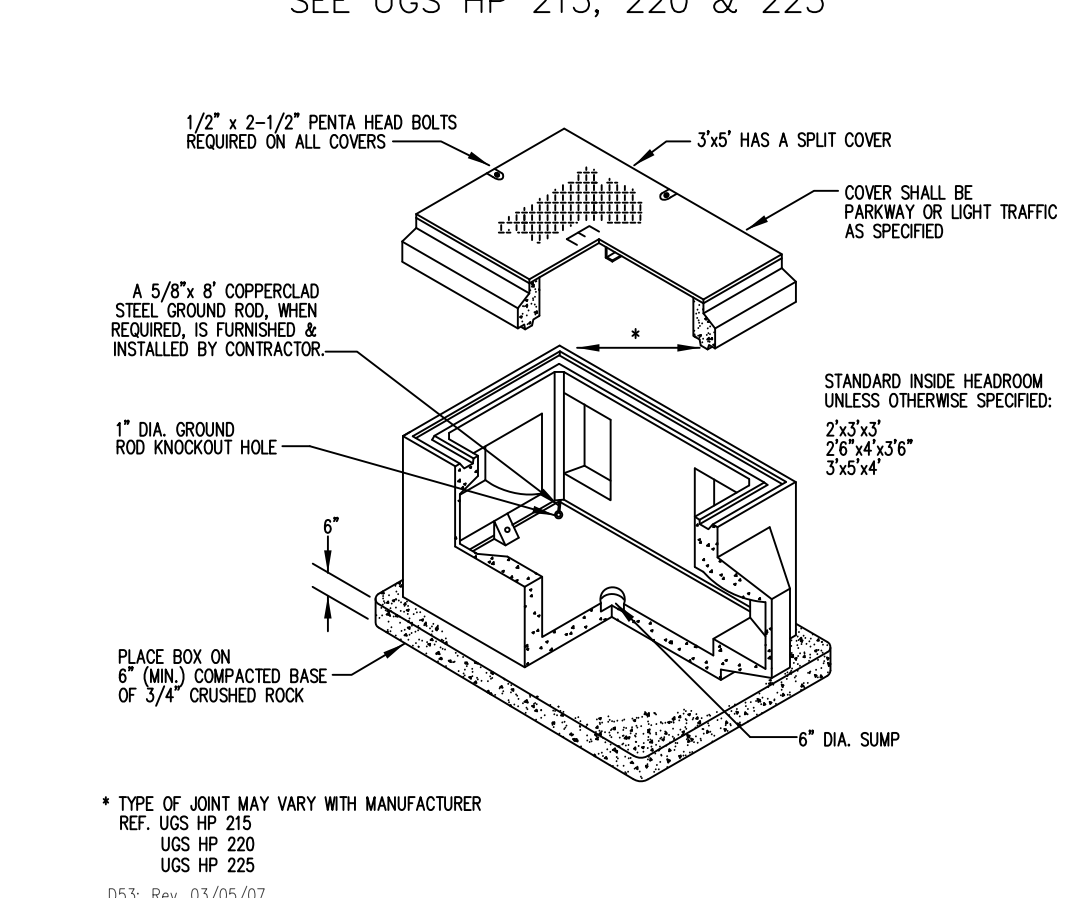
Project Milestones

PANEL CLEARANCE UNDERGROUND SERVICE CONNECTIONS 0-600 VOLTS SEE ESR 3-16

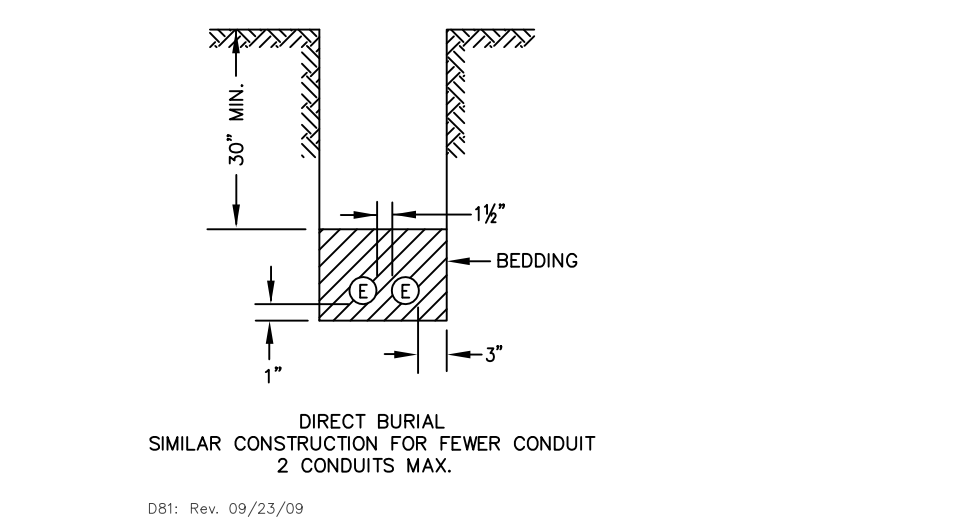


- NOTES: 1. A MINIMUM OF THREE (3) FEET OF CLEAR LEVEL WORK SPACE IS REQUIRED IN FRONT OF ALL TERMINATION, METERING, AND SERVICE CONNECTIONS. 2. USE FIBER-FOR-METER MOUNTING HEIGHT REQUIREMENTS...

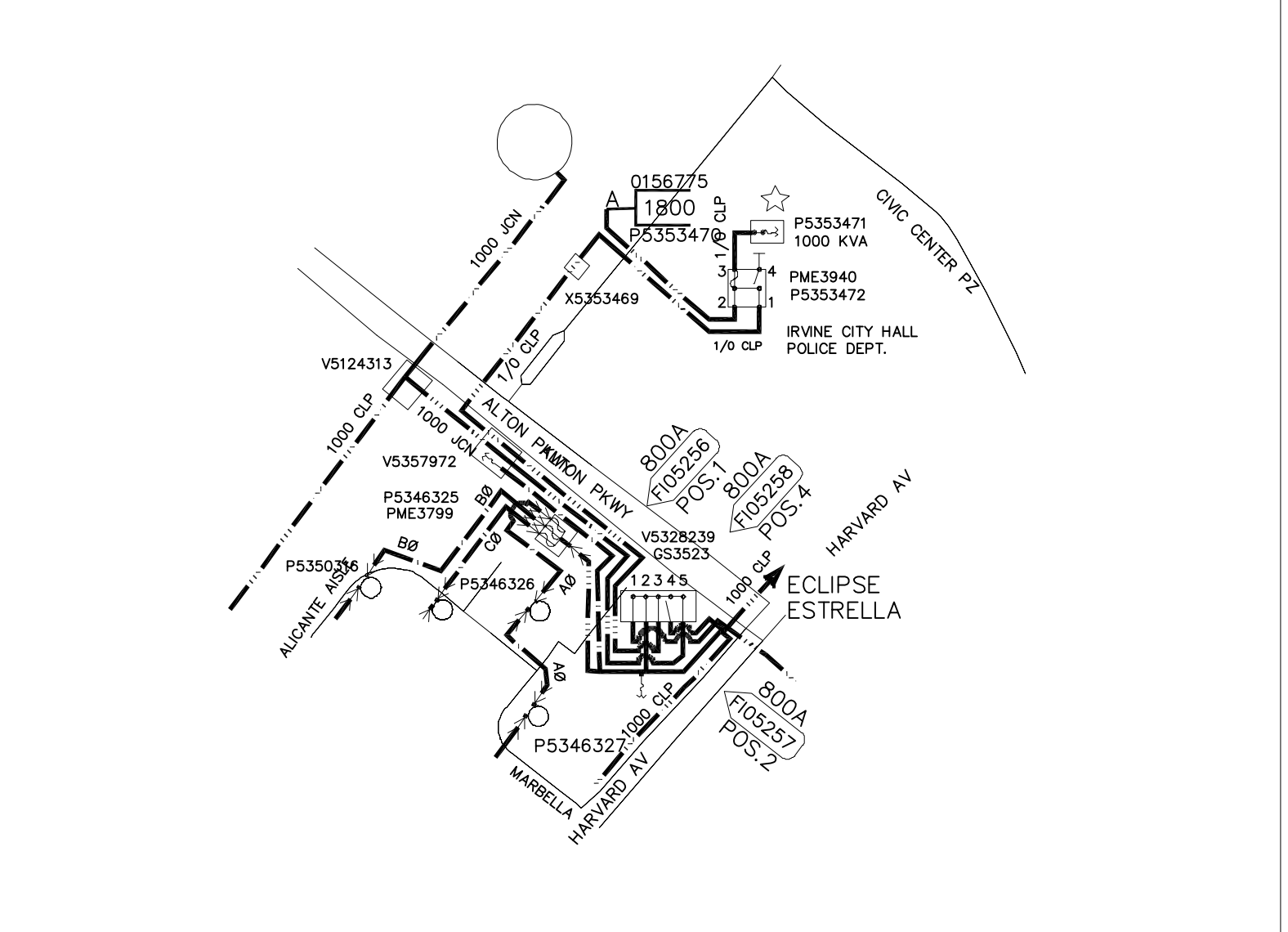
PRECAST CONCRETE PULL BOX WITH DEEP RECESSES (2'X 3' OR 2'6" X 4' OR 3' X 5')



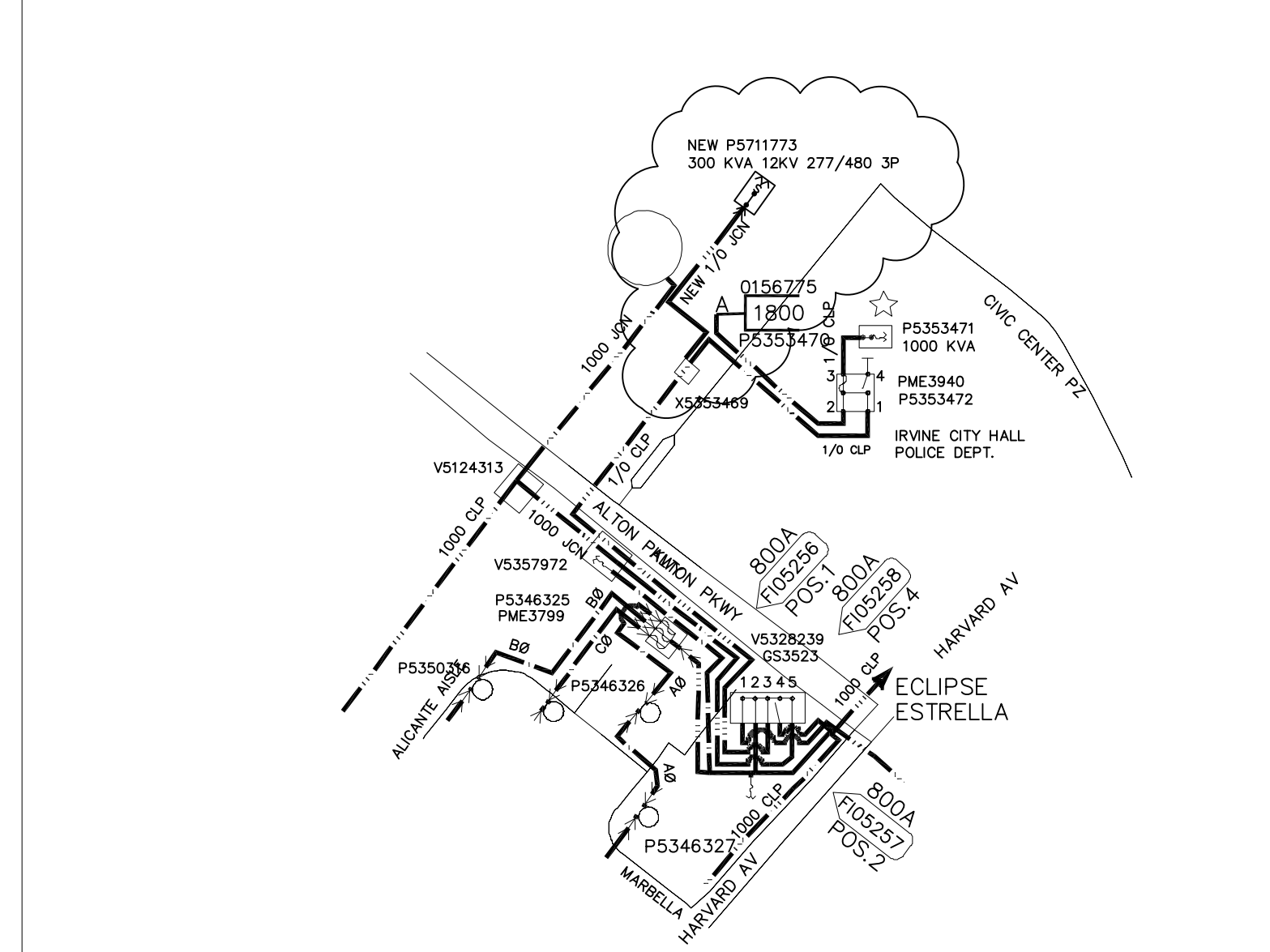
TYPICAL CONDUIT BANK SECTION SEE UGS CD 120



EXISTING SINGLE LINE 6-2-20 SAGITTARIUS 12KV % ESTRELLA



PROPOSED SINGLE LINE SAGITTARIUS 12KV % ESTRELLA



CO: P5711773 PAD 1

- 72"x94" CONCRETE
CO: 1- 3' PRECAST PAD 72" X 94"
RN: 1- IR PM F DE 300KVA 12KV 277/480V 3P4 W

VD=0.17%
600AMP PANEL
277/480V 3PHASE
234KW OTON
1 1/2 CIVIC CENTER IRVINE CA 92606

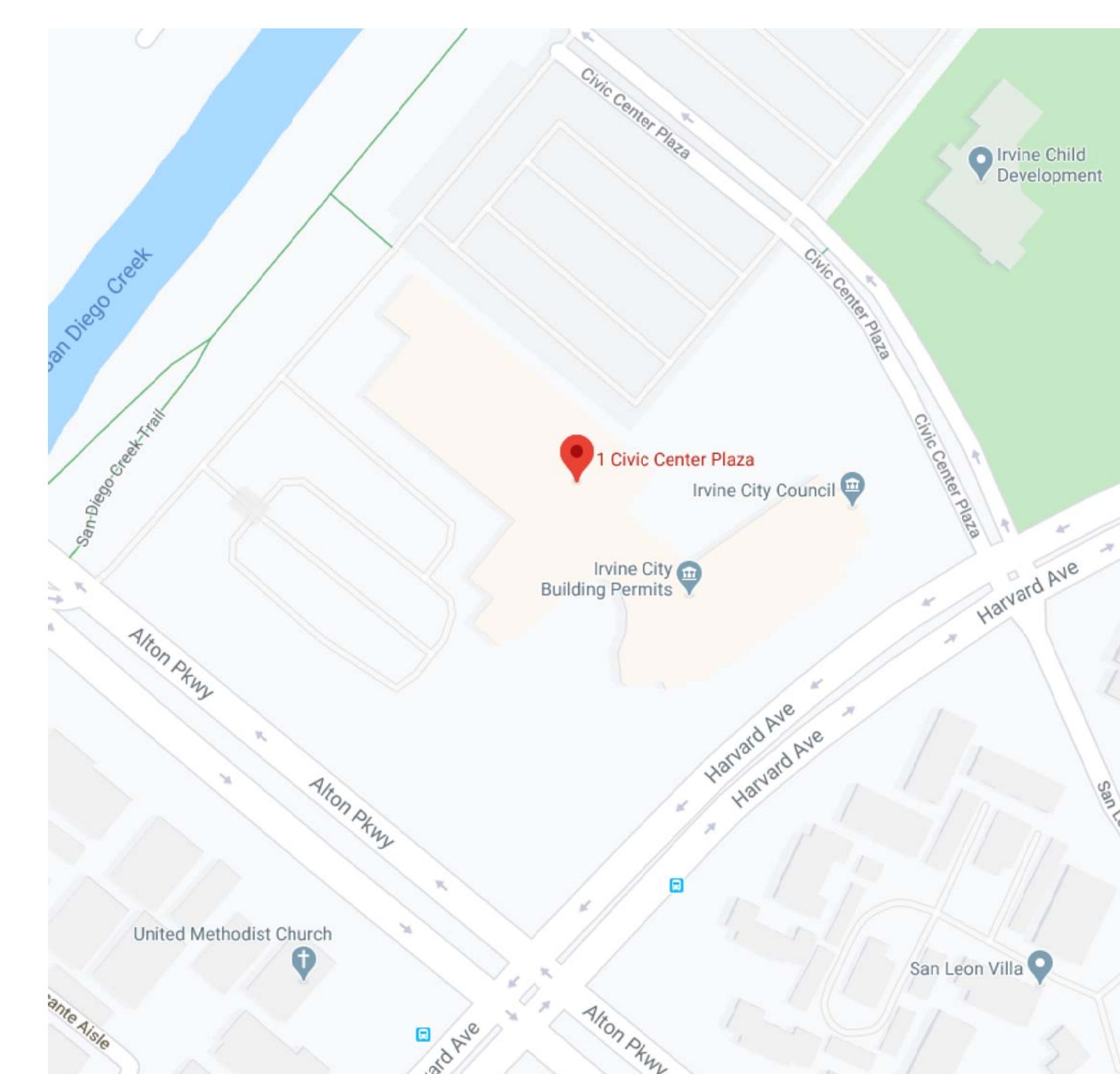
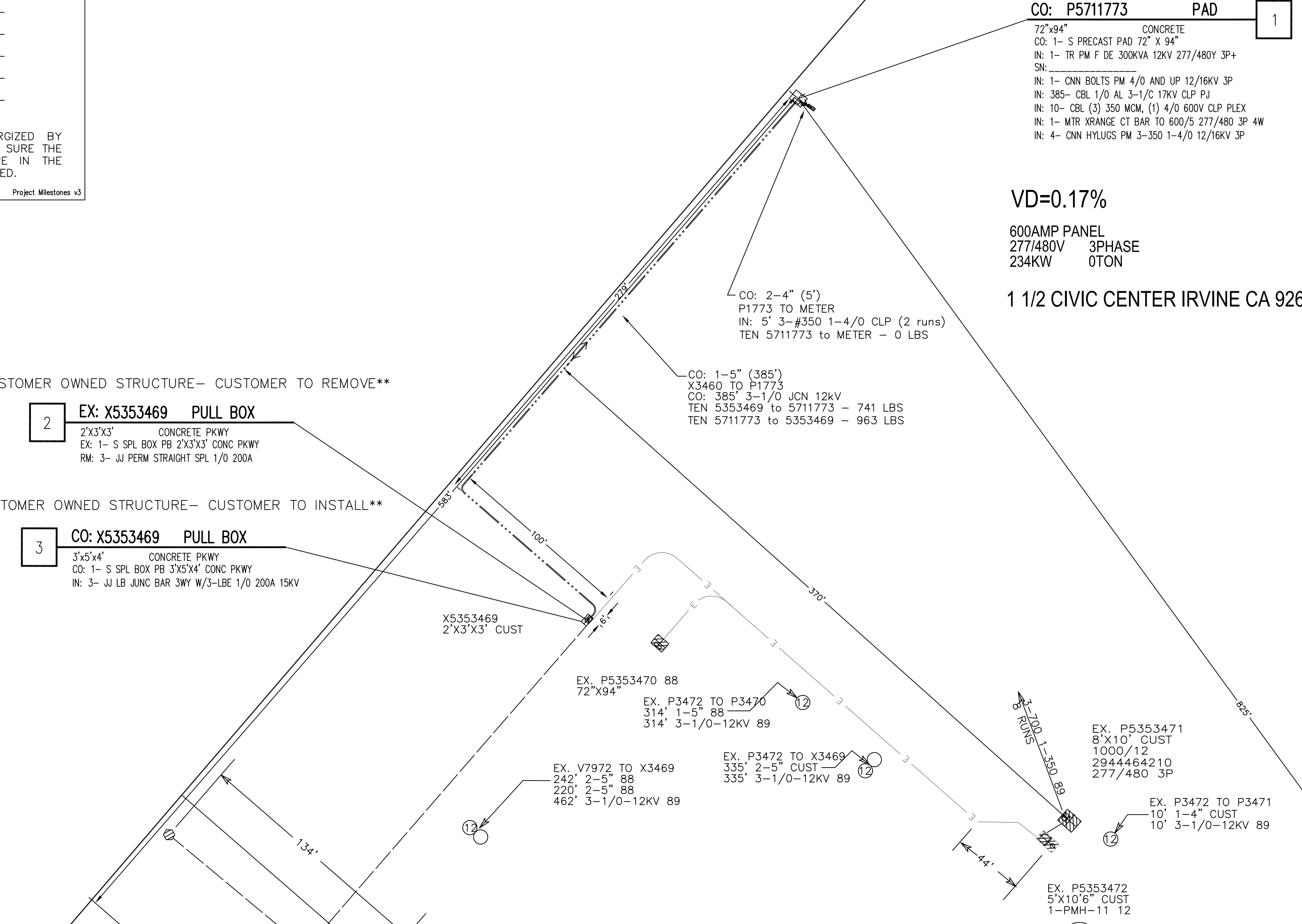
SAFETY IS MY GOAL

***CUSTOMER OWNED STRUCTURE- CUSTOMER TO REMOVE**

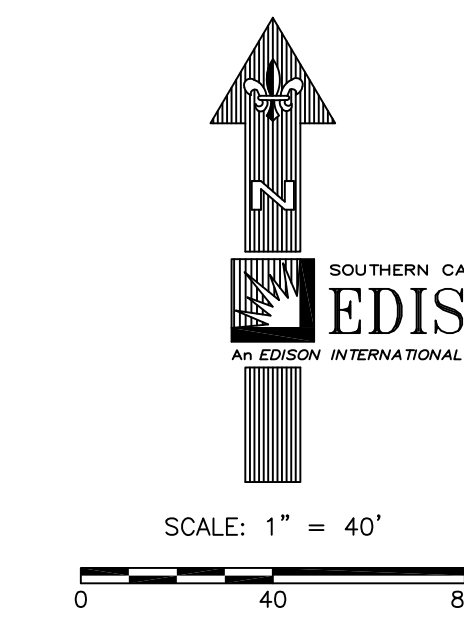
2 EX: X5353469 PULL BOX
2'X3'X3" CONCRETE PKWY
EX: 1- S SPL BOX PB 2'X3'X3" CONC PKWY
RM: 3- JI PERM STRAIGHT SPL 1/0 200A

***CUSTOMER OWNED STRUCTURE- CUSTOMER TO INSTALL**

3 CO: X5353469 PULL BOX
2'X3'X3" CONCRETE PKWY
EX: 1- S SPL BOX PB 2'X3'X3" CONC PKWY
RN: 3- JI PERM STRAIGHT SPL 1/0 200A 15KV



T.L.M. DATA: SIZE KVA CUST % LOAD
DIST. 0 0 0 0
PROF. 300 225 1 91.7 %
VOLTAGE DROP: .17
FLUOR FACTOR: .00
PRI. CIRCUIT: SAGITTARIUS 12KV



PROJECT REQUIREMENTS (Y/N) table with columns for Edison Easement, PWRD 88, UG Civil, etc.

Table with columns: DISTRICT, PROJ. NO., PLANNER, etc. for project tracking.

CT4000 Family

ChargePoint® Charging Stations

The CT4000 is the latest generation of ChargePoint charging stations. Refined yet rugged, the CT4000 family sets the industry standard for functionality and aesthetics. A robust cord retraction system comes standard on all CT4000 models to eliminate unsightly cords on the ground, and to keep your drivers from having to touch charging cables.

The CT4000 full motion color LCD display instructs drivers while supporting dynamic updates of custom branded videos and advertisements.

The intelligent power sharing feature of the CT4000 doubles the number of parking spaces served by allowing two charging ports to share a single circuit. Sites with single port EV stations can upgrade to dual port stations without requiring additional electrical services.

All CT4000 models offer one or two standard SAE J1772™ Level 2 charging ports with locking holsters, each port supplying up to 7.2kW.

Available in bollard and wall mount configurations, the CT4000 supports easy installation anywhere. To future proof your investment, all stations are fully software upgradeable over the air. All ChargePoint stations are networked and managed through ChargePoint Service Plans¹ and backed by ChargePoint's world class 24/7 driver phone support.

Corporate Branding and Video Advertising

- + Download full motion color videos to your stations²
- + Custom replaceable signage to project your brand
- + Custom "cap" printing available³

Clean Cord Technology™

- + Maintenance-free, light-weight, self-retracting cords come standard on all models
- + Keep charging cords off the ground and out of your and drivers' hands
- + Flexible over entire -22°F to +122°F product temperature range

Intelligent Power Sharing (patent pending)

- + Reduced installation and operating costs
- + Dynamically share one 40A circuit between two parking spaces
- + Double the number of parking spaces for a given site's power capacity
- + Upgrade a single port station to dual port with no electrical upgrade

Driver Friendly User interface

- + Instructional video shows how to use the station
- + Multi-language: English, French, Spanish
- + Touch button interface; works in rain, ice and with gloves
- + Backed by ChargePoint's world class 24/7 driver phone support

Energy Measurement and Management

- + Real-time energy measurement
- + 15 minute interval recording
- + Time of Day (TOD) pricing
- + Load shed by % of running average or to fixed power output

The standard *EV Charging Only* sign is easily replaceable with your branding.

The cap of the CT4000 family is also available for custom branding.

The 5.7" LCD display provides full motion charging instructions in a clear and simple format. It also allows station owners to deliver advertising messaging.

Driver interaction is supported in any weather by five rugged, back-lit buttons with audio feedback.

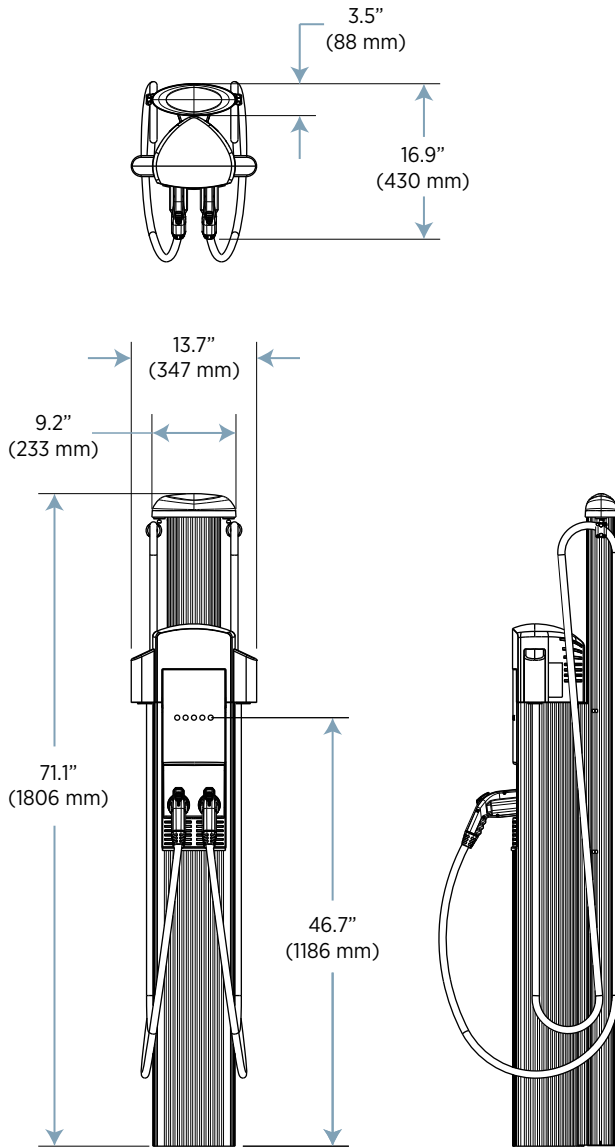


¹ ChargePoint Service Plans are sold separately

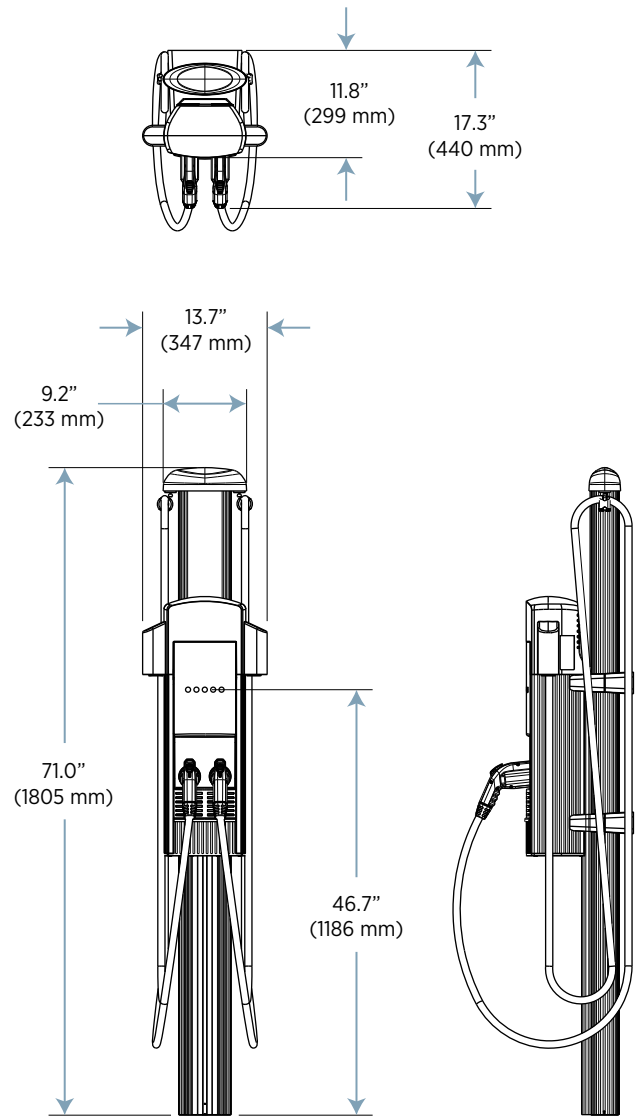
² Download fees apply

³ Minimum order quantities apply

CT4021 Bollard



CT4023 Wall Mount



CT4000 Family Specifications

Electrical Input	Single Port	Dual Port
AC Power Input Rating – Standard	208/240VAC 60Hz single phase @ 30A	208/240VAC 60Hz single phase @ 30 x 2
AC Power Input Rating – Power Sharing	n/a	208/240 VAC 60Hz single phase @ 32A
Input Power Connections – Standard	One 40A branch circuit	Two independent 40A branch circuits
Input Power Connections – Power Sharing	n/a	One 40A branch circuit
Required Service Panel Breaker – Standard	40A dual pole (non-GFCI type)	40A dual pole (non-GFCI type) x 2
Required Service Panel Breaker – Power Sharing	n/a	40A dual pole (non-GFCI type)
Service Panel GFCI	Do not provide external GFCI as it may conflict with internal GFCI (CCID)	
Wiring – Standard	3-wire (L1, L2, Earth)	5-wire (L1, L1, L2, L2, Earth)
Wiring – Power Sharing	n/a	3-wire (L1, L2, Earth)
Station Power	8W typical (standby), 15W maximum (operation)	

Electrical Output

AC - Standard	7.2kW (240VAC @ 30A)	7.2kW (240VAC @ 30A) x 2
AC - Power Sharing	n/a	7.2kW (240VAC @ 30A) x 1 OR 3.8kW (240VAC @ 16A) x 2

Functional Interfaces

Connector(s) Type	SAE J1772™	SAE J1772™ x 2
Charging Cable Length	18' (5.5 meters)	18' (5.5 meters) x 2
Overhead Cable Management System	Yes	
LCD Display	5.7" full color, 640x480, 30fps full motion video, active matrix, UV protected	
Card Reader	ISO 15693, 14443, NFC	
Locking Holster	Yes	Yes x 2

Safety and Connectivity Features

Ground Fault Detection	20mA CCID with auto retry
Open Safety Ground Detection	Continuously monitors presence of safety (green wire) ground connection
Plug-Out Detection	Power terminated per SAE J1772™ specifications
Power Measurement Accuracy	+/- 2% from 2% to full scale (32A)
Power Report/Store Interval	15 minute, aligned to hour
Local Area Network	2.4 GHz Wi-Fi (802.11 b/g/n)
Wide Area Network	3G GSM, 3G CDMA

Safety and Operational Ratings

Enclosure Rating	Type 3R per UL 50E
Safety Compliance	UL listed for USA and cUL certified for Canada; complies with UL 2594, UL 2231-1, UL 2231-2, and NEC Article 625
Surge Protection	6kV @ 3000A. In geographic areas subject to frequent thunder storms, supplemental surge protection at the service panel is recommended.
EMC Compliance	FCC Part 15 Class A
Operating Temperature	-22°F to 122°F (-30°C to +50°C)
Operating Humidity	up to 85% @ +50°C (122°F) non-condensing
Non-Operating Humidity	up to 95% @ +50°C (122°F) non-condensing
Terminal Block Temperature Rating	221°F (105°C)
Maximum Charging Stations per 802.11 Radio Group	10. Each station must be located within 150 feet "line of sight" of a gateway station.

ChargePoint, Inc. reserves the right to alter product offerings and specifications at any time without notice, and is not responsible for typographical or graphical errors that may appear in this document.

CT4021 Bollard charging station



CT4023 Wall Mount charging station



Ordering Information

Specify model number followed by the applicable code(s).

Option		Order Code
Model	Single Port Bollard Mount	CT4011
	Dual Port Bollard Mount	CT4021
	Single Port Wall Mount	CT4013
	Dual Port Wall Mount	CT4023
Options	Integral Gateway Modem - USA	-GW1
	Integral Gateway Modem - Canada	-GW2
Warranty	Single Port Extended Hardware-Only Warranty - 2, 3, 4 or 5 year term	CT4010-EXWn*
	Dual Port Extended Hardware-Only Warranty - 2, 3, 4 or 5 year term	CT4020-EXWn*

* Where n is the total number of years in the term

Order Code Examples

If ordering this	the order code is
Dual Port Bollard Mount USA Gateway Station	CT4021-GW1
Single Port Wall Mount Station with 5 Year Warranty	CT4013 CT4010-EXW5
Dual Port Wall Mount Canada Gateway Station with 2 Year Warranty	CT4023-GW2 CT4020-EXW2

For More Information

Visit chargepoint.com

Follow us on Twitter [@chargepointnet](https://twitter.com/chargepointnet)

Like us on Facebook [@chargepoint](https://www.facebook.com/chargepoint)



ChargePoint, Inc.
1692 Dell Avenue | Campbell, CA | 95008-6901 USA
+1.408.370.3802 or toll free 877.370.3802
chargepoint.com

Copyright © 2013 ChargePoint, Inc. All rights reserved. CHARGEPOINT is a U.S. registered trademark/service mark, and an EU registered logo mark of ChargePoint, Inc. All other products or services mentioned are the trademarks, service marks, registered trademarks or registered service marks of their respective owners. PN 73-001020-01 Rev 4

Printed on paper made with 100% post-consumer fiber and 100% certified renewable energy, and processed chlorine free.



Listed by Underwriters Laboratories Inc.

Express 250

DC Fast Charging Station

Site Design Guide for Standalone and Paired Stations



IMPORTANT SAFETY INSTRUCTIONS: SAVE THESE INSTRUCTIONS



WARNING:

- 1. Read and follow all warnings and instructions before installing and operating the ChargePoint® Charging Station.** Install and operate only as instructed. Failure to do so may lead to death, injury, or property damage, and will void the Limited Warranty.
- 2. Only use licensed professionals to install your ChargePoint charging station and adhere to all national and local building codes and standards.** Before installing the ChargePoint® charging station, consult with a licensed contractor, such as a licensed electrician, and use a trained installation expert to ensure compliance with local building and electrical codes and standards, climate conditions, safety standards, and all applicable codes and ordinances. Inspect the charging station for proper installation before use.
- 3. Always ground the ChargePoint charging station.** Failure to ground the charging station can lead to risk of electrocution or fire. The charging station must be connected to a grounded, metal, permanent wiring system, or an equipment grounding conductor shall be run with circuit conductors and connected to the equipment grounding terminal or lead on the Electric Vehicle Supply Equipment (EVSE). Connections to the EVSE shall comply with all applicable codes and ordinances.
- 4. Install the ChargePoint charging station on a concrete pad using a ChargePoint approved method.** Failure to install on a surface that can support the full weight of the charging station can result in death, personal injury, or property damage. Inspect the charging station for proper installation before use.
- 5. This charging station is not suitable for use in or around hazardous locations, such as near flammable, explosive, or combustible materials.**
- 6. Do not use this product if the enclosure, EV cable, or the EV connector is broken, cracked, open, or shows any other indication of damage.**
- 7. Do not put fingers into the electric vehicle connector.**



Important: Under no circumstances will compliance with the information in this manual relieve the user of his/her responsibility to comply with all applicable codes or safety standards. This document describes the most commonly-used installation and mounting scenarios. If situations arise in which it is not possible to perform an installation following the procedures provided in this document, contact ChargePoint, Inc. **ChargePoint, Inc. is not responsible for any damages that may result from custom installations that are not described in this document or for any failure to adhere to installation recommendations.**

Product Disposal

To comply with Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE), devices marked with this symbol may not be disposed of as part of unsorted domestic waste inside the European Union. Enquire with local authorities regarding proper disposal. Product materials are recyclable as marked.



No Accuracy Guarantee

Commercially reasonable efforts were made to ensure that the specifications and other information in this manual are accurate and complete at the time of its publication. However, the specifications and other information in this manual are subject to change at any time without prior notice.

Copyright and Trademarks

©2013-2019 ChargePoint, Inc. All rights reserved. This material is protected by the copyright laws of the United States and other countries. It may not be modified, reproduced or distributed without the prior, express written consent of ChargePoint, Inc. CHARGEPOINT is a U.S. and European Union registered trademark and service mark of ChargePoint, Inc. and cannot be used without the prior written consent of ChargePoint.

Symbols Used in This Document

This guide and product use the following symbols:



DANGER: Risk of electric shock.



WARNING: Risk of personal harm or death.



CAUTION: Risk of equipment or property damage.



Important: Crucial step for installation success.



Read the manual for instructions.



Ground/protective earth.

Contents


1	Site Design Guidelines	1
	Pairing Two Express 250s	2
	Initial Site Guidelines	2
	Plan for Future Charging Capacity	2
	Charging Station Placement	3
2	Civil and Mechanical Design	7
	Pad	8
	Drainage	9
	Mounting Specifications	9
	Clearances	10
	Ventilation	11
	Wheel Stops	11
	Bollards	12
	Pairing Previously Installed Charging Stations	14
	Accessibility	15
	Signage	15
3	Electrical Design	17
	Upstream Components	17
	Transformer Configuration	18
	AC Disconnect Switch	18
	RCD Use	18
	Grounding/Earthing Requirements	19
	Shunt Trip Wiring	20
	Conduit	21
	Wiring Requirements for Standalone Stations	22
	Additional Wiring Requirements for Paired Stations	22
	Wiring Diagram	25
	Cellular Connectivity	26
4	The Express 250 Concrete Mounting Template	27
	Bring Tools and Materials	28

CPE250-CMT Overview	29
Assemble the CPE250-CMT	31
Install the CPE250-CMT.	32
Appendix A Examples of Express 250 Paired Wire Sizing	33

Site Design Guidelines 1

This document describes how to design an installation site for the ChargePoint® Express 250 DC fast charging station, and install the Concrete Mounting Template, before station installation.

The Express 250 is a DC fast charging station for electric vehicles. Each charging station communicates with ChargePoint using a cellular network. This connectivity is required for diagnostics and reporting, as well as communication with the online dashboard that allows the station owner to control its settings and commands. See the section [Cellular Connectivity \(page 26\)](#) for detailed information.

 **Important:** Always follow all applicable local and national codes and requirements. A site drawing should be engineered for your specific site to reduce installation costs and ensure compliance with local codes. Local authorities might not allow a unit to operate if it is not installed to code.

Access ChargePoint documents online at chargepoint.com/guides or chargepoint.com/eu/guides for each phase of the project:

Document	Content	Audiences
<i>Express 250 Data Sheet</i>	Full station specifications	Site designer, installer, and station owner
This document	Civil, mechanical, and electrical guidelines to scope and construct the site	Site designer or engineer of record
<i>Concrete Mounting Template Guide</i>	Onsite instructions for installing the CMT with anchor bolts and conduit placement	Site construction contractor
<i>Express 250 Installation Guide</i>	Anchoring, wiring, and powering on	Installer
<i>Express 250 Operations and Maintenance Guide</i>	Operation and preventative maintenance	Station owner or facility manager
Full set of Field Replacement Guides	Component replacement procedures	Station owner or third party servicer

Installing the Express 250 requires two people and takes approximately 3-4 hours. This time estimate does not include the time needed to pull DC and Ethernet cable for a Paired installation if it is not already done. Paired installation might also require contacting a ChargePoint support technician to perform any required software updates and configuration if a station is being

retrofitted from Standalone to Paired.



Important: All installers must be licensed electricians and complete an online training course to become a ChargePoint certified installer. Installers who do not complete installation training cannot access the ChargePoint Network to complete pinpointing and station setup. To complete online training and become a certified installer, refer to ChargePoint University at: chargepoint.com/installers or chargepoint.com/eu/installers

Pairing Two Express 250s

The Express 250 can be installed either as a standalone system, or paired with another Express 250 using a DC connection to more flexibly share load. The two Power Modules in the base of each charging station can be shared in any combination according to charging need. This allows high power output in sites with space constraints.

To pair two Express 250 charging stations, all of the following are required:

- Additional conduit, ducting, or armored cable (according to region) correctly installed between the two charging stations for DC conductors and Ethernet wiring
- Both Express 250s must have 62.5 kW power enabled (not allowed on stations only enabled for 50 kW)
- Both Express 250s must be provisioned for full power back to the panel (not allowed on “power select” stations)

Initial Site Guidelines

An onsite evaluation is needed to determine conduit and wiring requirements from the panel to the proposed parking spaces, as well as to measure cellular signal levels and identify suitable locations for any necessary cellular signal booster equipment.

If you have pre-existing infrastructure or are using your own preferred electrical contractor to prepare your site, a completed Construction Signoff Form is required to certify compliance with electrical specification requirements, and to ensure everything was prepared to ChargePoint specifications.



Important: Always check local codes or consult an engineer to ensure the site is prepared in compliance with all applicable regulations. Local authorities might not allow a unit to operate if it is not installed to code.

Plan for Future Charging Capacity

ChargePoint recommends that you plan to install charging stations for 5-10% of parking spaces, or

10-15% for high EV adoption areas like California. Designing electrical infrastructure to support current and future needs for EV charging helps avoid costly upgrades later as demand for EV charging grows.

Consider these methods to prepare a site for future charging stations in a later phase of work:

- Add extra capacity if electrical panels are being upgraded now
- Use sub-panels as a way to shorten electrical paths
- Oversize the conduit between the main electrical panel and future stations
- Install pull or junction boxes at the end of an existing row of charging stations, to ease cable pulls for future stations
- If a junction box or disconnect will be installed between rows of stations, oversize the wiring between the main panel and the junction box to prevent needing to re-pull wire later

Charging Station Placement

To help minimize costs, choose station locations that are as close as possible to the available electrical infrastructure. Selecting these types of locations helps minimize long conduit and wire runs, as well as any trenching work.



WARNING: The ChargePoint charging station must be installed on a level concrete base. Asphalt cannot support the full weight of the charging station. Failure to install the ChargePoint charging station on a level concrete base may cause the charging station to tip over, resulting in death, personal injury, or property damage.

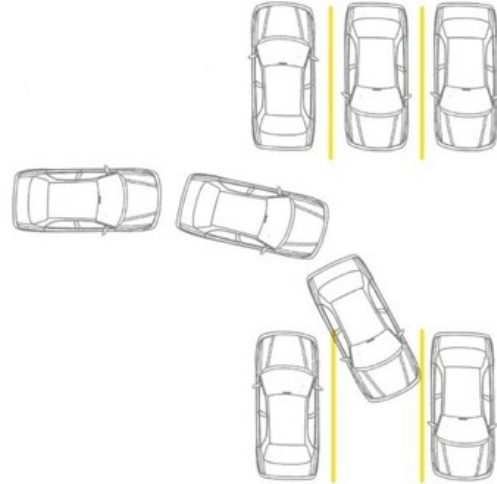
Layout considerations:

- Determine appropriate ground anchoring locations where concrete exists or can be installed (no asphalt surfaces).
- Consider locations where it will be easy to add future stations.
- Determine optimum conduit layout to minimize linear conduit costs to multiple parking spaces. If possible, avoid or minimize trenching requirements, especially more costly trenching to run conduit under asphalt surfaces.
- Evaluate existing electrical infrastructure to determine if the existing utility service and electrical panel capacity is sufficient. Identify costs for any necessary upgrades and/or a new dedicated electrical panel. ChargePoint recommends using a certified electrician to evaluate available capacity and identify any upgrades that may be required.
- If a dedicated EV electrical panel is required, choose a panel location in close proximity to the existing electrical supply.
- Measure cellular signal levels to ensure adequate cellular coverage at the station installation location. To ensure adequate signal strength in underground or enclosed parking structures, cellular repeaters may be required. For more information, see [Cellular Connectivity \(page 26\)](#).
- ChargePoint recommends to avoid locations under trees where sap, pollen, or leaves would fall on the charging station and increase the station owner's site upkeep workload.

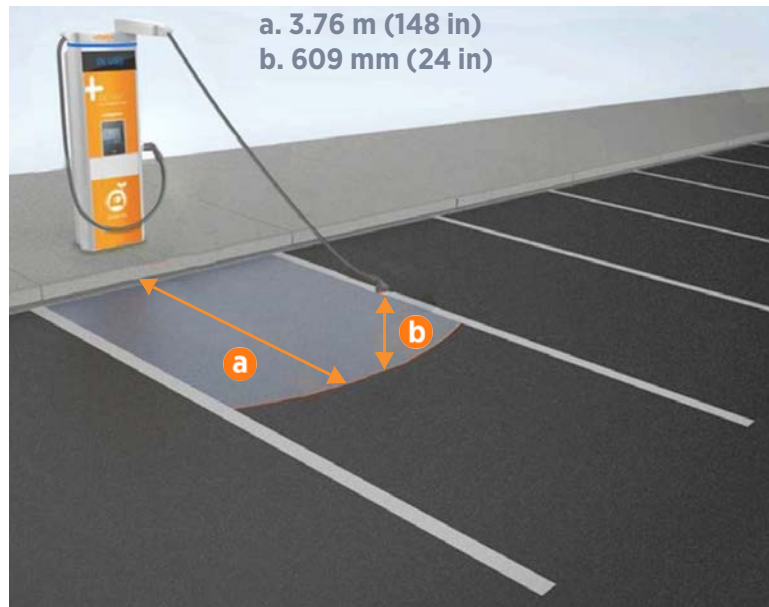
- For stall parking, ChargePoint recommends using perpendicular parking stalls that allow a vehicle to enter either front-first or rear-first, to better accommodate the varied charge port locations on different EVs. Diagonal stall parking is not advised.

Note: While ChargePoint tests charging stations with a majority of upcoming vehicles, ChargePoint cannot guarantee the port locations of future vehicles and cannot warrant the configurations proposed will work for all vehicles.

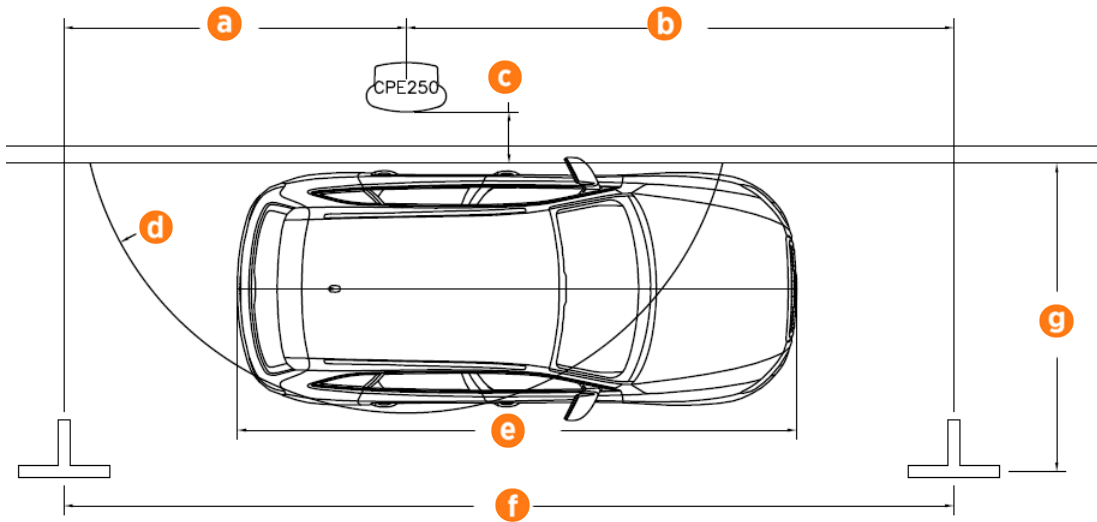
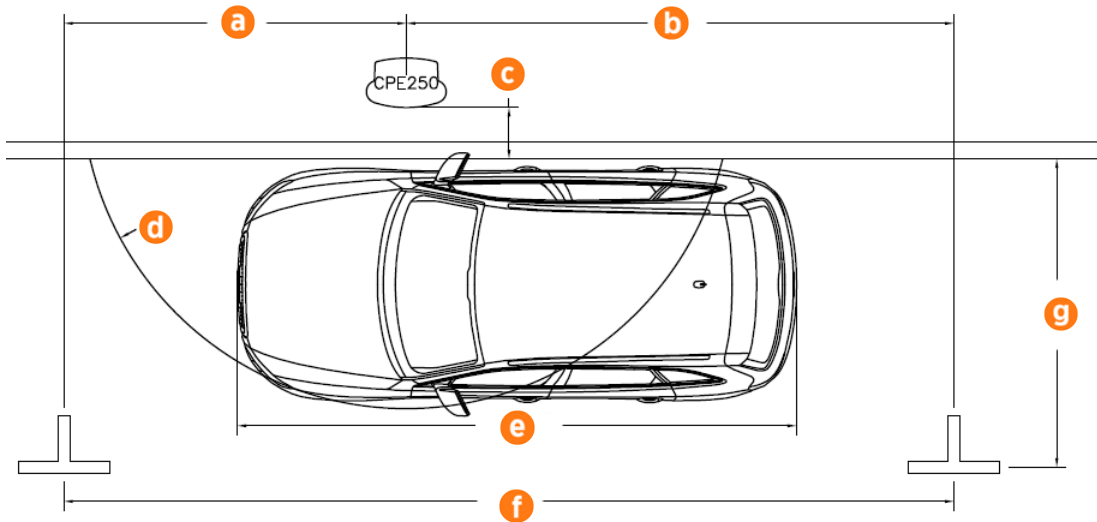
- Choose adjacent parking spaces in an area with adequate lighting.
- Consider how easily drivers can find the stations they need to access.
- Check local requirements for accessibility and pathway width, sometimes called “path of travel”, to ensure station placement does not restrict sidewalk use.
- Building a pad into the head of a parking space (instead of on the sidewalk) is allowed if a) local code allows it compared to the minimum parking space length, and b) the pad meets all pad requirements listed in this document.
- Note that the Express 250’s two charge cables are different types of connectors to maximize usability across EV models. The cables cannot both be used at the same time. Therefore, do not position an Express 250 to share two parking spots.



Important: Place each charging station centered at the head of its parking space, with the touchscreen facing the vehicle. This placement maximizes cable reach for the varied charge port locations on different EVs.



- Pull-through parking (gas station model) is not recommended. If pull-through parking is used, ChargePoint recommends placing at least one charging station on each side of the island. This avoids situations where the charging station is on the opposite side of the vehicle from the charge port. Guidance for station placement in island or curbside parking is shown below.



- a.** Distance from left space marking: 3048 mm (120 in) maximum
- b.** Distance from right space marking: 4876.8 mm (192 in)
- c.** Distance from curb: 457.2 mm (18 in)
- d.** Cable reach radius: 3.76 m (148 in)
- e.** Example EV length: 4978.4 mm (196 in)
- f.** Recommended parking space length: 7924.8 mm (312 in)
- g.** Recommended parking space width: 2743.2 mm (108 in)

Civil and Mechanical Design 2

Use the guidance below to design the civil and mechanical aspects of the site.

Component Dimensions and Weights

The Express 250 is a vertical enclosure with the dimensions shown here.

Component	Weight
Each Power Module	44 kg (97 lb)
Crated Power Module as shipped	49.9 kg (110 lbs)
Express 250 with two Power Modules, installed	339 kg (746 lb)
Crated Express 250 as shipped	494 kg (1089 lb)



Pad

The station can be installed on either a newly poured pad or an existing concrete surface. The mounting surface must be smooth and cannot exceed a slope of 6.35 mm per 304.8 mm (0.25 inches per foot).

The concrete pad must either be designed to be site-specific, or must meet these specifications:

- At least 305 mm (12 in) deep (or deep enough to be 305 mm (12 in) below the frost line)
- At least 1296 mm (51 in) on each side
- Contains #4 rebar or larger, top and bottom, 305 mm (12 in) on center
- Concrete 2500 PSI minimum

The above pad specifications are designed to meet these conditions:

- 170 mph wind speed
- Wind Risk Category I
- Wind Exposure D
- Seismic Importance Factor 1.0
- Hayward Fault with mapped spectral response accelerations $S_s=2.45$ $S_1=1.019$
- Seismic Design Category E
- Foundation of Sandy Soil with allowable stress = 1500 psf, $C_d = 1.33$

In some extreme conditions, a larger pad would be required. For sites with less stringent seismic, soil, or wind conditions, a smaller pad might be possible.

If the existing pad does not meet the specifications above, it must be inspected and approved by a structural engineer for the Express 250's dimensions and weight. If needed, give these structural design specifications to the structural engineer for verification:

Product Weight	340 kg (750 lbs)
Product Height from Ground	2.230 m (7.317 ft)
Product Width	0.71 m (2.33 ft)
Product Frontal Area	Height * Width
CG Height	1.12 m (3.66 ft)
Number of Anchor Bolts	4
Bolt Pattern	See dimensioned images in this section
Anchor Bolt Size	M16 (5/8 in)
Anchor Bolt Embedment	229 mm (9 in)



WARNING: If not installed correctly, the ChargePoint® charging station may pose a fall hazard, leading to death, personal injury, or property damage. Always use the provided Concrete Mounting Template or a ChargePoint-approved surface mounting solution to install the ChargePoint® charging station and install in accordance with applicable codes and standards using licensed professionals. Non-approved installation methods are performed at the risk of the contractor and void the Limited Warranty.

Drainage

Ensure any site slopes, walls, or fencing do not trap water around the charging station installation site. The system is only built to withstand 457.2 mm (18 in) of standing water.

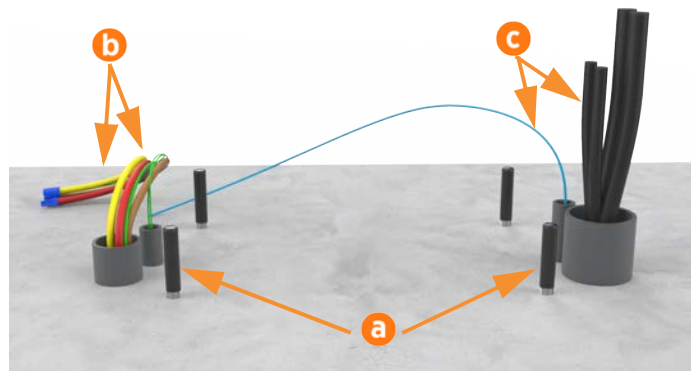


WARNING: Exposing the ChargePoint® charging station to over 18 inches (457 mm) of standing water could create an electrocution, shock, or fire hazard. Cut power to the charging station if it has been exposed to standing water and contact ChargePoint before the charging station is powered on.

Mounting Specifications

The Express 250 is installed on a concrete pad. Details on how to prepare this pad are described later in this guide.

All installations require four anchor bolts (a). Standalone installations only require the two conduit stub-ups on the left side, for AC wiring and shunt trip wiring (b). Paired installations also require the wiring shown on the right: DC wiring and Ethernet communication (c). For more detail, see [Conduit \(page 21\)](#).



Important: Although the Concrete Mounting Template was originally designed for six anchor bolts, only the four corner anchor bolts are required for station stability. Newer charging stations are designed to only use the four corner anchor bolts. If older sites were already designed with six anchor bolts, removing the middle bolts is not required.



WARNING: If not installed correctly, the ChargePoint® charging station may pose a fall hazard, leading to death, personal injury, or property damage. Always use the provided Concrete Mounting Template shown pre-installed in the Introduction, or a ChargePoint-approved surface mounting solution, to install the ChargePoint® charging station. Always install in accordance with applicable codes and standards using licensed professionals. Non-approved installation methods are performed at the risk of the contractor and void the Limited One-Year Parts Exchange Warranty.

Clearances

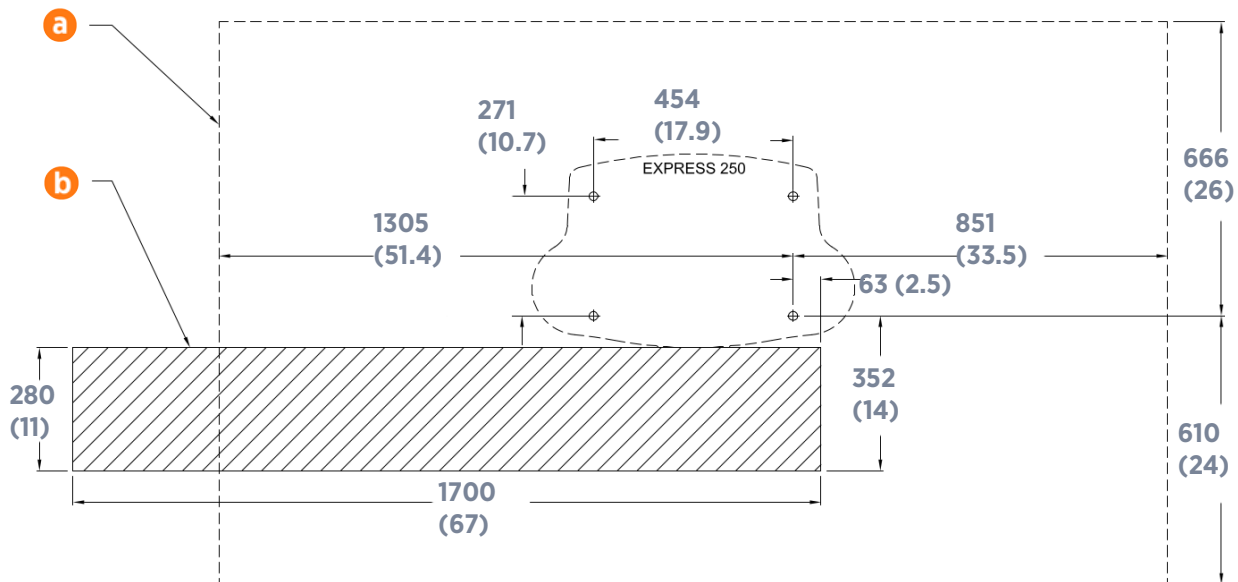
The Express 250 requires minimum functional and service clearances as listed in the table below.

Front Clearance	330.2 mm (13 in) at grade; 609.6mm (24 in) minimum open space
Side Clearance*	711.2 mm (28 in) required; 863.6 mm (34 in) recommended**
Rear Clearance	304.8 mm (12 in) required; 609.6 mm (24 in) recommended
Top Clearance	304.8 mm (12 in)

* Side clearance is measured from extrusion to extrusion.

** Side clearance can be shared between two charging stations. However, if the charge handles of both stations are facing each other, add an extra 254 mm (10 in).

Measurements are provided in millimeters (inches).



- a. Service clearance of open space (not necessarily at system grade)
- b. Power Module service clearance at grade from the front right anchor, extending 1700 mm (67 in) to the left, without any permanent obstructions (fencing, bollards, wheel stops, etc.)

Note: Listed side clearances are the minimum required for operation and service. For paired charging stations, the bend radius of the DC cable and conduit might require spacing them further apart.

Rear clearance, and the front and side clearance for Power Module service, must be at grade level +/- 25 mm (1 in).

Refer to the “Ventilation” section, and check local and regional code, for any additional clearance requirements.

Ventilation

Ensure that any installation, especially an indoor installation, has adequate airflow to dissipate the charging station's heat at maximum operation. Each Express 250 charging station emits approximately 3.3 kW of waste heat at maximum operation.

The charging station location must allow fresh ambient airflow. Restriction of airflow might result in reduced maximum performance. Do not install a station where it is exposed to air that is heated above ambient temperatures.

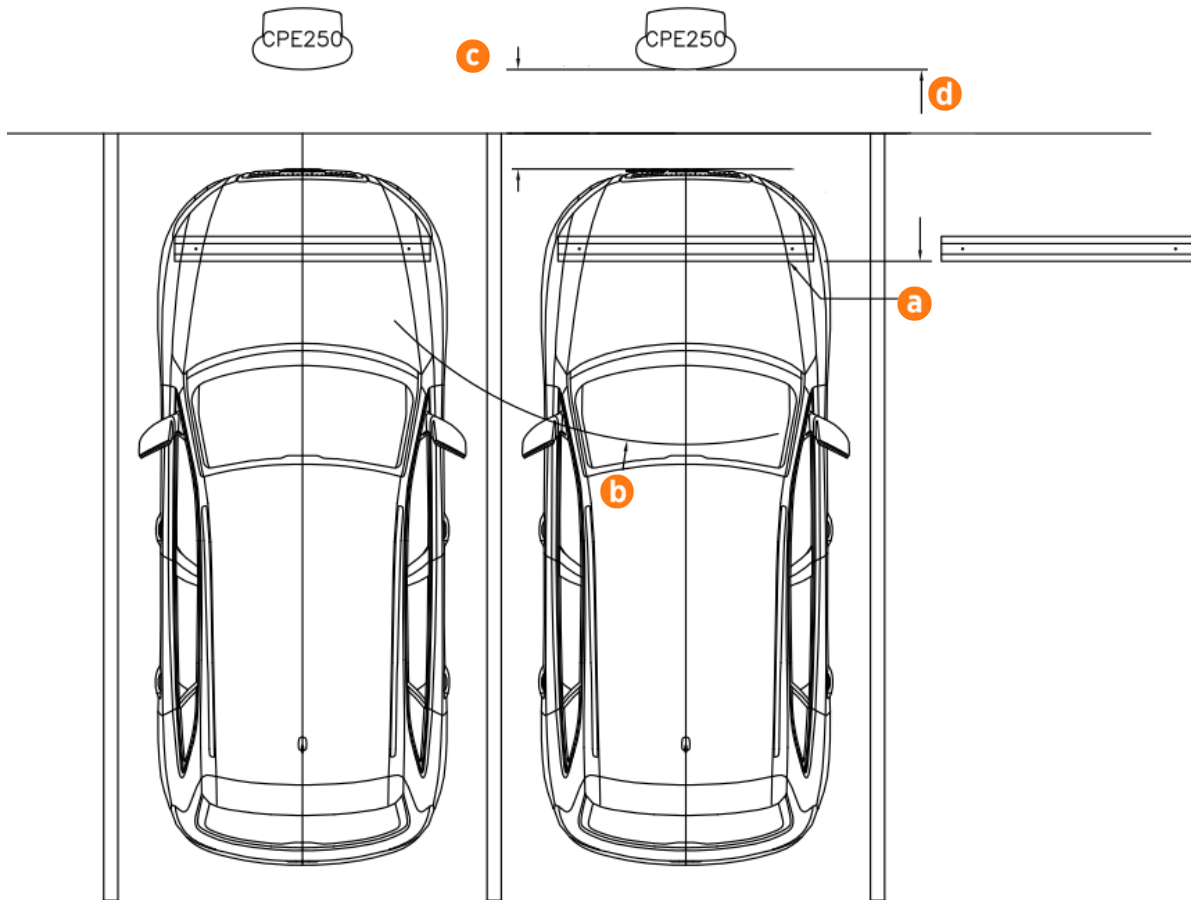
In addition to the service clearances listed in the "Clearances" section, consider these figures for site layout:

- If a charging station will have a wall directly behind it, minimum rear clearance is 305 mm (12 in).
- If two Express 250 charging stations will be positioned back to back, increase the rear clearance to a shared 610 mm (24 in) for both stations to reduce exhaust recirculation.

Wheel Stops

Bollards and wheel stops are not explicitly required by ChargePoint. However, ChargePoint recommends these best practices and considerations when designing the site:

- Permanent bollards or wheel stops must not encroach upon the Power Module clearance listed in the clearance diagram above. Removable bollards are allowed if service personnel have the ability to move them as needed.
- Where permitted by code, wheel stops are preferred over bollards for head-in or back-in spaces.
- When using wheel stops, consider the average vehicle overhang distance from tire to bumper (passenger, bus, etc.), as well as leaving space for the driver to walk up and access the touchscreen. General recommended distances are shown in the wheel stop image below.
- Position wheel stops to actively block at least one wheel, without presenting a trip hazard to pedestrians walking between vehicles.



- a. Wheel stop, positioned to actively block at least one wheel
- b. Cable reach radius: 3.76 m (148 in)
- c. Recommended distance for walk-up access: 609 mm (24 in)
- d. Recommended distance between wheel stop and Express 250: 1371 mm (54 in) for passenger vehicles



CAUTION: Shorter wheel stops that are installed in the center of a parking spot can fit between the wheels of a larger vehicle and not prevent forward motion.

Note: For fleet or commercial use, measure the rear or front overhang of the largest vehicle in use, depending on charge port location.

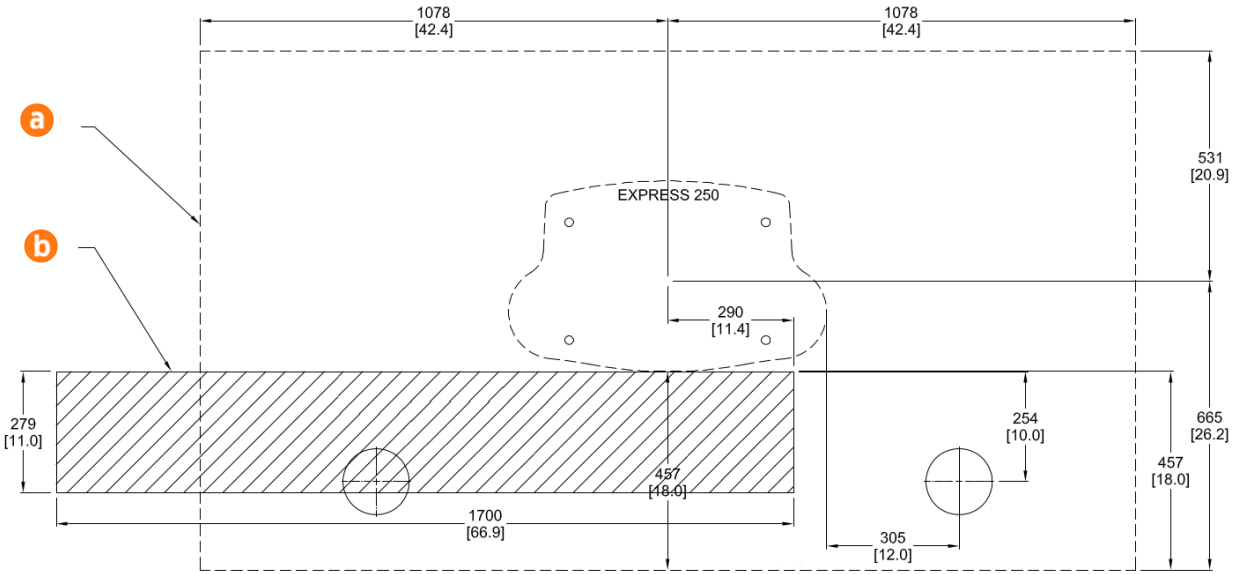
Bollards

Bollards and wheel stops are not explicitly required by ChargePoint. However, ChargePoint recommends these best practices and considerations when designing the site:

- Permanent bollards or wheel stops must not encroach upon the Power Module clearance listed in the clearance diagram above. Removable bollards are allowed if service personnel have the ability to move them as needed.

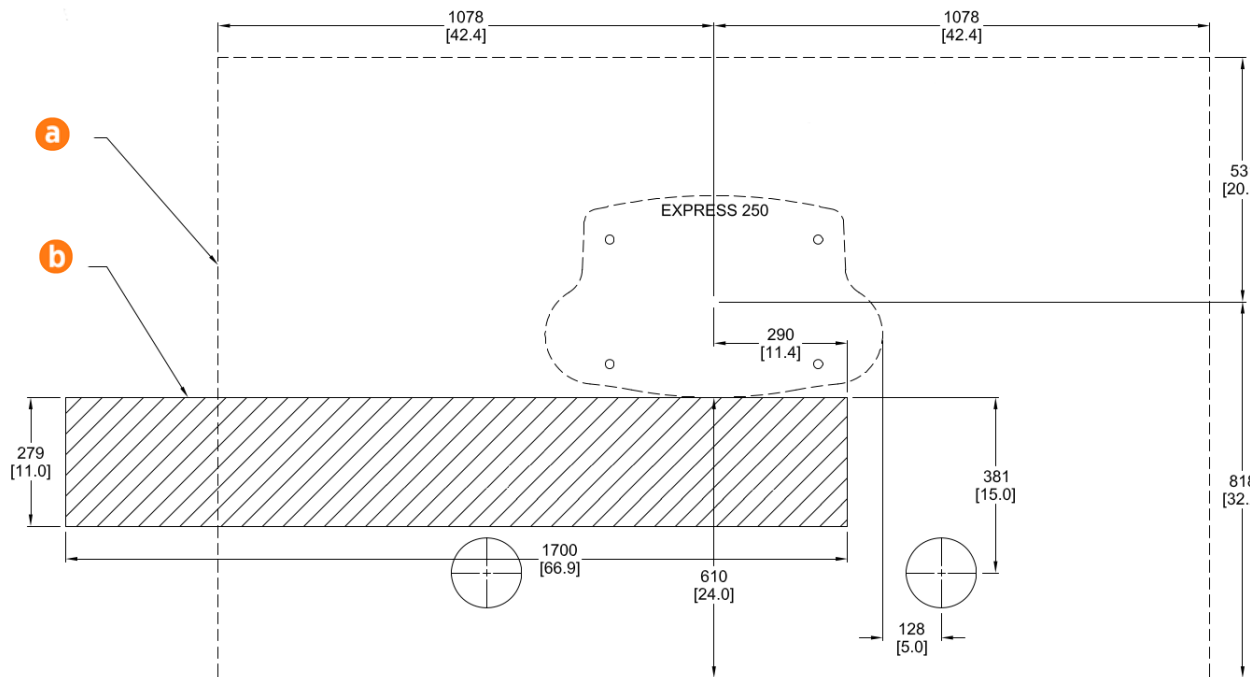
- Where permitted by code, wheel stops are preferred over bollards for head-in or back-in spaces.
- When bollards are required by code, needed for snowy areas, or needed for curbside spaces, ensure bollard placement does not interfere with removing and replacing charge cables in the station's side holsters. General recommended distances are shown in the bollard images below.
- Try to minimize bollard interference with the movement of charge cables between the station and the vehicle. Bollards are recommended to be no taller than 914 mm (36 in) where needed.
- No bollard can be placed within 457 mm (18 in) of the station, as measured on-center.

Curbside bollard installation:



- a.** Use and service clearance of open space (not necessarily at grade)
- b.** Unobstructed front service clearance at grade

Head-in or back-in space bollard installation:



Pairing Previously Installed Charging Stations

If all site construction for paired charging is completed in advance, Express 250 stations can be initially installed as Standalone and paired at a later date. In that case, follow these additional steps:

- During initial site construction, install DC and communication conduit or ducting (as applicable by region) in advance.
- Extend side clearance at both DC conduit stub-up locations to 1.2 m (4 ft) to allow space for cable pulling equipment.
- Run a pull rope through the larger DC conduit before landing the charging stations. Do not pull DC cable in advance, as it is too thick to hide inside the cover panels without risking damage or unwanted electrical contact.
- Install a fishing tape in the smaller communication conduit to assist with routing the Ethernet cable later. If Ethernet is pulled in advance, leave 317.5 cm (125 in) of wire above grade at each end.
- Use duct seal compound to seal the ends of the DC and communications conduit stub-ups. Seal the ends of the fishing tape to hang outside the conduit.
- Install the cover panels and extrusions on the Express 250 stations over the stub-ups as normal.

By only connecting AC wiring (and shunt trip if applicable), each Express 250 can perform as a Standalone station until the station owner is ready to pair them. At a later time, the stations can be paired by installing DC conductors, connecting Ethernet communication, and performing a firmware update if required. Refer to the *Express 250 Installation Guide* for further details.

Once two Express 250s are correctly paired, operation of both stations is inhibited if Ethernet

connectivity is lost or one station loses power. This is a safety feature to prevent one Paired station from accidentally powering the other during maintenance.



WARNING: Do not connect DC power between the charging stations until both stations are ready to complete the full pairing configuration. Station firmware updates are required to enable full Paired behavior. Connecting power before the charging station is properly configured can create a safety risk or can damage equipment.

Accessibility

The Express 250 touchscreen and charging cables are accessible at a height of less than 1219 mm (48 in) from the ground. This complies with American Disability Act (ADA) requirements, if the station is installed at grade. If your installation must comply with ADA standards, or the disability access regulations for other regions, consider this when designing the height of the pad.

Also consider site design factors such as placement of bollards, wheel stops, or other vehicle obstacles when planning charging station access for disabled parking stalls. Check disability access regulations for guidance on the clearances needed for wheelchair access to charging cables and user interfaces.

Signage

Refer to local and regional code to design the following elements for the site:

- Any required re-striping of parking spaces
- EV or Accessible EV signs
- EV or Accessible EV paint markings on and around the parking spaces

Electrical Design 3

The default Express 250 installation requires service wiring to be installed underground. (If a site requires surface mounting, contact ChargePoint before beginning work, to obtain an approved surface installation method.) Conduit and wire size are determined based on the length of runs from the electrical panel to the station location. Service wiring must be run through conduit or ducting, or use armored cable, as required to comply with local electrical codes. Consult national and local codes or a project engineer to determine the grade, quality, and size of the conduit or cable. The ChargePoint Concrete Mounting Template (CPE250-CMT) accommodates service wiring through the flare, conduit, or locally appropriate wiring method.

Note: All wiring and conduit is supplied by the contractor unless otherwise indicated.

Note: It is possible to pre-install Express 250 charging stations as Standalone initially and pair them at a later date, if desired. In this case, install the DC and Ethernet conduit per [Pairing Previously Installed Charging Stations \(page 14\)](#), and run a pull rope through the conduit before landing the charging stations. Contact ChargePoint for instructions to pair two charging stations when ready.

Upstream Components

Charging stations are considered continuous load devices (EVs draw maximum load for long durations). Therefore, electrical branch circuits to EV chargers must be sized at 125% of the load on each leg of a 3-phase panel for North America installations, in accordance with National Electric Code requirements. For other regions, refer to local code.

When planning multiple EV charging stations, it is best practice to segment non-continuous and continuous loads, with all branch circuits for EV charging on a dedicated electrical panel assembly with adequate circuit breakers. When sizing new electrical panels dedicated for EV charging, all branch circuits must support continuous load.

Each Express 250 requires a service panel breaker as follows:

Nominal Voltage	Max AC Current	Circuit Breaker Size
400 VAC (EU)	96 A	125 A
480 VAC (NA)	80 A	100 A (125% continuous load required for N. America)

The Express 250 does not contain an internal breaker. Therefore, its KAIC rating (KiloAmps

Interrupt) is related to the station's upstream breaker.



CAUTION: The Express 250 charging station is tested to IEC 61000-4-5, Level 5 (6 kV @ 3000 A) standards. In geographic areas that experience frequent thunderstorms, supplemental surge protection must be installed at the service panel to guard against product damage.

Transformer Configuration

Refer to the following tables to configure electrical service.

	North America	Europe
Input Rating	480 VAC, 3-phase, 80 A, 60 Hz	400 VAC, 3-phase, 96 A, 50 Hz
Electrical Service Configuration	277/480 4 wire WYE*	230/400 Y, L1, L2, L3, N, Ground
Product Connection	3-phase 480 plus ground (neutral not required)	3-phase 400 plus protective earth (neutral not required)

**Delta (floating or grounded) is not supported*

AC Disconnect Switch

A local AC disconnect switch, separate from the shunt trip wiring, is recommended to be installed between each charging station and the electrical panel. This is especially important if the main electrical panel or utility room is distant, out of line of sight, or has restricted access. For North America installations, refer to disconnect switch requirements per NEC Article 625, "Electric Vehicle Charging and Supply Equipment Systems".



WARNING: If service is performed on either Paired charging station, both stations must be powered off at their AC disconnect switch(es) and locked out/tagged out for safety.

Do not install a DC disconnect between Paired charging stations.

RCD Use

The use of an RCD is not recommended. RCD use can create nuisance tripping, especially during transient conditions such as power restoration, line surge, line dips, or phase loss.

To reduce the risk of shock, the Express 250 provides:

- Galvanic (reinforced) isolation between the AC input and DC output. Current does not flow to earth ground, even in cases such as charge cable damage.
- An output isolation monitor interrupter (IMI).

If the isolation level is compromised, charging is halted or prevented from starting, and the output

de-energized. The isolation monitor operates continuously during charging to ensure the output is always galvanically isolated. UL 2231-1 requires that an isolation monitor interrupter (IMI) is provided in the product and evaluated during operation as part of certification testing.

Although RCD/GFCI use is required in mode 1,2,3 AC charger installations, neither UL nor IEC mandate an RCD for a permanently installed mode 4 isolated output DC charger.

RCD Settings

For Standalone Express 250 installations where the use of an RCD (RCCB or RCBO) cannot be avoided, use the following settings to minimize nuisance trips:

- Type: A, F or B (type B and F preferred)
- Trip threshold: 500 mA
- Trip delay: 150 ms

If an RCD must be employed for a Paired installation, contact ChargePoint.

Region Specific Notes: UK

When discussing DC charging station installations with a UK DNO (utility), include these two considerations:

- Where possible, request TN-S earthing from the DNO (distribution network operator)
- The Express 250 represents a Class I construction, balanced 3-phase load greater than 500 W

Either statement allows UK DNOs to provide a PME earth terminal and avoids the requirement for a TT earthing arrangement and associated (300 mA) RCD. The second statement meets the clause in the IET Code of Practice for EV Charging Equipment Installation, 3rd Edition that allows the DNO to provide a PME connection for “on the street equipment”.

Installations at petrol stations are a special case that requires additional site planning. Contact ChargePoint for more information.

Grounding/Earthing Requirements

- The Express 250 must be connected to a grounded, metal, permanent wiring system.
 - North America: A grounded service neutral conductor must be run with circuit conductors and connected to an equipment-grounding terminal on the Express 250.
 - Europe: Use TN-S or TN-C-S configurations. (TT is not recommended because it requires RCDs.)
- Ensure a grounding conductor that complies with local codes is properly grounded to earth at the service equipment or, when supplied by a separate system, at the supply transformer.

Shunt Trip Wiring

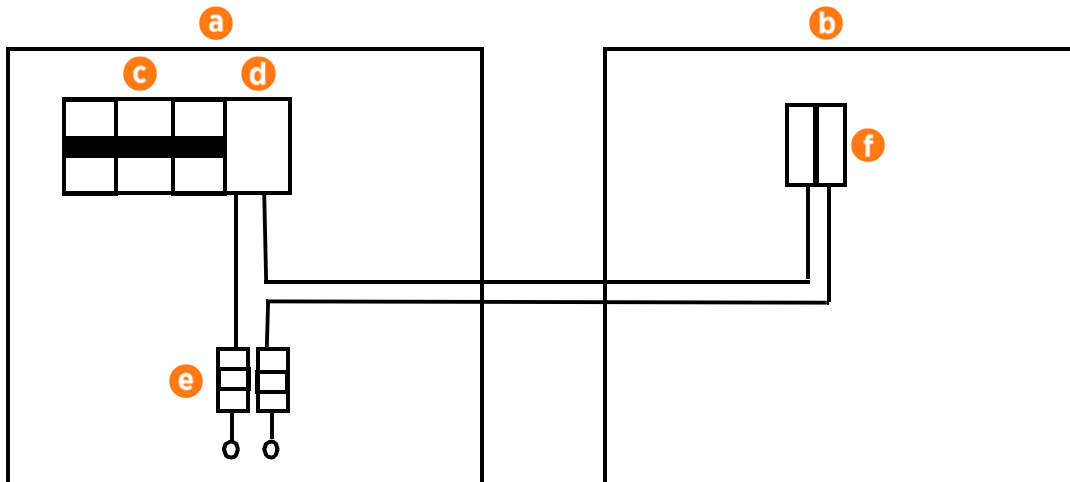
ChargePoint advises against installing an emergency stop (E-stop) button on charging stations. Drivers can unintentionally trip the emergency shutoff, causing inconvenience and downtime to site hosts. However, wiring to enable a remote shunt trip is standard on each Express 250. This shunt trip wiring is activated when unsafe conditions are detected, such as a missing cover panel or a severe impact. All shunt trip behavior is already hard-coded into the charging station and has no programmable variables.

The Express 250 provides a set of unpowered (dry pair) contacts near the AC input terminals, to connect to a shunt trip device. These contacts are rated to 440 VAC and 5 ARMS.

When a shunt trip is used, select a breaker with a shunt trip that is within the contact rating of the Express 250 shunt trip contacts. Common ratings available for shunt trips are 12, 24, or 48 VDC, or 110-240, 400 VAC depending on the installation region. 480 VAC rated shunt trips may not be used.

Follow the installation guide provided by the breaker or shunt trip vendor. Control power is derived at the electrical panel.

Note: For Paired charging stations, wire the connections so that a shunt trip activation on either station trips the breakers of both Paired stations.

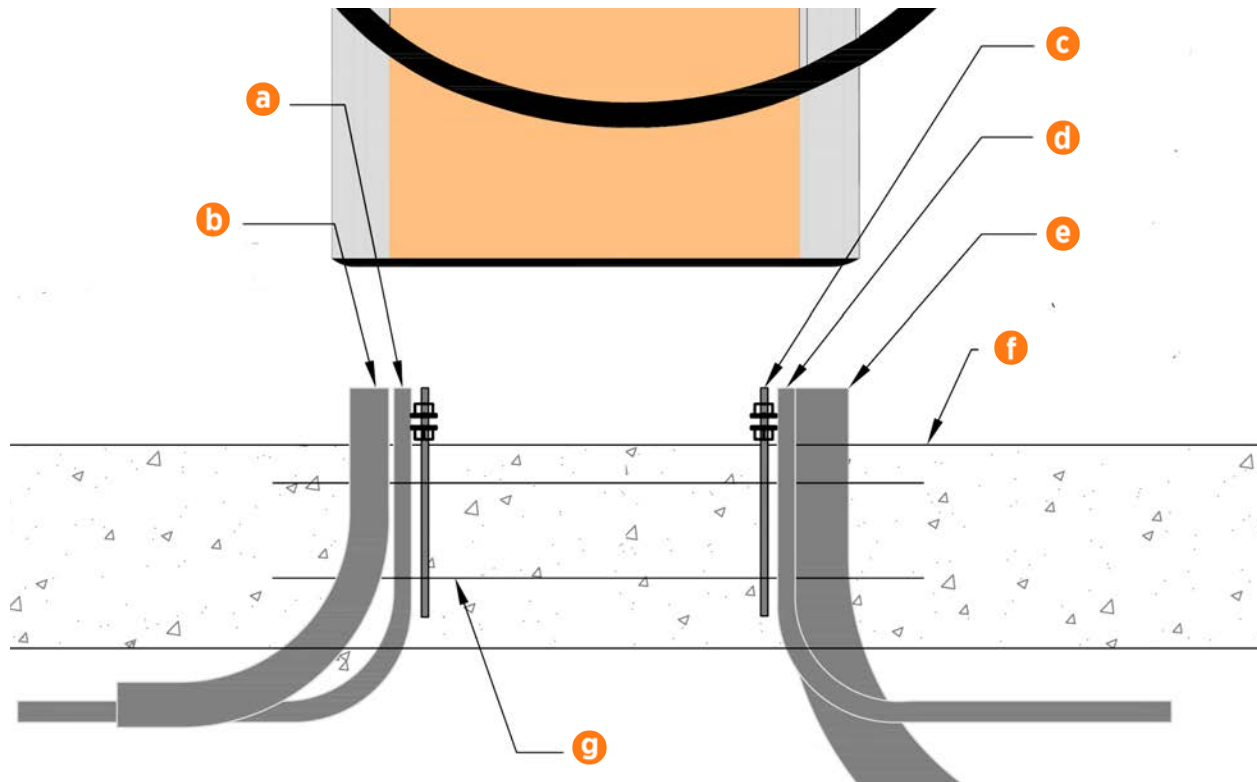


- a. Electrical panel
- b. Express 250
- c. Circuit breakers
- d. Shunt trip
- e. Control power (fused)
- f. Express 250 shunt trip terminal block (near AC terminals)

Conduit

The outer diameter of conduit or armored cable must not exceed the sizes called out in the conduit layout drawing below. Conduit stub-ups cannot extend higher than 76.2 mm (3 in) above the surface of the concrete pad.

In regions that do not use conduit, armored cable may be laid in the same configuration to conform to the wire placement as shown in the section, “[The Express 250 Concrete Mounting Template \(page 27\)](#)”. Ensure a length of at least 61 cm (2 ft) is left free above grade at each end to allow the wiring to reach the charging station AC terminals.



- a. Shunt trip conduit: 19.1 mm (3/4 in trade size)
- b. AC conduit: 50.8 mm (2 in trade size)
- c. Anchor bolts
- d. Paired installations only: Ethernet conduit: 19.1 mm (3/4 in trade size)
- e. Paired installations only: DC conduit: 76.2 mm (3 in trade size)
- f. Concrete surface
- g. Concrete Mounting Template (embedded in concrete)

Note: Ensure no bell ends are left on any conduit after all wires are pulled. Bell ends can interfere with station placement.

Note: Depth of conduit or armored cable may vary by site. The image above does not dictate conduit depth, as long as the stub-ups are vertical and placed correctly.

Wiring Requirements for Standalone Stations



Important: The AC terminal blocks on the Express 250 accept a maximum wire size of 35 mm² (2 AWG) solid or stranded wires. If using a larger gauge wire to accommodate a long run, reduce the wire size at the local external disconnect.

For full product specifications, refer to the *Express 250 Data Sheet*. Using that data, ensure that the installation location is equipped with service wiring that supports the Express 250's power requirements:

- Neutral conductor as required by region (a Neutral connection is not required for equipment operation and the terminal is provided for convenience only)
- Shunt trip wiring: size 0.08 to 2.5 mm² (28 to 14 AWG), fine stranded or solid
- AC conductors (L1, L2, L3) and ground per the following specifications:

Voltage Rating	Temperature Rating	Maximum Conductor Size for Terminals
EU non-armored: 600/1000 V	90°C	35 mm ²
EU armored: 600/1000 V	90°C	35 mm ² multi-core
NA: 600 V	90°C	2 AWG

Additional Wiring Requirements for Paired Stations



Important: The DC terminal blocks on the Express 250 can accept a maximum wire size of 120 mm² (4/0 AWG). Check site plans and local code for site-specific requirements.

For stations that will be installed as Paired, follow all AC wiring requirements above as well as the following additional wiring.

Note: Be sure to acquire, or alert the installer to acquire, lugs in advance of the site visit. Contact ChargePoint in advance if help is required to obtain lugs.

- Ethernet wiring for DC:
 - Minimum of CAT5e or better
 - Outdoor or plenum rated wiring
 - Maximum run length of 100 m (328 ft)
 - Leave 3.2 m (10.5 ft) of wire above grade at each end
 - Field crimp using straight-through pattern 568B

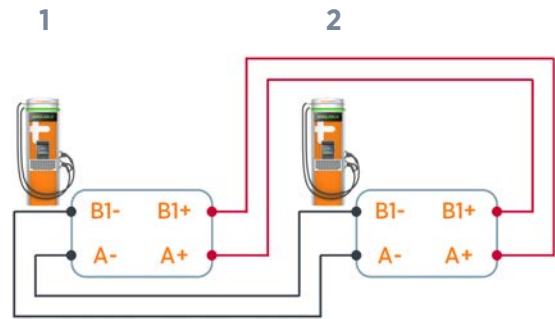
- DC conductors (x4):

Voltage Rating	Temperature Rating	Maximum Conductor Size for Terminals	Insulation Type
EU non-armored: 600/1000 V	90°C	120 mm ²	XLPE
EU armored: 600/1000 V	90°C	120 mm ² 4-core and cable gland sized to local code (such as Cablecraft CCG-CW50 or similar)	XLPE
NA: 1000 V	90°C	4/0 AWG	XHHW-2

- **NOTE:** 95 mm² (3/0 AWG) is sufficient for most sites unless ambient temperatures are $\geq 40^{\circ}\text{C}$ per regional code (ASHRAE Table D101 Summer Dry Bulb Temperature for North America or IEC 60364-5-54 in Europe)
- 2 positive and 2 negative conductors; 1 positive and 1 negative in each direction
- USA/Canada: Copper only, minimum current carrying capacity 160 A
- EU/UK: Rated at 1000 V conductor to conductor (+/-500 V conductor to ground, LV), copper only, minimum current carrying capacity 160 A
- DC cable run must be continuous, with no joints or splices
- Consult site drawings for site-specific conductor size and length (Appendix A provides conductor size calculation examples for reference)
- Leave 61 cm (2 ft) of each conductor above grade at each end
- DC lugs (x4):
 - Silver plated copper compression lug (2-hole specified for North America); tin plated is acceptable if used with dielectric grease
 - Holes for an M6 (1/4 in) stud at 19 mm (3/4 in) stud hole spacing
 - Maximum width 30 mm (1.18 in)
 - **NOTE:** 95 mm² (3/0 AWG) is sufficient for most sites unless ambient temperatures are $\geq 40^{\circ}\text{C}$ per regional code (ASHRAE Table D101 Summer Dry Bulb Temperature for North America or IEC 60364-5-54 in Europe)
 - North America lug size: 3/0 or 4/0 AWG
 - Example UK/EU lugs for average conductor size are Weidmuller 1494410000 120 mm² or similar (always review the lug manufacturer's instructions for crimper tool and die compatibility)
 - Contact ChargePoint if the installer requires lugs for 3/0 (kit 99-002644) or 4/0 (kit 99-002645) conductors

When DC conductors are pulled through conduit, label each end of each DC conductor to aid installation as follows:

- “Station 1 A+” on one end and “Station 2 B1+” on the other end
- “Station 1 A-” on one end and “Station 2 B1-” on the other end
- “Station 1 B1+” on one end and “Station 2 A+” on the other end
- “Station 1 B1-” on one end and “Station 2 A-” on the other end



CAUTION: Be sure to connect positive to positive, and negative to negative, on the same wire. Do not reverse the polarity.

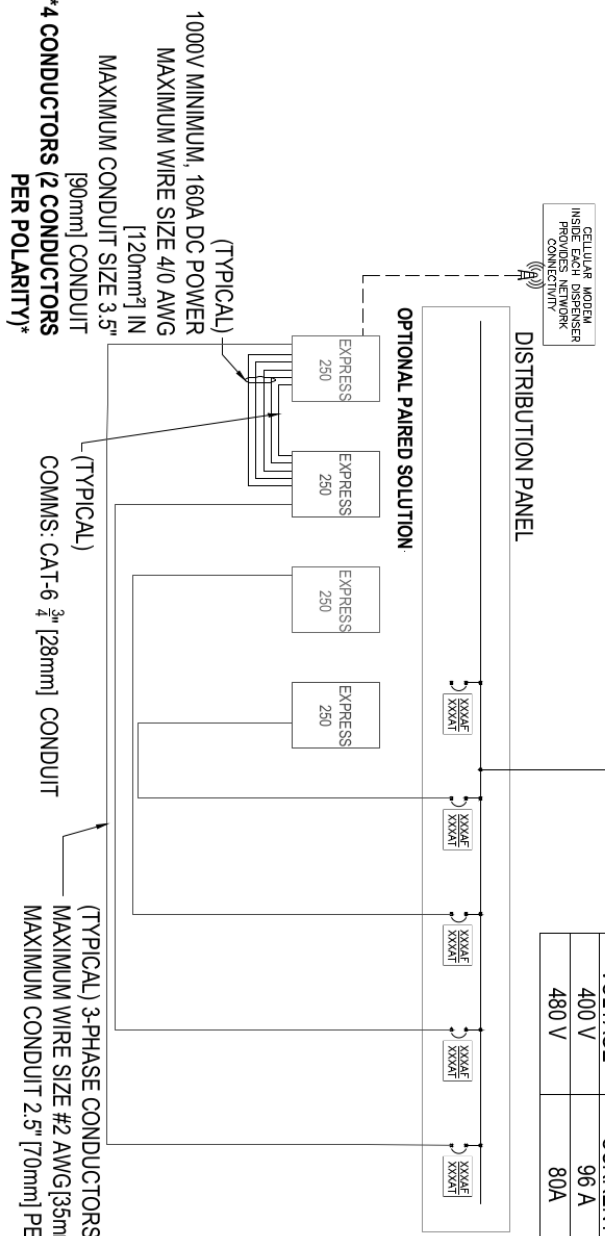
Wiring Diagram

GENERAL NOTES:
 ALL OCPDS, CONDUCTOR AND CONDUIT SIZES STATED HERE ARE PROVIDED BY CHARGEPOINT FOR REFERENCE ONLY. SITE SPECIFIC WIRE SIZING SHALL BE PERFORMED BY THE INSTALLATION CONTRACTOR TAKING INTO ACCOUNT SITE SPECIFIC CONDITIONS AND LOCAL CODES AND STANDARDS.
 CONDUCTORS LANDING ON CHARGEPOINT EQUIPMENT SHALL BE COPPER.

(E) HOST SWITCHBOARD

EXPRESS 250 BREAKER SELECTION			
NOMINAL VOLTAGE	MAX AC CURRENT	125% x CONTINUOUS LOAD	BREAKER SIZE
400 V	96 A	120A	125 A
480 V	80A	100 A	100 A

NOTES: EXPRESS 250
 1 SET OF PAIRED EXPRESS 250'S, EACH CONTAINING (2) 31.25KW POWER MODULES
 2 x EXPRESS 250 EACH CONTAINING (2) 31.25KW POWER MODULES



PRELIMINARY FOR INFORMATION ONLY

(TYPICAL)
 1000V MINIMUM, 160A DC POWER
 MAXIMUM WIRE SIZE 4/0 AWG
 [120mm²] IN
 MAXIMUM CONDUIT SIZE 3.5"
 [90mm] CONDUIT
 4 CONDUCTORS (2 CONDUCTORS PER POLARITY)

(TYPICAL)
 COMMS: CAT-6 ³/₄" [28mm] CONDUIT

(TYPICAL) 3-PHASE CONDUCTORS FOR EXPRESS 250
 MAXIMUM WIRE SIZE #2 AWG [35mm²] IN
 MAXIMUM CONDUIT 2.5" [70mm] PER STATION

Cellular Connectivity

A consistently strong cellular signal is needed before installers can activate the station. Do not rely on cell phone applications to measure cellular signals when conducting site surveys. Ensure the signal at the installation site is consistently strong. If RSRQ is measured at -10 dB or better, then RSRP can be -90 dBm or better. If RSRQ cannot be measured or is not adequate, RSRP must be -85 dBm or better.

Note that these numbers are all negative, so -70 dBm is stronger than -85 dBm, and -90 dBm is weaker. Use a cellular signal detection device (such as a Snyder, Octopus, or equivalent) to take signal strength readings at the exact proposed charging station locations.

If the signal is below -85 dBm, take cellular readings at the location where a cellular signal booster antennas will be installed, to ensure enough signal exists to be boosted. Install repeaters to boost the strength of the cellular signals. Repeaters are often required when installing charging stations in an underground garage or enclosed parking structure.

When repeaters are needed to boost signal, ChargePoint strongly recommends installing multi-carrier and multi-band units where allowed by local code. Weak or sporadic signal can affect crucial aspects of the charging station, including: accuracy in reporting, ability for drivers to use their mobile app, ability for customer support to troubleshoot problems, and support for advanced features such as Power Management or Waitlist. Strong signal is also required for the Assure maintenance and management program.

Note: Do not use microcells or femtocells, as they are inadequate for this use case.

In the US, the Express 250 supports AT&T 4G/LTE. There must be viable AT&T signal on one or more of the supported bands listed below. For other regions, contact your ChargePoint representative for more detail on carrier support.

- LTE 1900 (B2)
- LTE 1700 (B4)
- LTE 850 (B5)
- LTE 700 (B17)
- LTE 700 (B13)

The Express 250 Concrete Mounting Template 4

The Express 250 is a DC fast charging station for electric vehicles. The default Express 250 installation requires service wiring to be installed underground and run to a concrete pad. (If a site requires surface mounting, contact ChargePoint before beginning work, to obtain an approved surface installation method.) The ChargePoint Express 250 Concrete Mounting Template (CPE250-CMT) correctly aligns anchor bolts and conduit openings to ensure the Express 250 can be easily installed and connected.



WARNING: Use of a ChargePoint approved mounting method, such as the CPE250-CMT, is required for safe installation of the Express 250. Failure to use an approved mounting method may result in a risk of tip-over, which can cause death, personal injury, or property damage, and will void the Limited One-Year Parts Exchange Warranty.

The CPE250-CMT, available from ChargePoint, includes:

- 16 mm (5/8 in)-11 thread, 305 mm (12 in) long threaded mounting bolts with plastic caps on one end
- 16 mm (5/8 in) nuts
- 16 mm (5/8 in) washers
- Printed specification detailing how to position an assembled CPE250-CMT in the concrete

Note: You must order the CPE250-CMT separately, with sufficient lead time before the site preparation. This kit is not included with the ChargePoint Express 250 charging station.

Bring Tools and Materials

In addition to the CPE250-CMT kit, the site construction team needs:

- Digging tools (shovel, spade, etc.)
- Materials to prepare the form for pouring concrete
- Concrete as specified by site drawings
- Rebar as specified by site drawings
- 24 mm (15/16 in) wrench (x2)
- Pliers to adjust the guide fingers on the CMT conduit openings (if needed)
- Level
- Cut-resistant gloves
- Conduit, ducting, or armored cable in the amounts and types specified by site drawings, that complies with local code (see the rest of this document for conduit sizes and routing)

CPE250-CMT Overview

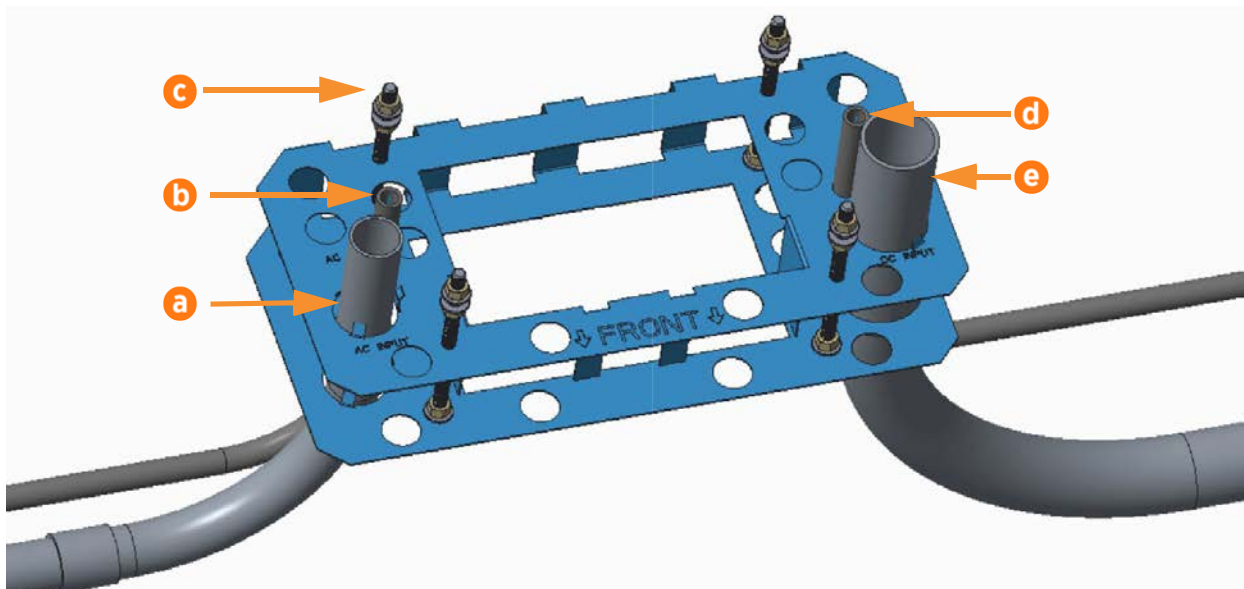
The Express 250 is a DC fast charging station for electric vehicles. It converts three-phase power from its associated building (callout a in the image below) to DC power to charge the vehicle. A ground conductor also runs in conduit a. Shunt trip wiring (b, optional) is run from the station to the breaker panel to automatically shut down the station if a fault or hazard is detected, such as a damaged cover panel or impact from a vehicle.

If two Express 250 stations are “paired”, they share DC power to allow faster (higher amperage) charging to a vehicle as needed. In this case, DC conductors (d) are run between the stations, as is an Ethernet wire (c) for communication.

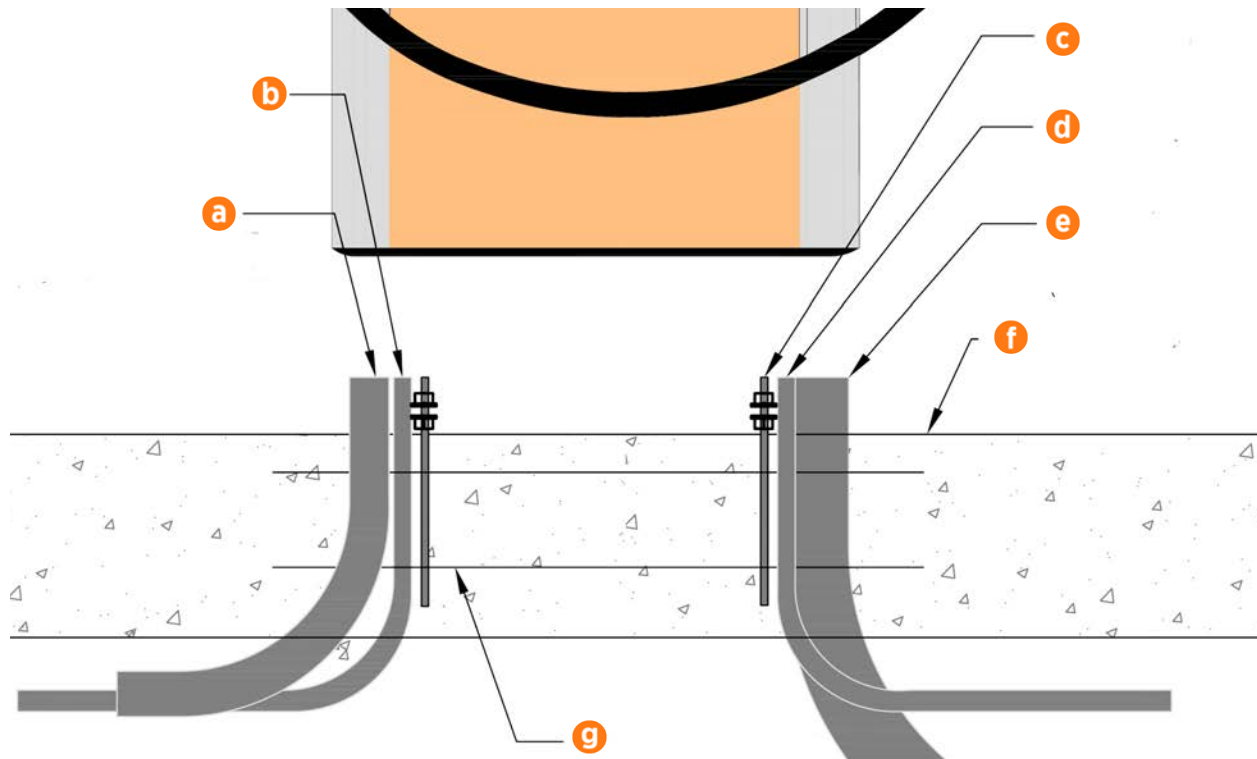
Note: Each Express 250 communicates with ChargePoint using a cellular network. No communication wiring is needed between the station and the building.

An assembled CPE250-CMT template is shown below with the positions of all conduit and anchor bolts.

Note: A separate CPE250-CMT is required for each charging station (two per Paired installation).



- a. AC conduit
- b. Shunt trip conduit
- c. Anchor bolts (x4)
- d. Ethernet conduit (Paired installations only)
- e. DC conduit (Paired installations only)



- a. AC conduit from the left side of each station to the breaker panel (possibly with an AC disconnect switch in the circuit): 50.8 mm (2 in trade size)
- b. Shunt trip conduit from the left side of each station to the breaker panel: 19.1 mm (3/4 in trade size)
- c. Anchor bolts (x4)
- d. **Paired installations only:** Ethernet conduit between the two stations to be paired, right side to right side: 19.1 mm (3/4 in trade size)
- e. **Paired installations only:** DC conduit between the two stations to be paired, right side to right side: 76.2 mm (3 in trade size)
- f. Concrete surface
- g. Concrete Mounting Template (embedded in concrete)

Note: Ensure no bell ends are left on any conduit after all wires are pulled. Bell ends can interfere with station placement.

Note: Depth of conduit or armored cable may vary by site. The image above does not dictate conduit depth, as long as the stub-ups are vertical and placed correctly.

Assemble the CPE250-CMT



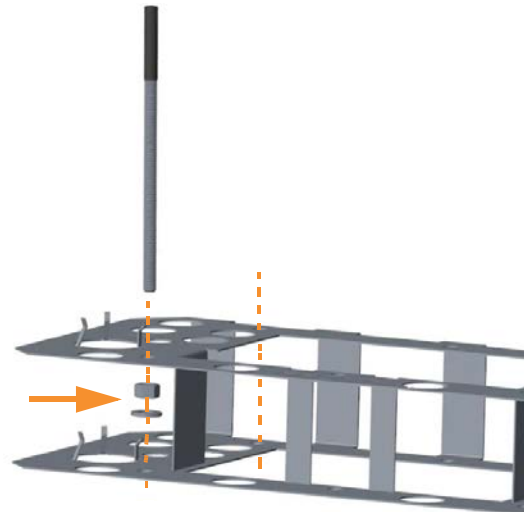
CAUTION: The CPE250-CMT can have sharp edges. Wear cut-resistant gloves.



Important: Although the CPE250-CMT was originally designed for six anchor bolts, only the four corner anchor bolts are required for station stability. Newer charging stations are designed to only use the four corner anchor bolts.

Before pouring concrete, assemble the CPE250-CMT with its anchor bolts, washers, and nuts.

1. Holding a mounting bolt by its plastic cap, insert the bare end into a corner bolt hole in the top plate of the template.
2. Before inserting the bolt through the bottom plate of the template, thread a nut onto the bolt and add a washer as shown.
3. Ensure the plastic cap is pressed fully down on the bolt.



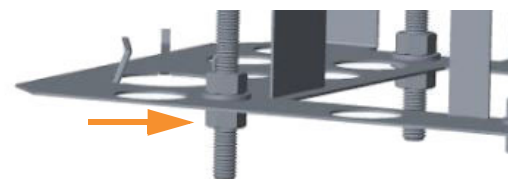
4. Holding the bottom nut and washer flush against the top surface of the bottom plate, thread the bolt onto the nut until the distance between the bottom of the plastic cap and the surface of the top plate is 51 mm (2 in).
5. Repeat Steps 1 to 4 for the remaining three corner bolts.

51 mm (2 in)



Note: Do not insert bolts into the center two holes. Only the four corner bolts are required for system stability.

6. Secure a second washer and nut onto the bottom of each bolt until it is flush with the bottom surface of the bottom plate. Torque each nut to 5.6 Nm (50 in-lb).



Install the CPE250-CMT



WARNING: Failure to install the ChargePoint® charging station in accordance with these instructions and all local building practices, climate conditions, safety standards, and all applicable codes and ordinances may lead to risk of death, injury, or property damage, and will void the Limited One-Year Parts Exchange Warranty.

1. Trench and excavate an opening to accommodate the wiring conduit and the concrete mounting pad that meets local codes and requirements, per site drawings.
2. Run conduit to each station as needed. If the stations will be Paired, run DC and Ethernet conduit between stations as well.
3. Build the form and lay rebar for the foundation.



Important: It is critical that the conduits are positioned properly and plumb. The tolerance where the conduits enter the station is 2 mm (1/16 in).

4. On the CPE250-CMT, locate the “FRONT” marking and the conduit guide fingers. Position the conduit guide fingers facing up.
5. Place the assembled CPE250-CMT so that the “FRONT” marking aligns with the specified front of the station.
6. Slide the CPE250-CMT over the conduit stub-ups until the top surface of the template is positioned 50.8 mm (2 in) below where the top surface of the concrete will be when poured. The surface of the concrete must align with the bottom of the plastic caps.
 - Carefully press the CPE250-CMT down onto the conduit to avoid flexing it.
 - Ensure the conduits are plumb.
 - Use a level to check that the CPE250-CMT is level from front to back and from side to side.
7. Tie or shim the CPE250-CMT to the rebar to prevent movement during concrete pouring.



Important: Before pouring concrete, the CPE250-CMT and the conduit must be secured in place to prevent them from rising or floating out of position while the concrete is poured and curing.

8. Pour the concrete.

Note: Make sure the concrete surface between the conduits is completely level and free of any irregularities.

9. Complete the *Construction Signoff Form* provided by ChargePoint to verify that the site is correctly completed and ready for product installation.

Examples of Express 250 Paired A Wire Sizing

The required DC wire gauge varies based on the specific site. Use these example scenarios to help you determine the correct wire gauge for your site.



Important: These scenarios are only examples, and are not intended to replace an assessment by a local electrician. Always follow all applicable local and national codes and requirements. A site drawing should be engineered for your specific site to reduce installation costs and ensure compliance with local codes.

DC Interconnection, Example Calculation: Newark, NJ

Assumptions:

- Breaker and equipment terminal rating minimum 75°C
- Electric Vehicle Charging Equipment rated for continuous duty per Article 625.41
- Maximum 50°C ambient rating
- Installation location: Newark, NJ, USA
- 90°C rated wire required
- Maximum station DC output/input current: 160 A
- Four conductors in conduit, only two current carrying conductors

The continuous duty derating per 625.41 is 160×1.25 , or 200 A.

From the Appendix D ASHRAE, the table summer design temperature is 91°F for Newark, NJ.

Temperature derating from 2017 NEC Table 310.15(B)(2)(a) based on 30°C the derating factor for 91°F and 90°C rated wire is 0.96 (87-95°F row).

From the 90°C column of NEC Table 310.15(B)(16), a 3/0 copper conductor has an ampacity of 225 A.

Applying the temperature derating factor, $225 \times 0.96 = 216$ A

200 A is the minimum rated ampacity this conductor must have per the NEC to prevent potential insulation damage and provide the ability of the conductor to dissipate heat caused by the current flow. After the temperature derating calculation, the resulting 216 A is greater than the 200 A required.

A 3/0 copper conductor has an ampacity of 200 A at 75°C, which is the ampacity column required for equipment rated 100 A or greater per NEC 110.14(C)(1)(b). If, following the derating from the 90°C column, the resultant ampacity of the 3/0, 90°C wire is equal to or greater than the ampacity rating of the same size conductor in the 75°C, the conductor is permitted.

From NEC table 310.15(B)(16) in 90°C column, after the derating, the 3/0 conductor ampacity is 216 A which is greater than the minimum required 200 A. Thus the permitted copper conductor size is 3/0.

The permission to use the 90°C ampacity for ambient temperature adjustment comes from the general requirement in 110.14(C); Conductors with temperature ratings higher than specified for terminations shall be permitted to be used for ampacity adjustment, correction, or both.

AC Mains Input Wiring, Example Calculation: Phoenix, AZ

Assumptions:

- Breaker and equipment terminal rating minimum 75°C
- Continuous duty equipment
- Maximum 50°C ambient rating
- Installation location: Phoenix, AZ, USA
- 90°C rated wire required
- 480 VAC Input, 3 phase, no neutral
- Maximum station AC input rating: 80 A
- Three current carrying conductors in conduit

The continuous duty derating per 625.41 is 80×1.25 , or 100 A.

From the Appendix D ASHRAE table, the summer design temperature is 107°F for Phoenix, AZ.

Temperature derating from 2017 NEC Table 310.15(B)(2)(a) based on 30°C the derating factor for 107°F and 90°C wire is 0.87 (from the 105-113°F row).

The allowable ampacity for a #3 AWG 90°C copper conductor per NEC Table 310.15(B)(16) is 115.

Applying the temperature derating factor from Table 310.15(B)(2)(a), $115 \times .87 = 100.05$ A.

100 is the minimum ampacity this conductor must have per the NEC to prevent potential insulation damage and provide the ability of the conductor to dissipate heat caused by the current flow. After the derating is applied, the resulting ampacity of 100.05 A is greater than the 100 A required.

A #3 AWG copper conductor is rated at 100 A at 75°C, which is the ampacity column required for equipment rated 100 A or greater per NEC 110.14(C)(1)(b). However in this case, the equipment is only rated to 80 A. Since the equipment is listed and identified with a 75°C termination rating, we can use NEC Section 110.14(C)(1)(a)(3). As long as after derating from the 90°C column of table 310.15(B)(16) the resultant ampacity is equal to or greater than the ampacity rating of the conductor in the 75°C column, the #3 AWG conductor is permitted.

From NEC table 310.15(B)(16) in 90°C column, after the derating, the conductor ampacity is

100.05 A, which is greater than the minimum required 100 A. Thus the permitted conductor size is 3 AWG.

The permission to use the 90°C ampacity for ambient temperature comes from the general requirement in 110.14(C); Conductors with temperature ratings higher than specified for terminations shall be permitted to be used for ampacity adjustment, correction, or both.

Limited Warranty Information and Disclaimer

The Limited Warranty you received with your Charging Station is subject to certain exceptions and exclusions. For example, your use of, installation of, or modification to, the ChargePoint® Charging Station in a manner in which the ChargePoint® Charging Station is not intended to be used or modified will void the limited warranty. You should review your limited warranty and become familiar with the terms thereof. Other than any such limited warranty, the ChargePoint products are provided "AS IS," and ChargePoint, Inc. and its distributors expressly disclaim all implied warranties, including any warranty of design, merchantability, fitness for a particular purposes and non-infringement, to the maximum extent permitted by law.

Limitation of Liability

CHARGEPOINT IS NOT LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION LOST PROFITS, LOST BUSINESS, LOST DATA, LOSS OF USE, OR COST OF COVER INCURRED BY YOU ARISING OUT OF OR RELATED TO YOUR PURCHASE OR USE OF, OR INABILITY TO USE, THE CHARGING STATION, UNDER ANY THEORY OF LIABILITY, WHETHER IN AN ACTION IN CONTRACT, STRICT LIABILITY, TORT (INCLUDING NEGLIGENCE) OR OTHER LEGAL OR EQUITABLE THEORY, EVEN IF CHARGEPOINT KNEW OR SHOULD HAVE KNOWN OF THE POSSIBILITY OF SUCH DAMAGES. IN ANY EVENT, THE CUMULATIVE LIABILITY OF CHARGEPOINT FOR ALL CLAIMS WHATSOEVER RELATED TO THE CHARGING STATION WILL NOT EXCEED THE PRICE YOU PAID FOR THE CHARGING STATION. THE LIMITATIONS SET FORTH HEREIN ARE INTENDED TO LIMIT THE LIABILITY OF CHARGEPOINT AND SHALL APPLY NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY LIMITED REMEDY.

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case, you will be required to correct the interference at your own expense.

Important: Changes or modifications to this product not authorized by ChargePoint, Inc., could affect the EMC compliance and revoke your authority to operate this product.

Exposure to Radio Frequency Energy: The radiated power output of the 802.11 b/g/n radio and cellular modem (optional) in this device is below the FCC radio frequency exposure limits for uncontrolled equipment. The antenna of this product, used under normal conditions, is at least 20 cm away from the body of the user. This device must not be co-located or operated with any other antenna or transmitter by the manufacturer, subject to the conditions of the FCC Grant.

Industry Canada

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2)

l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

FCC/IC Compliance Labels

Visit chargepoint.com/labels/



chargepoint.com/support

75-001387-01 r1

CHARGEPOINT®
MASTER SERVICES AND SUBSCRIPTION AGREEMENT

IMPORTANT: THIS MASTER SERVICES AND SUBSCRIPTION AGREEMENT IS A LEGAL AGREEMENT BETWEEN YOU OR THE CORPORATION, PARTNERSHIP OR OTHER LEGAL ENTITY YOU REPRESENT (“SUBSCRIBER”) AND CHARGEPOINT, INC., A DELAWARE CORPORATION (“CPI”). PLEASE READ IT CAREFULLY. BY USING ANY OF THE CHARGEPOINT SERVICES, YOU INDICATE YOUR ACCEPTANCE OF THIS AGREEMENT. IF YOU DO NOT AGREE WITH ANY OF THESE TERMS AND CONDITIONS, DO NOT USE ANY CHARGEPOINT SERVICES.

IF YOU ARE ENTERING INTO THIS AGREEMENT ON BEHALF OF A CORPORATION, PARTNERSHIP OR OTHER LEGAL ENTITY, THAT ENTITY REPRESENTS THAT YOU HAVE AUTHORITY TO BIND SUCH ENTITY TO THESE TERMS AND CONDITIONS. IF YOU DO NOT HAVE SUCH AUTHORITY TO BIND SUCH ENTITY TO THESE TERMS AND CONDITIONS, YOU MAY NOT ENTER INTO THIS AGREEMENT AND SUCH ENTITY MAY NOT USE THE CHARGEPOINT SERVICES.

1. AGREEMENT.

1.1 SCOPE OF AGREEMENT. This Agreement governs the following activities:

- (a) Provisioning of Subscriber’s Charging Station(s), if any, on ChargePoint;
- (b) Activation and use of the ChargePoint Services on Subscriber’s Charging Station(s), if any;
- (c) Subscriber’s use of the APIs as part of the ChargePoint Services;
- (d) Each grant of Rights by Subscriber; and
- (e) Each grant of Rights by a third party to Subscriber.

1.2 EXHIBITS AND PRIVACY POLICY. This Agreement includes the CPI [Privacy Policy](#), as amended from time to time, and the following Exhibits, which are made a part of, and are hereby incorporated into, this Agreement by reference.

- Exhibit 1: Flex Billing Terms
- Exhibit 2: API Terms
- Exhibit 3: Terms Regarding Granting and Receipt of Rights

In the event of any conflict between the terms of this Agreement on the one hand, and the Privacy Policy or any Exhibit on the other hand, this Agreement shall govern. Capitalized terms not otherwise defined in any Exhibit or the Privacy Policy shall have the same meaning as in this Agreement.

2. DEFINITIONS. The following terms shall have the definitions set forth below when used in this Agreement:

2.1 *“Affiliate”* means any entity which directly or indirectly controls, is controlled by, or is under common control with the subject entity. “Control”, for purposes of this definition, means direct or indirect ownership or control of fifty percent (50%) or more of the voting interests of the subject entity.

2.2 *“APIs”* means, individually or collectively, the application programming interfaces which are made available to Subscriber from time to time, as and when updated by CPI.

2.3 *“ChargePoint Connections”* shall have the meaning ascribed to it in the applicable data sheet. The term ChargePoint Connections shall also mean any successor service provided by CPI.

2.4 *“ChargePoint®”* means the open-platform network of electric vehicle charging stations and the vehicle charging applications the network delivers, that is operated and maintained by CPI (as defined below) in order to provide various services to, among others, Subscriber and its employees.

2.5 *“ChargePoint Services”* means, collectively, the various cloud services offerings (including, without limitation, APIs and application Cloud Plans) made available for subscription by CPI.

2.6 *“ChargePoint Application”* means any of the applications established and maintained by CPI which will allow Subscriber to access ChargePoint Services.

2.7 *“Charging Station”* means the electric vehicle charging station(s) purchased by Subscriber, whether manufactured by CPI or by a CPI authorized entity, which are registered and activated on ChargePoint.

2.8 *“Content”* means all data collected or maintained by CPI in connection with the operation of ChargePoint.

2.9 *“CPI Marks”* means the various trademarks, service marks, trade names, logos, domain names, and other distinctive brand features and designations used in connection with ChargePoint and/or CPI manufactured Charging Stations, including without limitation, ChargePoint.

2.10 *“CPI Property”* means (i) ChargePoint, (ii) the ChargePoint Services (including all Content), (iii) all data generated or collected by CPI in connection with the operation of ChargePoint and ChargePoint Services, (iv) the CPI Marks, (v) the ChargePoint Cards, and (vi) all other CPI-supplied material developed or provided by CPI for Subscriber use in connection with the ChargePoint Services.

2.11 *“Documentation”* means written information (whether contained in user or technical manuals, product materials, specifications or otherwise) pertaining to ChargePoint Services and/or ChargePoint and made available from time to time by CPI to Subscriber in any manner (including on-line).

2.12 *“Effective Date”* means the earlier of (a) the date that Subscriber electronically accepts this Agreement, or (b) the date of Subscriber’s first use of the ChargePoint Services.

2.13 *“Intellectual Property Rights”* means all intellectual property rights, including, without limitation, patents, patent applications, patent rights, trademarks, trademark applications, trade names, service marks, service mark applications, copyrights, copyright applications, franchises, licenses, inventories, know-how, trade secrets, Subscriber lists, proprietary processes and formulae, all source and object code, algorithms, architecture, structure, display screens, layouts, inventions, development tools and all documentation and media constituting, describing or relating to the above, including, without limitation, manuals, memoranda and records.

2.14 *“Malicious Code”* means viruses, worms, time bombs, Trojan horses and all other forms of malicious code, including without limitation, malware, spyware, files, scripts, agents or programs.

2.15 *“Party”* means each of CPI and Subscriber.

2.16 *“PII”* means personally identifiable information regarding Subscriber or a User (e.g., name, address, email address, phone number or credit card number) that can be used to uniquely identify, contact or locate Subscriber or such User.

2.17 *“Provisioning”* means activating Charging Stations, warranties and Cloud Plans on ChargePoint

2.18 *“Rights”* means the rights, authorizations, privileges, actions, information and settings within the ChargePoint Services which a Rights Grantor grants to an Rights Grantee, to enable such Rights Grantee to access, obtain and use certain portions of the ChargePoint Services and certain information available therein in the course of providing services to or on behalf of such Rights Grantor in connection

with one or more of the Rights Grantor's Charging Stations. A Rights Grantor shall be deemed to have granted Rights to the entity that will be responsible for creating Subscriber's account and Provisioning Subscriber's Charging Stations. Such deemed grant may be terminated by Subscriber at any time.

2.19 *"Cloud Plan(s)"* means subscription plans to the ChargePoint Services which are offered and sold by CPI from time to time, which vary according to their features, privileges and pricing.

2.20 *"Subscriber Content and Services"* means any content and/or services that a Subscriber provides or makes available to Users and/or the general public in connection with the ChargePoint Services, other than Content, ChargePoint Services and CPI Property.

2.21 *"Subscriber Marks"* means the various trademarks, service marks, trade names, logos, domain names, and other distinctive brand features and designations used by Subscriber in connection with its business and/or Charging Stations.

2.22 *"Subscription Fees"* means the fees payable by Subscriber for subscribing to any ChargePoint Services.

2.23 *"Taxes"* shall mean all present and future taxes, imposts, levies, assessments, duties or charges of whatsoever nature including without limitation any withholding taxes, sales taxes, use taxes, service taxes, value added or similar taxes at the rate applicable for the time being imposed by any national or local government, taxing authority, regulatory agency or other entity together with any penalty payable in connection with any failure to pay or any delay in paying any of the same and any interest thereon.

2.24 *"Token(s)"* means the serialized proof of purchase of a Cloud Plan that is used by CPI in connection with enabling Services and/or provisioning Charging Stations.

2.25 *"User"* means any person using a Charging Station.

3. **AVAILABLE CHARGEPOINT SERVICES & CLOUD PLANS.** A description of the various ChargePoint Services and Cloud Plans currently available for subscription is located on the CPI website. CPI may make other ChargePoint Services and/or Cloud Plans available from time to time, and may amend the features or benefits offered with respect to any ChargePoint Service or Cloud Plan at any time and from time to time. Subscription Fees are based on Subscriber's choice of Cloud Plan and not on actual usage of the Subscription.

4. **CPI'S RESPONSIBILITIES AND AGREEMENTS.**

4.1 **OPERATION OF CHARGEPOINT.** CPI agrees to provide and shall be solely responsible for: (i) provisioning and operating, maintaining, administering and supporting ChargePoint and related infrastructure (other than Subscriber's Charging Stations and infrastructure for transmitting data from Charging Stations to any ChargePoint operations center); (ii) provisioning and operating, maintaining, administering and supporting the ChargePoint Applications; and (iii) operating ChargePoint in compliance with all applicable laws. CPI will protect the confidentiality and security of PII in accordance with all applicable laws and regulations and the CPI Privacy Policy and acknowledges that it is responsible for the security of "cardholder data" (as that term is defined for purposes of the Payment Card Industry – Data Security Standards), if any, that CPI possesses, otherwise stores, processes or transmits on behalf of Subscriber or for any impact, if any, on the security of Subscriber's cardholder data environment.

4.2 **LIMITATIONS ON RESPONSIBILITY.** CPI shall not be responsible for, and makes no representation or warranty with respect to the following: (i) specific location(s) or number of Charging Stations now, or in the future, owned, operated and/or installed by persons other than Subscriber, or the total number of Charging Stations that comprise ChargePoint; (ii) continuous availability of electrical service to any of Subscriber's Charging Stations; (iii) continuous availability of any wireless or cellular

communications network or Internet service provider network necessary for the continued operation by CPI of ChargePoint; (iv) availability of or interruption of the ChargePoint Network attributable to unauthorized intrusions; and/or (v) charging stations that are not registered with and activated on the ChargePoint Network.

5. SUBSCRIBER'S RESPONSIBILITIES AND AGREEMENTS.

5.1 GENERAL.

(a) All use of ChargePoint and ChargePoint Services by Subscriber, its employees and agents and its grantees of Rights shall comply with this Agreement and all of the rules, limitations and policies of CPI set forth in the Documentation. All ChargePoint Services account details, passwords, keys, etc. are granted to Subscriber solely for Subscriber's own use (and the use of its grantees of Rights), and Subscriber shall keep all such items secure and confidential. Subscriber shall prevent, and shall be fully liable to CPI for, any unauthorized access to or use of ChargePoint or ChargePoint Services via Subscriber's Charging Stations, ChargePoint Services account(s) or other equipment. Subscriber shall immediately notify CPI upon becoming aware of any such unauthorized use.

(b) Subscriber shall be solely responsible for: (i) Provisioning of its Charging Stations, if any; (ii) keeping Subscriber's contact information, email address for the receipt of notices hereunder, and billing address for invoices both accurate and up to date; (iii) updating on the applicable ChargePoint Application, within five (5) business days, the location to which any of Subscriber's Charging Stations are moved; (iv) the maintenance, service, repair and/or replacement of Subscriber's Charging Stations as needed, including informing CPI of the existence of any Charging Stations that are non-operational and not intended to be replaced or repaired by Subscriber; and (v) compliance with all applicable laws.

(c) Subscriber shall deliver in full all benefits promised to Users by Subscriber in exchange for such Users connecting with Subscriber using ChargePoint Connections.

5.2 REPRESENTATIONS AND WARRANTIES OF SUBSCRIBER. Subscriber represents and warrants to CPI that: (i) it has the power and authority to enter into and be bound by this Agreement and shall have the power and authority to install the Charging Stations and any other electrical vehicle charging products which are registered and activated on the ChargePoint Network); (ii) the electrical usage to be consumed by Subscriber's Charging Stations will not violate or otherwise conflict with the terms and conditions of any applicable electrical purchase or other agreement including, without limitation, any lease, to which Subscriber is a party; and (iii) it has not installed or attached and will not install or attach Charging Stations on or to infrastructure not owned by Subscriber without proper authority, or in a manner that will block any easement or right of way.

5.3 CHARGEPOINT CARDS. Subscriber may be permitted by CPI, in CPI's sole discretion, to obtain CPI-provisioned radio-frequency identification cards ("ChargePoint Cards") which enable the individual card recipients to access and use ChargePoint. Subscriber may distribute such ChargePoint Cards to individuals, and each individual ChargePoint Card recipient is responsible for activating his or her ChargePoint Card on ChargePoint directly with CPI on the CPI web site. In no event will Subscriber create any separate ChargePoint accounts for any ChargePoint Card recipients or other third parties, nor will Subscriber create anonymous ChargePoint accounts associated with any ChargePoint Card.

5.4 USE RESTRICTIONS AND LIMITATIONS. Subscriber shall not:

(a) sell, resell, license, rent, lease or otherwise transfer the ChargePoint Services or any Content therein to any third party;

(b) interfere with or disrupt the ChargePoint Services, servers, or networks connected to the ChargePoint Services, or disobey any requirements, procedures, policies, or regulations of networks connected to the ChargePoint Services;

(c) restrict or inhibit any other user from using and enjoying the ChargePoint Services or any other CPI services;

(d) attempt to gain unauthorized access to the ChargePoint Network or the ChargePoint Services or related systems or networks or any data contained therein, or access or use ChargePoint or ChargePoint Services through any technology or means other than those provided or expressly authorized by CPI;

(e) create any ChargePoint Services user account by automated means or under false or fraudulent pretenses, or impersonate another person or entity on ChargePoint, or obtain or attempt to obtain multiple keys for the same URL;

(f) reverse engineer, decompile or otherwise attempt to extract the source code of the ChargePoint Services or any part thereof, or any Charging Station, except to the extent expressly permitted or required by applicable law;

(g) create derivative works based on any CPI Property;

(h) remove, conceal or cover the CPI Marks or any other markings, labels, legends, trademarks, or trade names installed or placed on the Charging Stations or any peripheral equipment for use in connection with Subscriber's Charging Stations;

(i) except as otherwise expressly permitted by this Agreement or in any applicable data sheet relating to a ChargePoint Service, copy, frame or mirror any part of the ChargePoint Services or ChargePoint Content, other than copying or framing on Subscriber's own intranets or otherwise solely for Subscriber's own internal business use and purposes;

(j) access ChargePoint, any ChargePoint Application or the ChargePoint Services for the purpose of monitoring their availability, performance or functionality, or for any other benchmarking or competitive purpose, or for any improper purpose whatsoever, including, without limitation, in order to build a competitive product or service or copy any features, functions, interface, graphics or "look and feel;"

(k) use any robot, spider, site search/retrieval application, or other device to retrieve or index any portion of the ChargePoint Services or Content or collect information about ChargePoint users for any unauthorized purpose;

(l) upload, transmit or introduce any Malicious Code to ChargePoint or ChargePoint Services;

(m) use any of the ChargePoint Services if Subscriber is a person barred from such use under the laws of the United States or of any other jurisdiction; or

(n) use the ChargePoint Services to upload, post, display, transmit or otherwise make available (A) any inappropriate, defamatory, obscene, or unlawful content; (B) any content that infringes any patent, trademark, copyright, trade secret or other proprietary right of any party; (C) any messages, communication or other content that promotes pyramid schemes, chain letters, constitutes disruptive commercial messages or advertisements, or is prohibited by applicable law, the Agreement or the Documentation.

5.5 CONTENT.

(a) ChargePoint Content (including but not limited to Charging Station data and status) is provided for planning purposes only. Subscriber may find that various events may mean actual Charging Station conditions (such as availability or pricing) differ from what is set forth in the Content. In addition, certain Charging Station-related Content, including Charging Station name and use restrictions, is set by the Charging Station owner and is not verified by CPI. Subscriber should exercise judgment in Subscriber's use of the Content.

(b) Certain Content may be provided under license from third parties and is subject to copyright and other intellectual property rights of such third parties. Subscriber may be held liable for any unauthorized copying or disclosure of such third party-supplied Content. Subscriber's use of such Content may be subject to additional restrictions set forth in the Documentation.

(c) Subscriber shall not copy, modify, alter, translate, amend, or publicly display any of the Content except as expressly permitted by the Documentation. Subscriber shall not present any portion of the Content in any manner, that would (i) make such Content false, inaccurate or misleading, (ii) falsify or delete any author attributions or labels of the origin or source of Content, or (iii) indicate or suggest that the Charging Station locations provided as part of the Content are anything other than ChargePoint® Network Charging Stations.

(d) Subscriber shall not remove, obscure, or alter in any manner any proprietary rights notices (including copyright and trademark notices), warnings, links or other notifications that appear in the ChargePoint Service.

6. SUBSCRIPTION FEES AND PAYMENT TERMS.

6.1 SUBSCRIPTION FEES. Subscriber shall pay all Subscription Fees within thirty (30) days of its receipt of CPI's invoice. All payments shall be made in U.S. Dollars by check, wire transfer, ACH payment system or other means approved by CPI. Customer may not offset any amounts due to CPI hereunder against amounts due to Customer under this Agreement or any other agreement. Subscription fees payable to CPI do not include any Taxes imposed thereon, and Subscriber is responsible for any and all such Taxes. All such Taxes shall be set forth on the invoice provided by CPI to Subscriber; provided that, CPI's failure to include any such Tax on an invoice shall not relieve Subscriber's liability therefor. Except as otherwise set forth in this Agreement, all payment obligations under this Agreement are non-cancelable and non-refundable.

6.2 LATE PAYMENTS. Late payments shall be subject to a charge equal to the lesser of (i) one and one-half percent (1.5%) per month or (ii) the maximum rate permitted by law. Subscriber will reimburse CPI for attorneys' fees and other expenses reasonably incurred by CPI in the collection of any late payments. If any amount owing by Subscriber under this Agreement is more than thirty (30) days overdue, CPI may, without otherwise limiting CPI's rights or remedies, (a) terminate this Agreement, (b) suspend the use by Subscriber of the ChargePoint Services until such amounts are paid in full, and/or (c) condition future ChargePoint Service renewals and other Subscriber purchases on payment terms other than those set forth herein; provided that CPI shall not exercise any such rights if Subscriber has reasonably disputed such charges and is cooperating diligently in good faith to resolve the dispute.

7. INTELLECTUAL PROPERTY RIGHTS AND LICENSES.

7.1 CPI PROPERTY. As between CPI and Subscriber, CPI retains and reserves all right, title and interest (including all related Intellectual Property Rights) in and to the CPI Property and any

improvements thereto. No rights are granted to Subscriber in the CPI Property hereunder except as expressly set forth in this Agreement.

7.2 SUBSCRIBER PROPERTY. As between CPI and Subscriber, Subscriber retains and reserves all right, title and interest (including all related Intellectual Property Rights) in and to (i) all Subscriber Marks and (ii) all Subscriber Content and Services (collectively, the “Subscriber Property”). No rights are granted to CPI in the Subscriber Property hereunder except as expressly set forth in this Agreement.

7.3 LIMITED LICENSE TO SUBSCRIBER. CPI hereby grants to Subscriber a royalty-free, non-assignable, non-transferable, and non-exclusive license to use the CPI Property solely in accordance with the terms of this Agreement (including without limitation all limitations and restrictions on such use) to the extent necessary for Subscriber to access, use and receive the ChargePoint Services as permitted herein.

7.4 LIMITED LICENSE TO CPI. Subscriber hereby grants to CPI a non-assignable, non-transferable, and non-exclusive license to use the Subscriber Property solely in accordance with the terms of this Agreement (including without limitation all limitations and restrictions on such use) to the extent necessary for CPI to provide the ChargePoint Services. CPI may utilize the Subscriber Marks to advertise that Subscriber is using the ChargePoint Services. The foregoing license includes a perpetual and irrevocable right of CPI to reproduce, adapt, modify, translate, publicly perform, publicly display and distribute all Subscriber Content and Services submitted, posted or displayed by Subscriber in the ChargePoint Services, solely for the purpose of enabling CPI to operate, market and promote the ChargePoint Services, and to index and serve such Subscriber Content and Services as search results through ChargePoint Services. CPI shall have a royalty-free, worldwide, transferable, sublicensable, irrevocable perpetual license to use or incorporate in the ChargePoint Services any suggestions, enhancement requests, recommendations or other feedback provided by Subscriber or Subscriber Rights Grantees relating to the ChargePoint Services.

7.5 ADDITIONAL TERMS REGARDING CPI MARKS.

(a) USE LIMITATIONS. Subscriber shall display the CPI Marks in connection with Subscriber Charging Stations as required in this Agreement during the term of Subscriber’s Cloud Plan. Subscriber shall not use any of the CPI Marks for or with any products other than its Charging Stations. From time to time, CPI may provide updated CPI Mark usage guidelines on the ChargePoint Application or elsewhere in the Documentation, and Subscriber shall thereafter comply with such updated guidelines. For any use of the CPI Mark not authorized by such guidelines, or if no such guidelines are provided, then for each initial use of the CPI Mark, Subscriber must obtain CPI’s prior written consent, which shall not be unreasonably withheld or delayed, and after such consent is obtained, Subscriber may use the CPI Mark in the approved manner. All use by Subscriber of CPI’s Marks (including any goodwill associated therewith) will inure to the benefit of CPI.

(b) PROHIBITIONS. Subscriber shall not use or display any CPI Mark (or any likeness of a CPI Mark):

(i) as a part of the name under which Subscriber’s business is conducted or in connection with the name of a business of Subscriber or its Affiliates;

(ii) in any manner that (x) implies a relationship or affiliation with CPI other than as described under the Agreement, (y) implies any sponsorship or endorsement by CPI, or (z) can be reasonably interpreted to suggest that any Subscriber Content and Services has been authored by, or represents the views or opinions of CPI or CPI personnel;

(iii) in any manner intended to disparage CPI, ChargePoint, or the ChargePoint Services, or in a manner that is misleading, defamatory, infringing, libelous, disparaging, obscene or otherwise objectionable to CPI;

(iv) in any manner that violates any law or regulation; or

(v) that is distorted or altered in any way (including squeezing, stretching, inverting, discoloring, etc.) from the original form provided by CPI.

(c) NO REGISTRATION OF CPI MARKS. Subscriber shall not, directly or indirectly, register or apply for, or cause to be registered or applied for, any CPI Marks or any patent, trademark, service mark, copyright, trade name, domain name or registered design that is substantially or confusingly similar to a CPI Mark, patent, trademark, service mark, copyright, trade name, domain name or registered design of CPI, or that is licensed to, connected with or derived from confidential, material or proprietary information imparted to or licensed to Subscriber by CPI. At no time will Subscriber challenge or assist others to challenge the CPI Marks (except to the extent such restriction is prohibited by law) or the registration thereof by CPI.

(d) TERMINATION AND CESSATION OF USE OF CPI MARKS. Upon termination of this Agreement, Subscriber will immediately discontinue all use and display of all CPI Marks.

8. LIMITATIONS OF LIABILITY.

8.1 DISCLAIMER OF WARRANTIES. CHARGEPOINT AND THE CHARGEPOINT SERVICES ARE PROVIDED “AS IS” AND “AS AVAILABLE” FOR SUBSCRIBER’S USE, WITHOUT WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NONINFRINGEMENT. WITHOUT LIMITING THE FOREGOING, CPI DOES NOT WARRANT THAT (A) SUBSCRIBER’S USE OF THE CHARGEPOINT SERVICES WILL BE UNINTERRUPTED, TIMELY, SECURE, FREE FROM ERROR, OR MEET SUBSCRIBER’S REQUIREMENTS; (B) ALL CONTENT AND OTHER INFORMATION OBTAINED BY SUBSCRIBER FROM OR IN CONNECTION WITH THE CHARGEPOINT SERVICES WILL BE ACCURATE AND RELIABLE; (C) ALL DEFECTS IN THE OPERATION OR FUNCTIONALITY OF THE CHARGEPOINT SERVICES WILL BE CORRECTED. ALL CONTENT OBTAINED THROUGH THE CHARGEPOINT SERVICES IS OBTAINED AT SUBSCRIBER’S OWN DISCRETION AND RISK, AND SUBSCRIBER WILL BE SOLELY RESPONSIBLE FOR ANY DAMAGE TO SUBSCRIBER’S COMPUTER SYSTEM OR OTHER DEVICE, LOSS OF DATA, OR ANY OTHER DAMAGE OR INJURY THAT RESULTS FROM THE DOWNLOAD OR USE OF ANY SUCH CONTENT.

8.2 EXCLUSION OF CONSEQUENTIAL AND RELATED DAMAGES. REGARDLESS OF WHETHER ANY REMEDY SET FORTH HEREIN FAILS OF ITS ESSENTIAL PURPOSE OR OTHERWISE, IN NO EVENT WILL CPI BE LIABLE FOR ANY LOST REVENUE OR PROFIT, LOST OR DAMAGED DATA, BUSINESS INTERRUPTION, LOSS OF CAPITAL, OR FOR SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL OR PUNITIVE DAMAGES, HOWEVER CAUSED AND REGARDLESS OF THE THEORY OF LIABILITY OR WHETHER ARISING OUT OF THE USE OF OR INABILITY TO USE THE CHARGEPOINT NETWORK, ANY CHARGEPOINT SERVICES, THIS AGREEMENT, A GRANT OR RECEIPT OF RIGHTS OR OTHERWISE OR BASED ON ANY EXPRESSED, IMPLIED OR CLAIMED WARRANTIES BY SUBSCRIBER NOT SPECIFICALLY SET FORTH IN THIS AGREEMENT.

8.3 ELECTRICAL, CELLULAR AND INTERNET SERVICE INTERRUPTIONS. Neither CPI nor Subscriber shall have any liability whatsoever to the other with respect to damages caused by: (i) electrical outages, power surges, brown-outs, utility load management or any other similar electrical service interruptions, whatever the cause; (ii) interruptions in wireless or cellular service linking Charging Stations to ChargePoint; (iii) interruptions attributable to unauthorized ChargePoint Network intrusions; (iv) interruptions in services provided by any Internet service provider not affiliated with CPI; or (v) the

inability of a Charging Station to access ChargePoint as a result of any change in product offerings (including, without limitation, the any network upgrade or introduction of any “next generation” services) by any wireless or cellular carrier. This includes the loss of data resulting from such electrical, wireless, cellular or Internet service interruptions.

8.4 LIMITATION OF LIABILITY. CPI’s aggregate liability under this Agreement shall not exceed aggregate Subscription Fees paid by Subscriber to CPI in the twelve (12) calendar months prior to the event giving rise to the liability.

8.5 CELLULAR CARRIER LIABILITY. IN ORDER TO DELIVER THE CHARGEPOINT SERVICES, CPI HAS ENTERED INTO CONTRACTS WITH ONE OR MORE UNDERLYING WIRELESS SERVICE CARRIERS (THE “UNDERLYING CARRIER”). SUBSCRIBER HAS NO CONTRACTUAL RELATIONSHIP WITH THE UNDERLYING CARRIER AND SUBSCRIBER IS NOT A THIRD PARTY BENEFICIARY OF ANY AGREEMENT BETWEEN CPI AND THE UNDERLYING CARRIER. SUBSCRIBER UNDERSTANDS AND AGREES THAT THE UNDERLYING CARRIER HAS NO LIABILITY OF ANY KIND TO SUBSCRIBER, WHETHER FOR BREACH OF CONTRACT, WARRANTY, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE. SUBSCRIBER AGREES TO INDEMNIFY AND HOLD HARMLESS THE UNDERLYING CARRIER AND ITS OFFICERS, EMPLOYEES, AND AGENTS AGAINST ANY AND ALL CLAIMS, INCLUDING WITHOUT LIMITATION CLAIMS FOR LIBEL, SLANDER, OR ANY PROPERTY DAMAGE, PERSONAL INJURY OR DEATH, ARISING IN ANY WAY, DIRECTLY OR INDIRECTLY, IN CONNECTION WITH USE, FAILURE TO USE, OR INABILITY TO USE THE WIRELESS SERVICES EXCEPT WHERE THE CLAIMS RESULT FROM THE UNDERLYING CARRIER’S GROSS NEGLIGENCE OR WILLFUL MISCONDUCT. THIS INDEMNITY WILL SURVIVE THE TERMINATION OF THE AGREEMENT. SUBSCRIBER HAS NO PROPERTY RIGHT IN ANY NUMBER ASSIGNED TO IT, AND UNDERSTANDS THAT ANY SUCH NUMBER CAN BE CHANGED. SUBSCRIBER UNDERSTANDS THAT CPI AND THE UNDERLYING CARRIER CANNOT GUARANTEE THE SECURITY OF WIRELESS TRANSMISSIONS, AND WILL NOT BE LIABLE FOR ANY LACK OF SECURITY RELATING TO THE USE OF THE CHARGEPOINT SERVICES.

8.6 ADDITIONAL RIGHTS. BECAUSE SOME STATES OR JURISDICITONS DO NOT ALLOW THE LIMITATION OR EXCLUSION OF CONSEQUENTIAL OR INCIDENTAL DAMAGES AND/OR THE DISCLAIMER OF IMPLIED WARRANTIES AS SET FORTH IN THIS SECTION 8, ONE OR MORE OF THE ABOVE LIMITATIONS MAY NOT APPLY; PROVIDED THAT, IN SUCH INSTANCES, CPI’S LIABILITY AND/OR IMPLIED WARRANTIES GRANTED IN SUCH CASES SHALL BE LIMITED TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW.

9. TERM, RENEWAL AND TERMINATION.

9.1 TERM OF AGREEMENT. This Agreement shall become effective on the Effective Date and shall continue until the expiration of all of Subscriber’s Cloud Plans.

9.2 CLOUD PLAN TERM. Each Cloud Plan acquired by Subscriber shall commence as follows: Each Cloud Plan acquired for use with a new Charging Station will commence on the earlier to occur of (i) the date of Provisioning such new Charging Station, or (ii) one year from the date the Token(s) necessary for Provisioning such new Charging Station is made available to Subscriber or its installer. Upon expiration of the original term, this Agreement will renew automatically for successive one-year terms at the list price applicable thereto, subject to increases (not to exceed 5% annually) and Subscriber’s right to terminate below. Should the renewal be cancelled and subsequently be requested to be reinstated by Subscriber, reinstatement will be subject to the payment of Subscription Fees for any lapse period plus reasonable reinstatement fee. If, however, at any time after the original term Subscriber wishes to terminate a Cloud Plan that has been automatically renewed, Subscriber may do so by providing CPI thirty (30) days’ written notice of cancellation and CPI will issue Subscriber a pro-rata refund of any funds paid for periods from the effective date of cancellation to the end of the auto-renewed term. Renewals of Cloud Plans will commence on the date of the expiration of the Subscription being renewed. All other Cloud Plans will commence on the date of activation of such Cloud Plans, but in no event more than one

year after the date the Token(s) necessary for such activation is made available to Subscriber. Each Subscriber Cloud Plan shall continue for the applicable duration thereof, unless this Agreement is terminated earlier in accordance with its terms.

9.3 TERMINATION BY CPI.

(a) This Agreement may be immediately terminated by CPI: (i) if Subscriber is in material breach of any of its obligations under this Agreement, and has not cured such breach within thirty (30) days (or within five (5) days in the case of any payment default) of Subscriber's receipt of written notice thereof; (ii) Subscriber becomes the subject of a petition in bankruptcy or any other proceeding related to insolvency, receivership, liquidation or an assignment for the benefit of creditors; (iii) upon the determination by any regulatory body that the subject matter of this Agreement is subject to any governmental regulatory authorization or review that imposes additional costs of doing business upon CPI; or (iv) as otherwise explicitly provided in this Agreement. Regardless of whether Subscriber is then in breach, CPI may, in its reasonable discretion, determine that it will not accept any renewal by Subscriber of its subscription to ChargePoint Services. In such case, this Agreement shall terminate upon the later of the expiration of all of Subscriber's subscriptions to ChargePoint Services.

(b) CPI may in its discretion suspend Subscriber's continuing access to the ChargePoint Services or any portion thereof if (A) Subscriber has breached any provision of this Agreement, or has acted in manner that indicates that Subscriber does not intend to, or is unable to, comply with any provision of this Agreement; (B) such suspension is required by law (for example, due to a change to the law governing the provision of the ChargePoint Services); or (c) providing the ChargePoint Services to Subscriber could create a security risk or material technical burden as reasonably determined by CPI.

9.4 TERMINATION BY SUBSCRIBER.

This Agreement may be immediately terminated by Subscriber without prejudice to any other remedy of Subscriber at law or equity: (i) if CPI is in material breach of any of its obligations under this Agreement, and has not cured such breach within thirty (30) days of the date of its receipt of written notice thereof, (ii) CPI becomes the subject of a petition in bankruptcy or any other proceeding related to insolvency, receivership, liquidation or an assignment for the benefit of creditors, or (iii) upon providing thirty (30) days prior written notice.

9.5 REFUND OR PAYMENT UPON TERMINATION. Upon any termination of this Agreement for cause by Subscriber pursuant to Section 9.4(i) or by CPI pursuant to Section 9.3(a)(iii), CPI shall refund to Subscriber a pro-rata portion of any pre-paid Subscription Fees based upon the remaining Cloud Plan term. Upon any termination for any other reason, Subscriber shall not be entitled to any refund of any Subscription Fees as a result of such termination. Except as otherwise set forth in this Agreement, in no event shall any termination relieve Subscriber of any unpaid Subscription Fees due CPI for the Cloud Plan term in which the termination occurs or any prior Cloud Plan term.

9.6 SURVIVAL. Those provisions dealing with the Intellectual Property Rights of CPI, limitations of liability and disclaimers, restrictions of warranty, Applicable Law and those other provisions which by their nature or terms are intended to survive the termination of this Agreement will remain in full force and effect as between the Parties hereto regardless of the termination of this Agreement.

10. INDEMNIFICATION. Subscriber hereby agrees to indemnify, defend and hold CPI, its officers, directors, agents, affiliates, distribution partners, licensors and suppliers harmless from and against any and all claims, actions, proceedings, costs, liabilities, losses and expenses (including, but not limited to, reasonable attorneys' fees) (collectively, "Claims") suffered or incurred by such indemnified parties

resulting from or arising out of Subscriber's actual or alleged use (directly, or through a grantee of Rights by Subscriber) of the ChargePoint Services, ChargePoint or Subscriber Content and Services. Subscriber will cooperate as fully as reasonably required in the defense of any claim. CPI reserves the right, at its own expense, to assume the exclusive defense and control of any matter subject to indemnification by Subscriber.

11. GENERAL.

11.1 AMENDMENT OR MODIFICATION. CPI reserves the right to modify this Agreement from time to time. CPI will provide notice of each such modification to Subscriber. Subscriber's continued use of the ChargePoint Services following such notice will constitute an acceptance of the modified Agreement.

11.2 WAIVER. The failure of either Party at any time to enforce any provision of this Agreement shall not be construed to be a waiver of the right of such Party to thereafter enforce that provision or any other provision or right.

11.3 FORCE MAJEURE. Except with respect to payment obligations, neither CPI nor Subscriber will be liable for failure to perform any of its obligations hereunder due to causes beyond such party's reasonable control and occurring without its fault or negligence, including but not limited to fire, flood, earthquake or other natural disaster (irrespective of such Party's condition of any preparedness therefore); war, embargo; riot; strike; labor action; any lawful order, decree, or other directive of any government authority that prohibits a Party from performing its obligations under this Agreement; material shortages; shortage of transport; and failures of suppliers to deliver material or components in accordance with the terms of their contracts.

11.4 ARBITRATION. This Agreement is to be construed according to the laws of the State of California, excluding the provisions of the United Nations Convention on Contracts for the International Sale of Goods and any conflict of law provisions that would require application of another choice of law. Except with respect to any matter relating to Subscriber's violation of the intellectual property rights of CPI, any dispute arising from or relating to this Agreement shall be arbitrated in Santa Clara, California. The arbitration shall be administered by JAMS in accordance with its Comprehensive Arbitration Rules and Procedures, and judgment on any award may be entered in any court of competent jurisdiction. If the Parties agree, a mediator may be consulted prior to arbitration. All claims shall be brought in the parties' individual capacity, and not as a plaintiff or class member in any purported class or representative proceeding. With respect to any matter relating to the intellectual property rights of CPI, such claim may be litigated in a court of competent jurisdiction. The prevailing party in any dispute arising out of this Agreement shall be entitled to reasonable attorneys' fees and costs.

11.5 NOTICE TO CALIFORNIA CUSTOMERS.

(a) California's Low Carbon Fuel Standard ("LCFS") was enacted to ensure that the mix of fuels sold by California oil refiners and distributors meets applicable greenhouse gas emissions targets. California has a statewide goal to reduce carbon intensity of transportation fuels by at least 10% by 2020.

(b) The ChargePoint Network can track the fueling of electric vehicles, which positively contributes to reducing California's carbon intensity. If applicable reporting requirements are met, LCFS credits are issued by the California Air Resources Board. An available LCFS credit may be claimed by certain owners and operators of electric vehicle charging stations, including both Subscriber and CPI. However, the LCFS credits are only available to one party, meaning any available credits may be claimed by either Subscriber or CPI, but not by both. CPI intends to claim available LCFS credits generated from use of the Charging Stations, but will not claim any available LCFS credits that Subscriber intends to claim.

If Subscriber intends to claim the LCFS credits, it must engage in the reporting and other administrative obligations necessary to generate such credits.

(c) Subscriber agrees that it will provide CPI with written notice of its intent to claim LCFS credits within ten (10) days of the date of the Effective Date. If Subscriber does not currently intend to claim the LCFS credits, but desires to do so at any time in the future, Subscriber may, by providing written notice to CPI, elect to claim LCFS credits generated thirty (30) days or more after the date of such notice. Subscriber represents and warrants to CPI that, in the absence of providing written notice, Subscriber will not claim any LCFS credits. All notices shall be provided by email to CPI at lcsnotification@chargepoint.com.

11.6 NOTICE TO OREGON CUSTOMERS

(a) Oregon's Clean Fuel Program ("OCFP") was created with the purpose of reducing greenhouse gas emissions in the transportation sector.

(b) The fueling of electric vehicles, and the operation of the ChargePoint Network, contributes to reducing Oregon's greenhouse gas emissions and is eligible for OCFP credits, which are issued by the Oregon Department of Environmental Quality. By reporting the amount of electric vehicle fueling, ChargePoint is able to help Oregon track the growing use of electric vehicles in the state, for which ChargePoint will receive OCFP credits.

(c) An available OCFP credit may be claimed by certain owners and operators of electric vehicle charging stations, including both Subscriber and CPI. However, the OCFP credits are only available to one party. This means any available credits may be claimed by either Subscriber or CPI, but not by both. CPI intends to claim available OCFP credits generated from use of the Charging Stations, but will not claim any available OCFP credits that Subscriber intends to claim.

(d) Subscriber agrees that it will provide CPI with written notice of its intent to claim OCFP credits within ten (10) days of the date of the Effective Date. If Subscriber does not currently intend to claim the OCFP credits, but desires to do so at any time in the future, Subscriber may, by providing written notice to CPI, elect to claim OCFP credits generated thirty (30) days or more after the date of such notice. Subscriber represents and warrants to CPI that, in the absence of providing written notice, Subscriber will not claim any OCFP credits. All notices shall be provided by email to CPI at lcsnotification@chargepoint.com.

11.7 NOTICES. Other than the notices required in Sections 11.5 and 11.6, any notice required or permitted by this Agreement shall be sent (a) if by CPI, via electronic mail to the address indicated by Subscriber in Subscriber's ChargePoint Services account; or (b) if by Subscriber, via electronic mail to mssa@chargepoint.com.

11.8 INJUNCTIVE RELIEF. Subscriber acknowledges that damages for improper use of the ChargePoint Services may be irreparable; therefore, CPI is entitled to seek equitable relief, including but not limited to preliminary injunction and injunction, in addition to all other remedies.

11.9 SEVERABILITY. Except as otherwise specifically provided herein, if any term or condition of this Agreement or the application thereof to either Party will to any extent be determined jointly by the Parties or by any judicial, governmental or similar authority, to be invalid or unenforceable, the remainder of this Agreement, or the application of such term or provision to this Agreement, the Parties or circumstances other than those as to which it is determined to be invalid or unenforceable, will not be affected thereby.

11.10 ASSIGNMENT. Subscriber may not assign any of its rights or obligations hereunder, whether by operation of law or otherwise, without the prior written consent of CPI (not to be unreasonably withheld). In the event of any purported assignment in breach of this Section, CPI shall be entitled, at its sole discretion, to terminate this Agreement upon written notice given to Subscriber. Subject to the foregoing, this Agreement shall bind and inure to the benefit of the parties, their respective successors and permitted assigns. CPI may assign its rights and obligations under this Agreement.

11.11 NO AGENCY OR PARTNERSHIP. CPI, in the performance of this Agreement, is an independent contractor. In performing its obligations under this Agreement, CPI shall maintain complete control over its employees, its subcontractors and its operations. No partnership, joint venture or agency relationship is intended by CPI and Subscriber to be created by this Agreement. Neither Party has any right or authority to assume or create any obligations of any kind or to make any representation or warranty on behalf of the other Party, whether express or implied, or to bind the other Party in any respect whatsoever.

11.12 ENTIRE AGREEMENT. This Agreement (including the attached Exhibits) contains the entire agreement between the Parties with respect to the subject matter hereof and supersedes and cancels all previous and contemporaneous agreements, negotiations, commitments, understandings, representations and writings. All purchase orders issued by Subscriber shall state that such purchase orders are subject to all of the terms and conditions of this Agreement, and contain no other term other than the type of Cloud Plan, the number of Charging Stations for which such Cloud Plan is ordered, the term of such Cloud Plans and applicable Subscription Fees. To the extent of any conflict or inconsistency between the terms and conditions of this Agreement and any purchase order, the Agreement shall prevail. Notwithstanding any language to the contrary therein, no terms or conditions stated in any other documentation shall be incorporated into or form any part of this Agreement, and all such purported terms and conditions shall be null and void.

11.13 COPYRIGHT POLICIES. It is CPI's policy to respond to notices of alleged copyright infringement that comply with applicable international intellectual property law (including, in the United States, the Digital Millennium Copyright Act) and to terminate the accounts of repeat infringers.

11.14 THIRD PARTY RESOURCES. The ChargePoint Services may include hyperlinks to other websites or resources. CPI has no control over any web sites or resources that are provided by companies or persons other than CPI. Subscriber acknowledges and agrees that CPI is not responsible for the availability of any such web sites or resources, CPI does not endorse any advertising, products or other materials on or available from such web sites or resources, and CPI is not liable for any loss or damage that may be incurred by Subscriber as a result of any reliance placed by Subscriber on the completeness, accuracy or existence of any advertising, products, or other materials on, or available from, such websites or resources.

11.15 COUNTERPARTS. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which, taken together, shall constitute but one and the same document.

11.16 ENGLISH LANGUAGE AGREEMENT GOVERNS. Where CPI has provided Subscriber with a translation of the English language version of this Agreement, Subscriber agrees that the translation is provided for Subscriber's convenience only and that the English language version of this Agreement governs Subscriber's relationship with CPI. If there is any conflict between the English language version of this Agreement and such translation, the English language version will prevail.

Subscriber:

ChargePoint, Inc.

Name: _____

Name: Jonathan Kaplan

Title:

Title: General Counsel

Date: _____

Date: _____

Address:

Address:
254 E. Hacienda Ave
Campbell, CA 95008

EXHIBIT 1
FLEX BILLING TERMS

This Exhibit sets forth certain additional terms and conditions (“Flex Billing Terms”) pursuant to which Subscriber may charge Users fees for the use of Subscriber’s Charging Stations. In order to charge such fees, Subscriber must subscribe to a Cloud Plan that includes CPI’s management, collection and/or processing services related to such fees (“Flex Billing”).

1. DEFINITIONS. The following additional defined terms shall apply to these Flex Billing Terms:

1.1 “CPI Fees” means a fee, currently equal to ten percent (10%) of Session Fees, charged for a particular Session. CPI Fees are charged by CPI in exchange for its collection and processing of Session Fees on behalf of Subscriber. CPI will provide Subscriber with thirty (30) days prior written notice (which may include, without limitation, notice provided by CPI through its regular newsletter to Subscriber) of any increase in CPI Fees.

1.2 “Net Session Fees” means the total amount of Session Fees collected on behalf of the Subscriber by CPI, less CPI Fees and Taxes, if any, required by law to be collected by CPI from Users in connection with the use of Charging Stations. Except as required by law, Subscriber shall be responsible for the payment of all Taxes incurred in connection with use of Subscriber’s Charging Stations.

1.3 “Session” or “Charging Session” means the period of time during which a User uses Subscriber’s Charging Station to charge his or her electric vehicle for a continuous period of time not less than two (2) minutes commencing when a User has accessed such Charging Station and ending when such User has terminated such access.

1.4 “Session Fees” means the fees set by the Subscriber for a Charging Session, inclusive of any applicable Taxes.

2. FLEX-BILLING SERVICE FOR CHARGING STATIONS.

2.1. SESSION FEES. Subscriber shall have sole authority to determine and set Session Fees. Subscriber shall be solely responsible for determining and charging Session Fees in compliance with all applicable laws and regulations (including without limitation any restriction on Subscriber’s use of per-kWh pricing). Subscriber acknowledges that CPI is not responsible for informing Subscriber of applicable laws or changes thereto, and CPI will not be liable to Subscriber or any third party for any alleged or actual failure of Subscriber to comply with such applicable laws and regulations.

2.2 DEDUCTIONS FROM SESSION FEES. In exchange for CPI collecting Session Fees on behalf of the Subscriber, the Subscriber hereby authorizes CPI to deduct from all Session Fees collected: (i) CPI Fees and (ii) to the extent required by Section 3, applicable Taxes.

2.3 PAYMENT TO SUBSCRIBER OF NET SESSION FEES. CPI will remit Net Session Fees to Subscriber, not less than quarterly, provided that the amount due to Subscriber hereunder is at least two hundred and fifty U.S. Dollars (\$250) (or, if Subscriber is located in Canada, two hundred and fifty Canadian dollars) or more. Notwithstanding, the foregoing, CPI shall remit any unpaid Net Session Fees, regardless of the amount, to Subscriber at least annually and within thirty (30) days of the expiration or termination

of this Agreement. All payments shall be made by ACH. In order to facilitate such payments, Subscriber agrees to provide to CPI, or its payment provider, Subscriber's bank information to enable electronic remittance of the Net Session Fees. If the Subscriber requests payment in a manner other than ACH (e.g., check or wire transfer), Subscriber agrees to bear the reasonable costs related to such request.

3. TAXES. If applicable, Subscriber is responsible for setting pricing on a Tax inclusive basis. CPI is not responsible for remittance of any Taxes on behalf of Subscriber and Subscriber shall be responsible to report and remit any and all applicable taxes whether state, federal, provincial or otherwise; provided that CPI is solely responsible for all Taxes assessable based on CPI's income, property and employees. Where CPI is required by law to collect and/or remit the Taxes for which Subscriber is responsible, the appropriate amount shall be invoiced to Subscriber and deducted by CPI from Session Fees, unless Subscriber has otherwise provided CPI with a valid tax or regulatory exemption certificate or authorization from the appropriate taxing or regulatory authority.

EXHIBIT 2
API TERMS

This Exhibit sets forth certain additional terms and conditions (“API Terms”) governing Subscriber’s use of the APIs in connection with Subscriber’s use of the ChargePoint Services. The API Terms are part of the Agreement, and all such use of the APIs remains subject to the Agreement terms.

1. **ADDITIONAL DEFINITIONS.** The following additional definitions shall apply to the API Terms.

1.1 **“API Implementation”** means a Subscriber software application or website that uses any of the APIs to obtain and display Content in conjunction with Subscriber Content and Services.

1.2 **“API Documentation”** means all Documentation containing instructions, restrictions or guidelines regarding the APIs or the use thereof, as amended and/or supplemented by CPI from time to time.

1.3 **“CPI Site Terms”** means the Terms and Conditions displayed on CPI’s website, governing use of CPI’s website and the ChargePoint Services by visitors who are not Cloud Plan subscribers.

2. **API USE.** Subscriber may use the APIs as and to the extent permitted by Subscriber’s Cloud Plan and the API Documentation, subject to the terms and conditions of the Agreement.

2.1 **AVAILABLE APIs AND FUNCTION CALLS.** The APIs give Subscriber access to information through a set of function calls. The particular APIs and API function calls made available by CPI from time to time (and the Content available through such APIs and function calls) will be limited by Subscriber’s Cloud Plan, and Subscriber’s particular Cloud Plan may not include all APIs and function calls then available from CPI.

2.2 **USE AND DISPLAY OF CONTENT.** Subscriber is permitted to access, use and publicly display the Content with Subscriber Content and Services in Subscriber’s API Implementation, subject to the following requirements and limitations.

(a) All Charging Station locations provided to Subscriber as part of the Content shall be clearly identified by Subscriber in Subscriber’s API Implementation as ChargePoint® Network Charging Stations and shall contain the Brand Identifiers required by the API Documentation. In no event shall Subscriber’s API Implementation identify or imply that any Charging Station is a part of any network of charging stations other than ChargePoint.

(b) Subscriber shall keep the Content used by Subscriber’s API Implementation current with Content obtained with the APIs to within every forty eight (48) hours.

(c) Content provided to Subscriber through the APIs may contain the trade names, trademarks, service marks, logos, domain names, and other distinctive brand features of CPI’s business partners and/or other third party rights holders of Content indexed by CPI, which may not be deleted or altered in any manner.

(d) Subscriber shall not:

(i) pre-fetch, cache, or store any Content, except that Subscriber may store limited amounts of Content for the purpose of improving the performance of Subscriber's API Implementation if Subscriber does so temporarily, securely, and in a manner that does not permit use of the Content outside of the ChargePoint Service;

(ii) hide or mask from CPI the identity of Subscriber's service utilizing the APIs, including by failing to follow the identification conventions listed in the API Documentation; or

(iii) defame, abuse, harass, stalk, threaten or otherwise violate the legal rights (such as rights of privacy and publicity) of others.

2.3 REQUIRED INFORMATION. Subscriber must:

(a) display to all viewers and users of Subscriber's API Implementation the link to the CPI Site Terms and Conditions as presented through the ChargePoint Services or described in the Documentation;

(b) explicitly state in the use terms governing Subscriber's API Implementation that, by using Subscriber's API Implementation, such viewers and users are agreeing to be bound by the CPI Site Terms; and

(c) include in Subscriber's API Implementation, and abide by, a privacy policy complying with all applicable laws; and

(d) comply with all applicable laws designed to protect the privacy and legal rights of users of Subscriber's API Implementation.

2.4 REPORTING. Subscriber must implement reporting mechanisms, if any, that CPI requires in the API Documentation.

3. CPI BRANDING REQUIREMENTS AND RESTRICTIONS.

3.1 MANDATORY CPI BRANDING. Subject to Section 3.2 below and the restrictions on use of CPI Marks set forth in the Agreement, Subscriber agrees that each page comprising Subscriber's API Implementation will include a ChargePoint logo and will state that Subscriber's application or website is provided, in part, through the ChargePoint Services.

3.2 RESTRICTIONS. Subscriber shall not:

(a) display any CPI Mark as the most prominent element on any page in Subscriber's API Implementation or Subscriber's website (except as used in connection with the display of Charging Stations); or

(b) display any CPI Mark anywhere in Subscriber's API Implementation or on Subscriber's website if Subscriber's API Implementation or website contains or displays adult content or promotes illegal activities, gambling, or the sale of tobacco or alcohol to persons under twenty-one (21) years of age.

EXHIBIT 3
TERMS REGARDING GRANTING OF RIGHTS

This Exhibit sets forth certain additional terms and conditions applicable to Rights Grantors and Rights Grantees regarding the granting of Rights (“Rights Terms”). The Rights Terms are part of the Agreement, and all use of the ChargePoint Services permitted pursuant to the Rights Terms remains subject to the Agreement.

1. **ADDITIONAL DEFINITIONS.** The following additional definitions shall apply.

1.1 **“Rights Grantor”** means Subscriber.

1.2 **“Rights Grantee”** means any person to whom Subscriber has granted Rights. For purposes of this Agreement, a Subscriber shall be deemed to have granted Rights to the entity assisting Subscriber with creating its account and initiating Subscriber’s access to Services.

2. **TERMS.** This Section governs Subscriber’s granting of Rights as a Rights Grantor.

2.1 **LIMITED RIGHTS.** A Rights Grantee’s right to access and use the ChargePoint Services for and on behalf of a Rights Grantor is limited to the specific Rights granted by such Rights Grantor to such Rights Grantee. Such Rights may be limited according to the Cloud Plan(s) subscribed to by Subscriber. Subscriber may revoke Rights, or any portion thereof, it has granted to a Rights Grantee at will and such Rights will thereafter be terminated with respect to such Rights Grantee. In no event may Subscriber grant Rights in excess of those provided to it through the Cloud Plan(s) to which it has subscribed.

2.2 **RESPONSIBILITY FOR AUTHORIZED USER.** All use of the ChargePoint Services by a Rights Grantee exercising Rights granted by Subscriber shall be subject to the terms and conditions of the Agreement (including without limitation Subscriber’s indemnification obligation pursuant to Section 10 thereof). Subscriber shall be responsible for the actions, omissions, or performance of such Rights Grantee while exercising any such Rights, as if such action, omission or performance had been committed by Subscriber directly.

2.3 **NO AGREEMENT.** Subscriber acknowledges and agrees that the ChargePoint Services merely enable a Rights Grantor to extend Rights to Rights Grantees. The mere extension of such Rights by a Rights Grantor to a Rights Grantee does not constitute an agreement between Rights Grantor and the Rights Grantee with respect to the granted Rights or the exercise of such Rights by the Rights Grantee. CPI does not, either through the terms of the Agreement or the provision of ChargePoint Services undertake to provide any such agreement. It is the responsibility of the Rights Grantor and the Rights Grantee to enter into such an agreement on terms mutually acceptable to each. CPI expressly undertakes no liability with respect to such an agreement and Rights Grantor fully and unconditionally releases CPI from any liability arising out of such an agreement. Further Rights Grantor agrees to indemnify and hold CPI, its officers, directors, agents, affiliates, distribution partners, licensors and suppliers harmless from and against any and all claims, actions, proceedings, costs, liabilities, losses and expenses (including, but not limited to, reasonable attorneys’ fees) (collectively, “Claims”) suffered or incurred by such indemnified parties resulting from or arising out of such agreement.

CHARGEPOINT ASSURE

TERMS AND CONDITIONS OF SERVICE

Welcome to ChargePoint Assure. ChargePoint Assure is a full service maintenance and support program designed specifically for ChargePoint customers.

1. **WHAT IS COVERED:** With ChargePoint Assure, ChargePoint agrees to do each of the following:
 - a. Ensure that all parts are provided and labor is performed, on-site if necessary, to correct any defect in the materials or workmanship of electric vehicle charging stations purchased from ChargePoint, Inc., or its representatives (“Charging Stations”) in a prompt and professional manner.
 - b. Provide remote, automated monitoring of your Charging Stations.
 - c. Perform triage with respect to any Charging Station that may be defective.
 - d. Coordinate all repairs necessary to have your Charging Station back up and running.
 - e. Ensure that you are provided response no later than one business day from the date ChargePoint becomes aware of an issue.
 - f. Begin onsite repairs within one business day from the delivery of any parts required to fix your Charging Station.
 - g. ChargePoint will provide software moves, adds and changes at no additional cost
 - h. ChargePoint guarantees a 98% annual station uptime with a prorated refund of up to the annual station Assure maintenance fee for outages caused by station hardware or software failures in excess of 2% annually
 - i. ChargePoint will provide standard monthly summary and quarterly detailed station usage and performance metrics.
 - j. ChargePoint will cover the labor portion of non-cosmetic station repairs caused by vandalism, auto accidents or excessive wear and tear.
2. **WHAT IS NOT COVERED:** ChargePoint undertakes no responsibility with respect to repairing, replacing, monitoring or servicing anything other than your Charging Stations. This means, for example, that ChargePoint is not responsible for the physical mounting and electrical wiring of your Charging Stations or for the performance of any cellular or Wi-Fi repeaters or other devices installed in connection with your Charging Stations.
3. **CUSTOMER RESPONSIBILITIES:** In order to perform its obligations under ChargePoint Assure, ChargePoint needs your cooperation. Specifically, you agree to:
 - a. Provide reasonable access to ChargePoint or its designee as necessary for the performance of ChargePoint’s obligations.
 - b. Permit ChargePoint to access the Charging Stations remotely by maintaining a separately purchased Cloud Services subscription necessary for remote access.
 - c. Maintain your premises in accordance with all applicable laws, rules and regulations.
 - d. Keep the areas in which Charging Stations are located in a clean, safe and orderly condition, to at least the same standard as you customarily use to maintain the remainder of your premises.
 - e. Promptly notify ChargePoint of any suspected defect with a Charging Station.
4. **WHO IS ELIGIBLE FOR CHARGEPOINT ASSURE?:** ChargePoint Assure is only available to purchasers of Charging Stations who purchase ChargePoint Assure and either: 1) use a ChargePoint Operations and Maintenance Partner (“O&M Partner”) to install their Charging Stations or 2) successfully complete a site validation as described below.

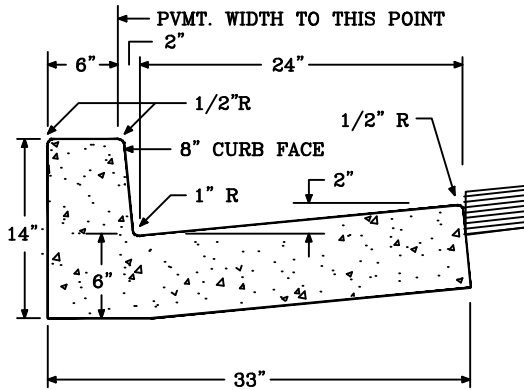
- a. **ChargePoint O&M Partner Installation.** For information on how to contact a ChargePoint O&M Partner, please contact your ChargePoint sales representative or authorized ChargePoint reseller for more details.
 - b. **Site Validation:** If you do not use an O&M Partner to install your Charging Station, you still will be eligible for ChargePoint Assure after your installation has been validated by ChargePoint or an authorized third party. The purpose of the site validation is to ensure that your Charging Stations were installed correctly, in accordance with ChargePoint's recommended specifications and operational requirements. Site validations require the payment of ChargePoint's then current fee, charged on a "per site" basis. For these purposes, a "site" is defined as any group of Charging Stations whose circuits are terminated at the same power panel.
5. **EXCLUSIONS FROM COVERAGE:** ChargePoint's obligations under ChargePoint Assure shall not apply to defects or service repairs resulting from the following:
- a. Cosmetic damage such as scratches and dents.
 - b. Normal aging.
 - c. Except as provided in 1(j) above, abuse, vandalism, damage or other problems caused by accidents or negligence (including but not limited to physical damage from being struck by a vehicle), or use of the Charging Station in a way other than as specified in the applicable Charge Point documentation.
 - d. Installation, alteration, modification or relocation of the Charging Station that was not approved in writing by ChargePoint, performed by an O&M Partner or validated in the manner described above.
 - e. Use of the Charging Station with software, interfacing, parts or supplies not supplied by ChargePoint.
 - f. Damage as a result of extreme power surge, extreme electromagnetic field or any other acts of nature.
- In addition ChargePoint's obligations under ChargePoint Assure shall not apply to any Charging Station that was not installed by a ChargePoint O&M Partner or a ChargePoint certified installer pursuant to the provisions of Section 4 of these Terms and Conditions.
6. **CONTACT INFORMATION:** If at any time during the term of your coverage of ChargePoint Assure you believe you have a defective Charging Station, contact Customer Service at 1-877-850-4562 or support@chargepoint.com.
7. **SERVICE TERM:** If you comply with the installation requirements described in Section 4, and purchase ChargePoint Assure, you will receive, ChargePoint Assure coverage that will replace your standard ChargePoint Warranty and will last for the remainder of the standard Warranty period, if any. You may purchase extensions to your ChargePoint Assure coverage. The extension period will begin on the date your standard Exchange Warranty expires or, if applicable, the date that any extensions to ChargePoint Assure coverage that you have previously purchased expire. Please contact your ChargePoint sales representative or authorized ChargePoint reseller for more details.
8. **PAYMENTS:** ChargePoint will send you an invoice for the ChargePoint Assure coverage that you order. Payment is due within thirty (30) days of the invoice date. If you have purchased extended ChargePoint Assure coverage and have chosen the annual payment option, ChargePoint will invoice each annual payment on the anniversary date of your Assure coverage. All payments shall be made in U.S. Dollars and may be made by check, wire transfer, ACH payment system or other means approved by ChargePoint. Customer may not offset any amounts due to ChargePoint hereunder against amounts due to Customer under this Agreement or any other agreement. Fees payable to ChargePoint do not include any Taxes, and Subscriber is responsible for any and all such Taxes. All payment obligations under this Agreement are non-cancelable and non-refundable. Late payments shall be subject to a charge equal to the lesser of (i) one and one-half percent (1.5%) per month or (ii) the maximum rate permitted by law. Customer will reimburse ChargePoint for attorneys' fees and other expenses reasonably incurred by ChargePoint in the collection of any late payments. If any amount owing by you under this Agreement is more than thirty (30) days overdue, ChargePoint may, without otherwise limiting ChargePoint's rights or remedies, (a) terminate this Agreement and (b) refuse to provide ChargePoint Assure coverage until ChargePoint has received payment in full.

9. **TRANSFERS:** Your ChargePoint Assure coverage applies only to the Charging Stations and installation site for which it was purchased. If you sell or otherwise transfer your Charging Stations, your ChargePoint Assure coverage may not be transferred without ChargePoint's prior written consent.
10. **REPLACEMENT PARTS AND STATIONS:** Replacement parts or charging stations provided by ChargePoint under ChargePoint Assure may be remanufactured or reconditioned parts or Charging Stations or, if the exact Charging Station is no longer manufactured by ChargePoint, a Charging Station with substantially similar functionality. All replaced parts and Charging Stations, whether under warranty or not, become the property of ChargePoint. Any replacement parts or Charging Stations so furnished will be covered by ChargePoint Assure for the remainder of your ChargePoint Assure coverage or ninety (90) days from the date of delivery of such replacement parts or Charging Stations, whichever is later.
11. **LIMITS ON LIABILITY:** This section limits ChargePoint's liability under ChargePoint Assure. Please read it carefully.
 - a. CHARGEPOINT IS NOT LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION LOST PROFITS, LOST BUSINESS, LOST DATA, LOSS OF USE, OR COST OF COVER INCURRED BY YOU ARISING OUT OF OR RELATED TO YOUR PURCHASE OR USE OF, OR INABILITY TO USE, THE CHARGING STATION, UNDER ANY THEORY OF LIABILITY, WHETHER IN AN ACTION IN CONTRACT, STRICT LIABILITY, TORT (INCLUDING NEGLIGENCE) OR OTHER LEGAL OR EQUITABLE THEORY, EVEN IF CHARGEPOINT KNEW OR SHOULD HAVE KNOWN OF THE POSSIBILITY OF SUCH DAMAGES. IN ANY EVENT, THE CUMULATIVE LIABILITY OF CHARGEPOINT FOR ALL CLAIMS WHATSOEVER RELATED TO PERFORMANCE BY CHARGEPOINT OF ITS OBLIGATIONS UNDER CHARGEPOINT ASSURE WILL NOT EXCEED THE PRICE YOU PAID FOR CHARGEPOINT ASSURE. THE LIMITATIONS SET FORTH HEREIN ARE INTENDED TO LIMIT THE LIABILITY OF CHARGEPOINT AND SHALL APPLY NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY LIMITED REMEDY.
 - b. Some states or jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.
12. **ARBITRATION:** These ChargePoint Assure Terms and Conditions of Service are to be construed according to the laws of the State of California, excluding the provisions of the United Nations Convention on Contracts for the International Sale of Goods and any conflict of law provisions that would require application of another choice of law. Any dispute arising from or relating to these ChargePoint Assure Terms and Conditions of Service shall be arbitrated in Santa Clara, California. The arbitration shall be administered by JAMS in accordance with its Comprehensive Arbitration Rules and Procedures, and judgment on any award may be entered in any court of competent jurisdiction. If the parties agree, a mediator may be consulted prior to arbitration. All claims shall be brought in the parties' individual capacities, and not as a plaintiff or class member in any purported class or representative proceeding.
13. **AMENDMENT OR MODIFICATION:** These ChargePoint Assure Terms and Conditions of Service may not be amended or modified except pursuant to a writing executed by each of the parties.
14. **WAIVER:** The failure of either Party at any time to enforce any provision of this Agreement shall not be construed to be a waiver of the right of such Party to thereafter enforce that provision or any other provision or right.
15. **FORCE MAJEURE:** ChargePoint will not be liable for failure to perform any of its obligations hereunder due to causes beyond its reasonable control and occurring without its fault or negligence, including but not limited to fire, flood, earthquake or other natural disaster (irrespective of ChargePoint's condition of any preparedness therefore); war, embargo; riot; strike; labor action; any lawful order, decree, or other directive of any government authority that prohibits ChargePoint from performing its obligations under this Agreement; material shortages; shortage of transport; and failures of suppliers to deliver material or components in accordance with the terms of their contracts.

16. **SEVERABILITY.** Except as otherwise specifically provided herein, if any term or condition of this Agreement or the application thereof to either Party will to any extent be determined jointly by the Parties or by any judicial, governmental or similar authority, to be invalid or unenforceable, the remainder of this Agreement, or the application of such term or provision to this Agreement, the Parties or circumstances other than those as to which it is determined to be invalid or unenforceable, will not be affected thereby.
17. **ASSIGNMENT.** You may not assign any of its rights or obligations hereunder, whether by operation of law or otherwise, without the prior written consent of ChargePoint. In the event of any purported assignment in breach of this Section 17, ChargePoint shall be entitled, at its sole discretion, to terminate these ChargePoint Assure Terms and Conditions of Service by providing written notice to you. Subject to the foregoing, this Agreement shall bind and inure to the benefit of the parties, their respective successors and permitted assigns. ChargePoint may assign its rights and obligations under this Agreement.
18. **ENTIRE AGREEMENT.** This Agreement contains the entire agreement between the parties with respect to the subject matter hereof and supersedes and cancels all previous and contemporaneous agreements, negotiations, commitments, understandings, representations and writings. To the extent of any conflict or inconsistency between these ChargePoint Assure Terms and Conditions of Service and any purchase order, the Agreement shall prevail.
19. **COUNTERPARTS.** This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which, taken together, shall constitute but one and the same document.

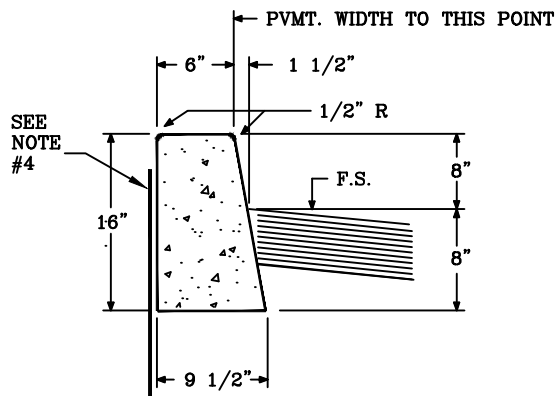


CITY OF IRVINE PUBLIC WORKS



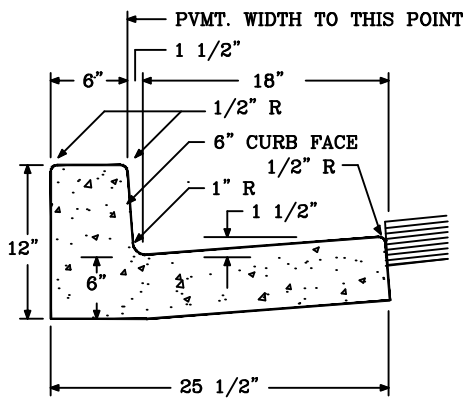
CONC. PER L.F. = .0645 CU. YDS.
1 CU. YD. = 15.5 L.F.

TYPE "A-2"



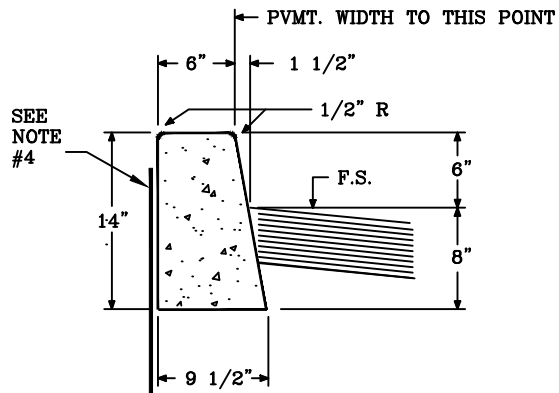
CONC. PER L.F. = .0319 CU. YDS.
1 CU. YD. = 31.3 L.F.

TYPE "B-8"



CONC. PER L.F. = .0505 CU. YDS.
1 CU. YD. = 19.8 L.F.

TYPE "D"



CONC. PER L.F. = .0279 CU. YDS.
1 CU. YD. = 35.8 L.F.

TYPE "B-6"

CONCRETE CURBS AND GUTTERS

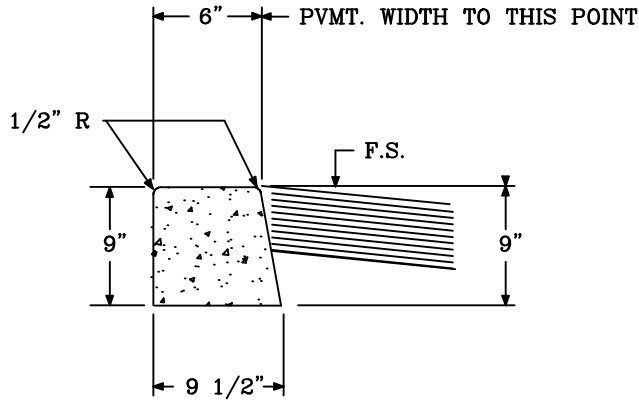
**STD. PLAN
200
SHEET 1 OF 2**

Mark Carroll
MARK CARROLL, R.C.E. 31515
CITY OF IRVINE - CITY ENGINEER

AUGUST 2013
DATE



CITY OF IRVINE PUBLIC WORKS



CONC. PER L.F. = .0161 CU. YDS.
1 CU. YD. = 62.1 L.F.

TYPE "C-6"

NOT TO BE USED ON PUBLIC STREET R/W

NOTES :

1. ALL CURBS AND GUTTERS SHALL BE PORTLAND CEMENT CONCRETE. CONTROL
2. WEAKENED PLANE JOINTS PURSUANT TO SECTION 303-5.4.3 OF THE GREENBOOK (EXCEPTION: MAX. 10 FOOT INTERVALS)
3. PAVEMENT SHALL BE 3/8 INCH HIGHER THAN EDGE OF GUTTER ON TYPE "A-2" AND TYPE "D".
4. MOISTURE BARRIERS SHALL BE REQUIRED IN ACCORDANCE WITH STD. PLAN No. 222.

CONCRETE CURBS AND GUTTERS

STD. PLAN
200

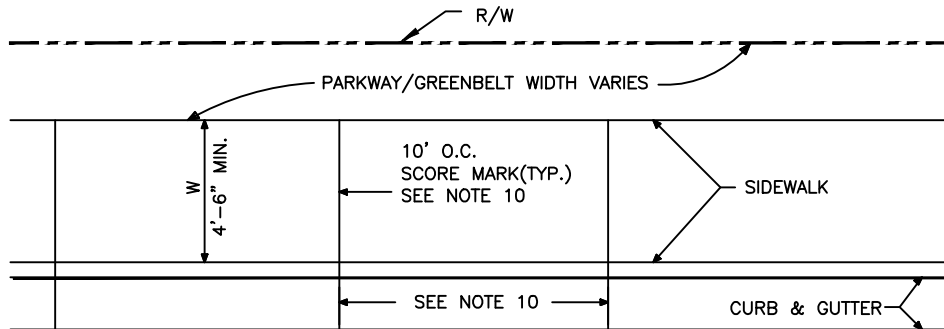

MARK CARROLL, R.C.E. 31515
CITY OF IRVINE - CITY ENGINEER

AUGUST 2013
DATE

SHEET 2 OF 2

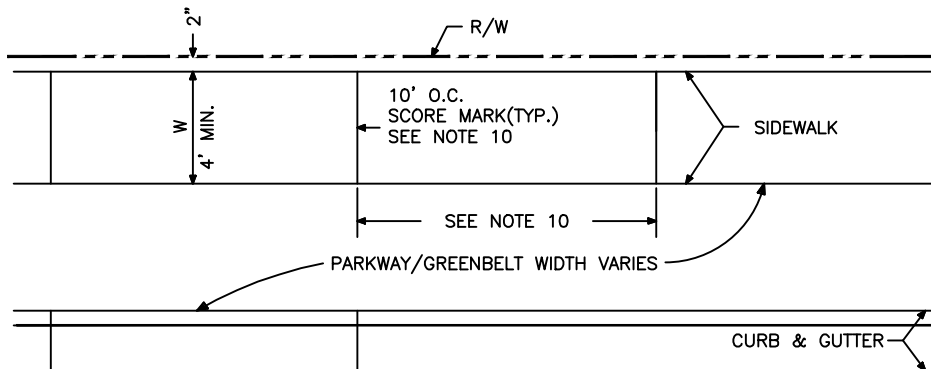


CITY OF IRVINE PUBLIC WORKS



Notes:

1. Thickness of sidewalk shall be 4-inches except in driveway aprons (See City Standard Plan 204, 205 and/or 206). For sidewalk locations with the need for maintenance vehicle use, a recommended pavement structural section shall be submitted and approved by the City Engineer.
2. Curb and gutter should have 2" deep weakened plane joints at the ends of curb returns and score marks at intervals shown hereon pursuant to Section 303-5.4.3 of the Greenbook. Plastic control joints are not allowed. Joints shall have edges with 1/8-inch radii.
3. See curb return (Standard Plan 202) and driveway standards (Standard Plan 204, 205, and 206) for additional control joint requirements.
4. Sidewalk shall be Portland Cement Concrete in accordance with Standard Plan 405.
5. All soils shall be brought to maximum saturation as required in the approved soils report. The soils engineers shall provide certification on the form provided by the City stating the moisture content has been maintained as required prior to and during the placement of concrete. In hillside areas, soil shall be saturated as recommended by the soils engineer and approved by the City Engineer.
6. Sidewalks are required on the side of streets where parking is allowed. Where no parking is allowed, pedestrian circulation shall be provided with a sidewalk or a parkway/greenbelt.
7. Pre-emergent weed killer must be applied prior to construction of sidewalk.
8. See Standard Plan 222 for moisture barrier requirements.
9. Curing compound is required in accordance with the Standard Specifications for Public Works Construction, latest edition.
10. For sidewalks greater than 8-feet wide, additional score marks, aggregate base material, and/or re-bar may be required based upon Geotechnical Engineer recommendation and approval by the City Engineer.
11. 1-1/2-inch deep weakened plane joints on exposed aggregate finishes are allowed.



SIDEWALK DETAIL

**STD. PLAN
201**

Mark Carroll
MARK CARROLL, R.C.E. 31515
CITY OF IRVINE - CITY ENGINEER

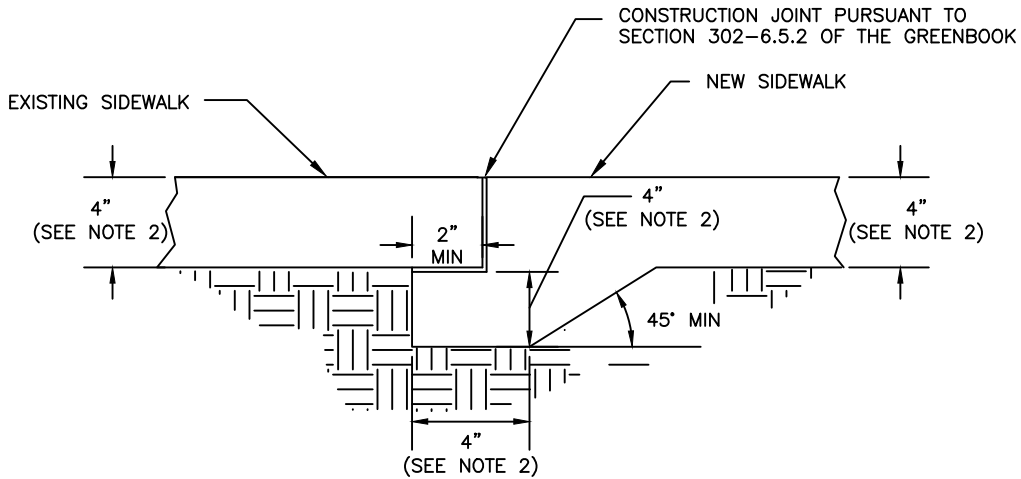
AUGUST 2013
DATE

SHEET 1 OF 2



CITY OF IRVINE PUBLIC WORKS

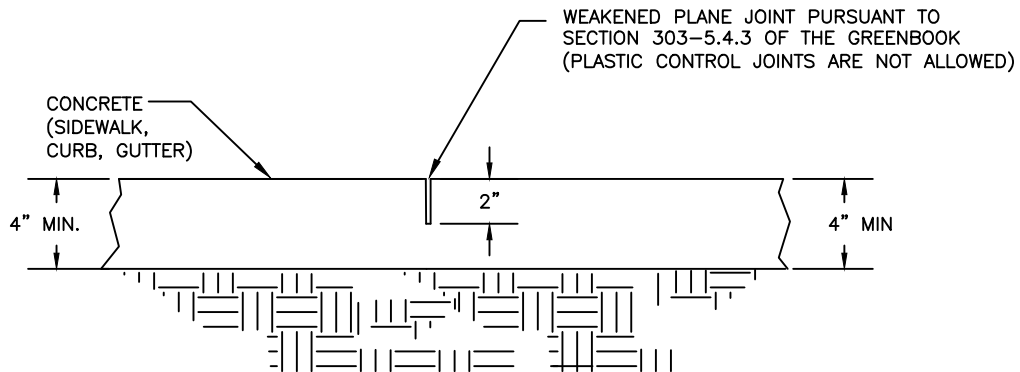
SIDEWALK CONSTRUCTION JOINT DETAIL



NOTES:

1. All applicable notes from sheet 1 shall apply.
2. New sidewalk section shall be keyed under existing sidewalk. Match existing sidewalk thickness for key dimensions.

WEAKENED PLANE JOINT DETAIL



SIDEWALK DETAIL


 MARK CARROLL, R.C.E. 31515
 CITY OF IRVINE - CITY ENGINEER

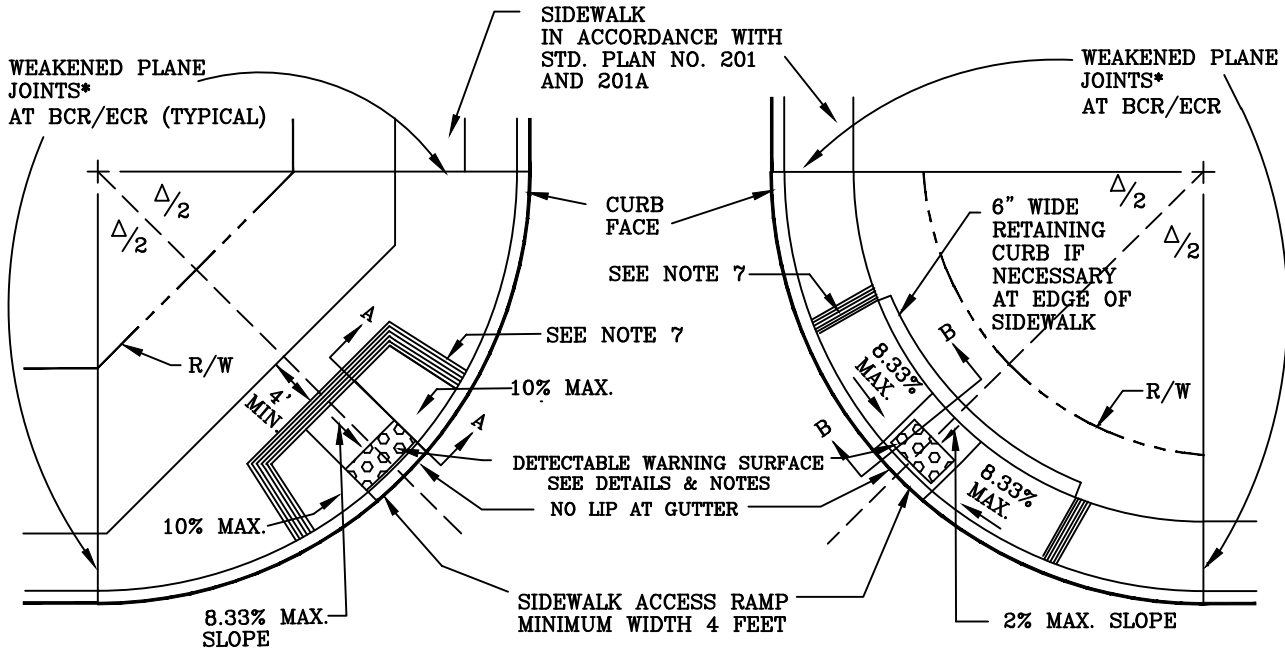
AUGUST 2013
 DATE

STD. PLAN
 201

SHEET 2 OF 2

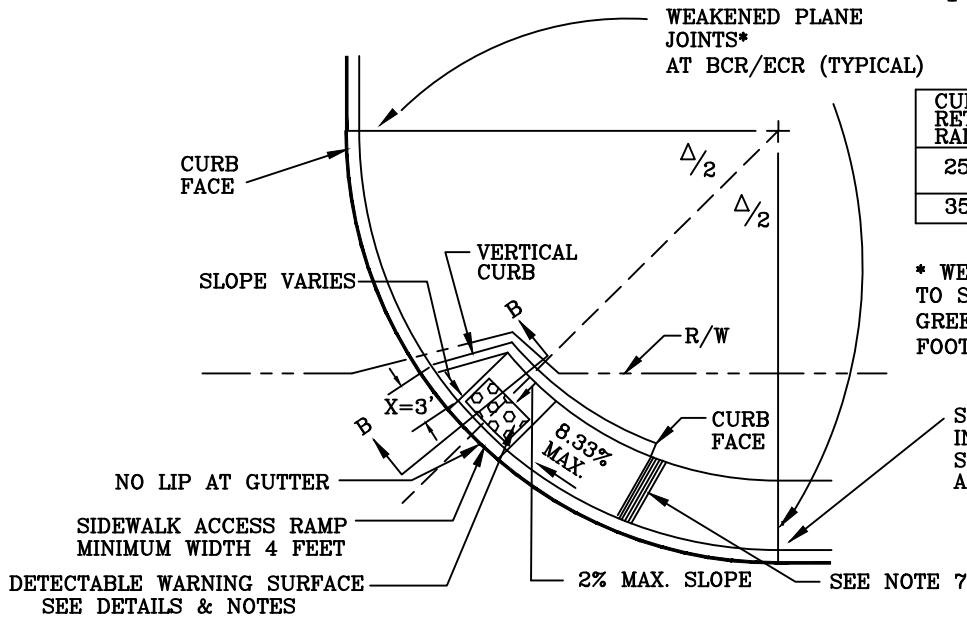


CITY OF IRVINE PUBLIC WORKS



STRAIGHT CORNER CUT-OFF

**RADIUS CORNER CUT-OFF
TYPE I-A**



**RADIUS CORNER CUT-OFF
TYPE I-B**

CURB RET. RAD.	APPLICATION
25'	LOCAL STREET INTERSECTING ANOTHER LOCAL STREET
35'	ALL OTHER INTERSECTIONS

* WEAKENED PLANE JOINTS PURSUANT TO SECTION 303-5.4.3 OF THE GREENBOOK (EXCEPTION: MAX. 10 FOOT INTERVALS)

CURB RETURN DETAILS

**STD. PLAN
202**

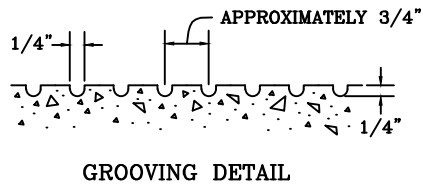
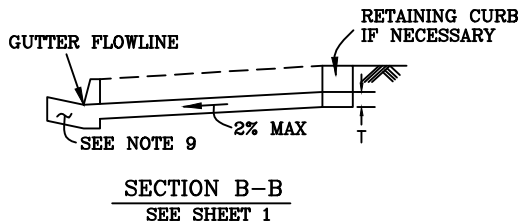
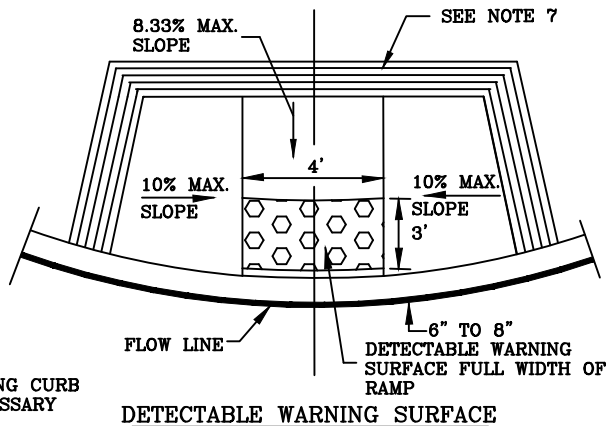
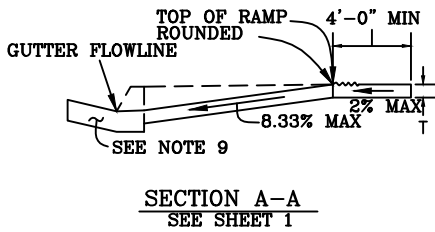
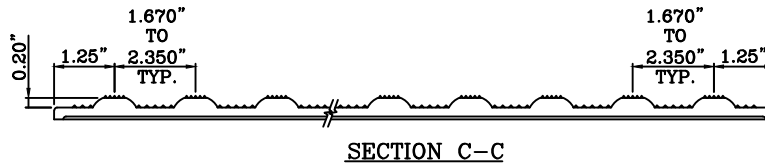
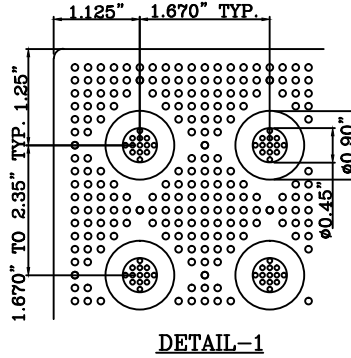
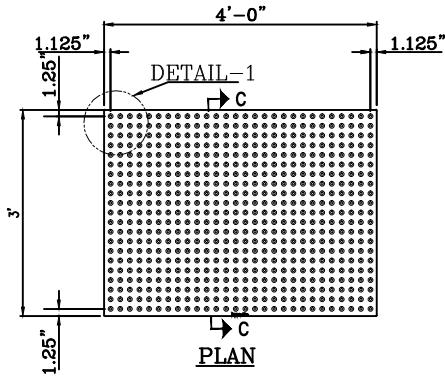
Mark Carroll
MARK CARROLL, R.C.E. 31515
CITY OF IRVINE - CITY ENGINEER

AUGUST 2013
DATE

SHEET 1 OF 3



CITY OF IRVINE PUBLIC WORKS



CURB RETURN DETAILS

STD. PLAN
202

Mark Carroll
MARK CARROLL, R.C.E. 31515
CITY OF IRVINE - CITY ENGINEER

AUGUST 2013
DATE

SHEET 2 OF 3



CITY OF IRVINE PUBLIC WORKS

NOTES:

1. STRAIGHT CORNER CUT-OFF CURB RETURN TYPE SHALL BE USED AT ANY ARTERIAL INTERSECTION OR STREET/DRIVEWAY INTERSECTION WITH AN ARTERIAL HIGHWAY OR ANY INTERSECTION THAT IS SIGNALIZED.
2. STRAIGHT OR RADIUS CORNER CUT-OFF MAY BE USED AT LOCAL TO LOCAL STREET INTERSECTIONS.
3. ALTERNATIVE DESIGNS FOR SIDEWALK RETURN RAMPS MAY BE CONSIDERED FOR APPROVAL BY THE CITY ENGINEER.
4. SEE STANDARD NO. 201 AND 201A FOR SIDEWALK DETAIL.
5. APPROVED DETECTABLE WARNING SURFACE IS AS FOLLOWS:
 - A) NEW INSTALLATIONS:
CAST IN PLACE DETECTABLE WARNING SURFACE – MANUFACTURED BY ACCESS TILE (562) 842-9934, www.accesstile.com (Part #: ACC-R3x4-BK),
OR MANUFACTURED BY ADA SOLUTIONS (800) 372-0519, www.adatale.com (Part #: 3648REP "BLACK")
OR MANUFACTURED BY ARMORCAST PRODUCTS COMPANY (818) 982-3600, www.armorcastprod.com (Part #: A6003660RADA-BLACK)
OR APPROVED EQUAL.
 - B) RETROFIT INSTALLATIONS
FLEXIBLE DETECTABLE WARNING SURFACE – MANUFACTURED BY DETECTABLE WARNING SYSTEMS INC.,
(866) 999-7452, www.detectable-warning.com,
OR APPROVED EQUAL.
 - C) COLOR SHALL BE BLACK OR APPROVED EQUAL.
 - D) DETECTABLE WARNING SURFACE SHALL BE FULL WIDTH OF RAMP AND 3 FOOT IN DEPTH.
 - E) THE DETECTABLE WARNING SURFACE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS' RECOMMENDATIONS AND INSTRUCTIONS.
 - F) THE MANUFACTURER SHALL PROVIDE A MINIMUM 5-YEAR WARRANTY, GUARANTEEING REPLACEMENT WHEN THERE IS A DEFECT IN THE DOME SHAPE, COLOR FASTNESS, SOUND ON CANE ACOUSTIC QUALITY, OR DETERIORATION OF THE DETECTABLE WARNING SURFACE. THE WARRANTY SHALL COMMENCE ON THE DATE OF ACCEPTANCE BY CITY OF IRVINE.
6. THE EDGE OF THE DETECTABLE WARNING SURFACE NEAREST THE STREET SHALL BE BETWEEN 6" AND 8" FROM THE GUTTER FLOWLINE.
7. THE CURB RAMP SHALL BE OUTLINED, AS SHOWN, WITH A 1'-0" WIDE BORDER WITH 1/4" GROOVES APPROXIMATELY 3/4" ON CENTERS. SEE GROOVE DETAIL.
8. UTILITY PULL BOXES, MANHOLES, VAULTS AND ALL OTHER UTILITY FACILITIES WITHIN THE BOUNDARIES OF THE CURB RAMP SHALL BE RELOCATED OR ADJUSTED TO GRADE PRIOR TO, OR IN CONJUNCTION WITH, CURB RAMP CONSTRUCTION. UTILITY PULL BOXES, MANHOLES, VAULTS AND ALL OTHER FACILITIES SHALL NOT BE LOCATED WITHIN THE ACCESS RAMP.
9. MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5 PERCENT GRADE WITHIN 4'-0" OF THE TOP AND BOTTOM OF THE CURB RAMP.
10. THERE SHALL BE NO LIP FROM RAMP TO GUTTER OR STREET.
11. WEAKENED PLANE JOINTS SHALL BE PURSUANT TO SECTION 303-5.4.3 OF THE GREENBOOK. PLASTIC CONTROL JOINTS ARE NOT ALLOWED.

CURB RETURN DETAILS


MARK CARROLL, R.C.E. 31515
CITY OF IRVINE - CITY ENGINEER

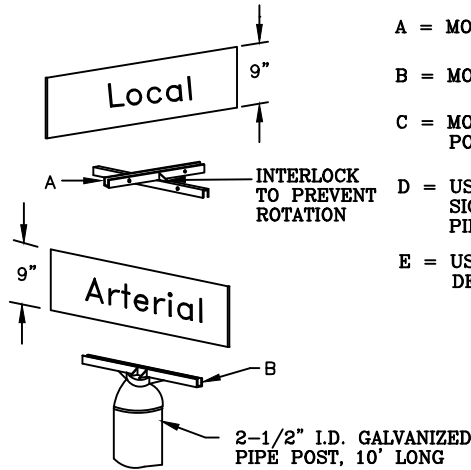
AUGUST 2013
DATE

STD. PLAN
202

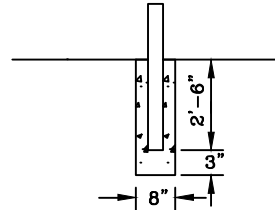
SHEET 3 OF 3



CITY OF IRVINE PUBLIC WORKS

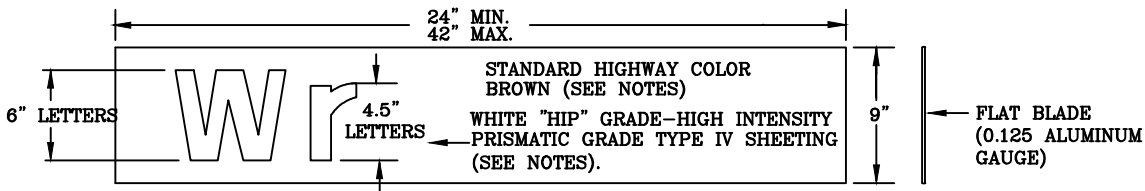


- A = MOUNTING BRACKET CROSS PIECE FOR FLAT BLADE SIGN, USE #812F90X OR APPROVED EQUAL.
- B = MOUNTING BRACKET POST CAP FOR FLAT BLADE SIGN PIPE POST, USE #812F2R OR APPROVED EQUAL.
- C = MOUNTING BRACKET FOR FLAT BLADE SIGN ONTO STREET LIGHT OR POLE, USE #1010 CANTILEVER ARM SUPPORT (NOT SHOWN).
- D = USE 2 1/2 INCH I.D. X 10 FEET GALVANIZED PIPE POST FOR STREET NAME SIGN(S) INSTALLATION AND USE 2 1/2 INCH I.D. X 12 FEET GALVANIZED PIPE POST FOR STREET NAME SIGN(S) & R1 SIGN INSTALLATION.
- E = USE CONCRETE FOOTING TO SECURE PIPE POST INTO GROUND (SEE FOOTING DETAIL).



MOUNTING DETAIL

FOOTING DETAIL



NOTES:

1. ALUMINUM ALLOY FOR ALL COMPONENTS SHALL CONFORM TO SPECIFICATIONS PUBLISHED BY THE ALUMINUM ASSOCIATION
2. THE 9 INCH SHALL BE USED FOR ARTERIAL AND LOCAL STREET TRAFFIC
3. SIGN BLANK BACKGROUND SHEETED WITH WHITE HIGH INTENSITY PRISMATIC GRADE TYPE IV SHEETING 3M BRAND #3930 OR APPROVED EQUAL
4. COPY SHEETED WITH ELECTRIC CUT LETTER FILM WITH STANDARD HIGHWAY SPEC "BROWN" 3M BRAND #1179 OR APPROVED EQUAL. LETTERS ARE A SERIES "C"

STREET NAME SIGN DETAIL

**STD. PLAN
216A**

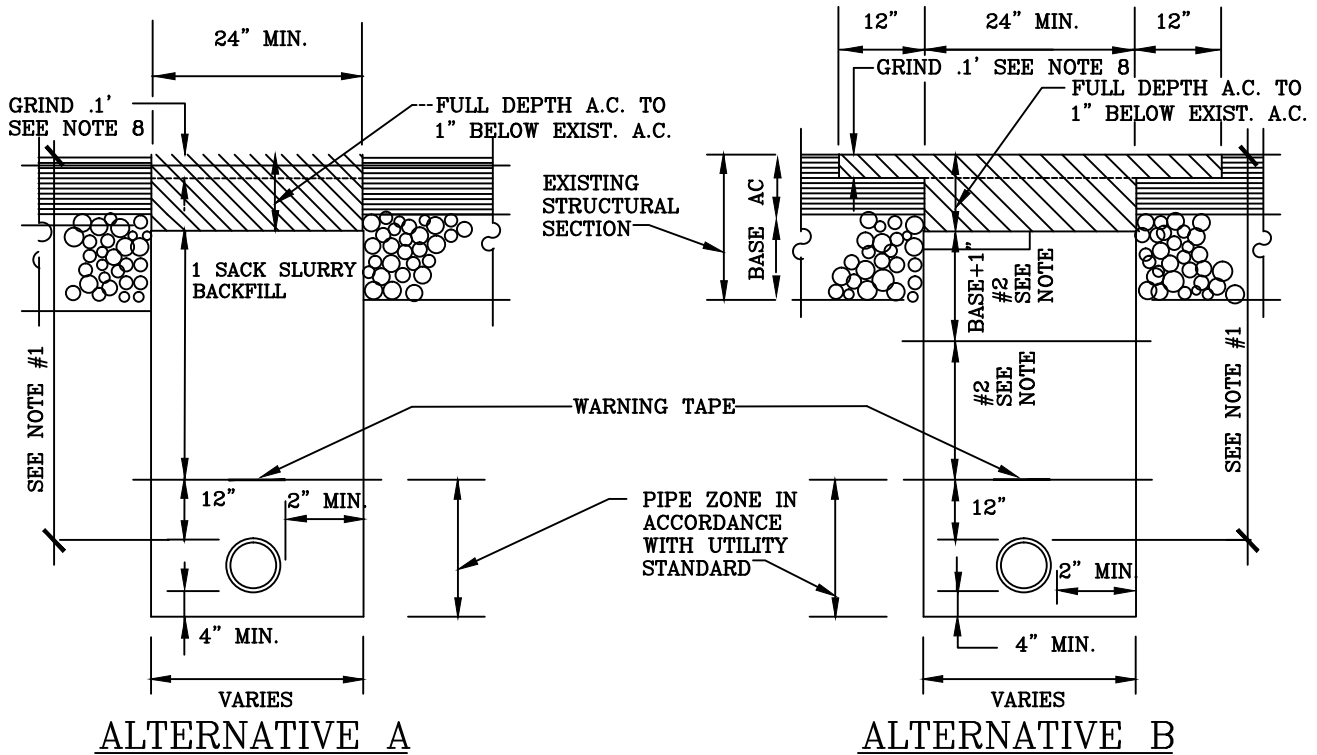
Mark Carroll
MARK CARROLL, R.C.E. 31515
CITY OF IRVINE - CITY ENGINEER

AUGUST 2013
DATE

SHEET 1 OF 1



CITY OF IRVINE PUBLIC WORKS



ALTERNATIVE A

ALTERNATIVE B

NOTES:

1. DEPTH OF UTILITIES ON ARTERIAL STREETS SHALL BE 42 INCHES MINIMUM COVERAGE, OR AS APPROVED BY THE CITY ENGINEER. DEPTH OF UTILITIES ON NON-ARTERIAL STREETS SHALL BE 30 INCHES MINIMUM COVERAGE, OR AS APPROVED BY THE CITY ENGINEER.
2. BACK FILL ABOVE PIPE ZONE SHALL BE COMPACTED TO 90% MAXIMUM DENSITY WHEN SLURRY BACK FILL IS NOT USED (WITH THE EXCEPTION OF THE TWO FEET IMMEDIATELY UNDER THE ASPHALT WHICH SHALL BE UNTREATED BASE COMPACTED TO 95% MAXIMUM DENSITY). COMPACTION TESTS SHALL BE TAKEN BY CONTRACTOR AT RANDOM LOCATIONS FOR EVERY 8 INCHES OF LIFT. FLOODING OR JETTING SHALL NOT BE ALLOWED.
3. ALL UTILITIES TO BE INSTALLED BENEATH PUBLIC STREETS, INTERSECTIONS, AND STREET CROSSINGS (LOCAL STREETS EXCEPTED) SHALL BE BORED UNLESS OTHERWISE APPROVED BY THE INSPECTION SUPERINTENDENT. IF OPEN CUTTING OF A STREET IS ALLOWED, REPAIR OF THE STREET SHALL BE IN ACCORDANCE WITH THIS STANDARD PLAN.
4. THE EDGE OF THE TRENCH SHALL BE A NEAT CUT AS APPROVED BY THE CITY INSPECTOR. THE TRENCH SHALL BE CAPPED WITH AC EVEN WITH THE FINISHED GRADE TO THE SATISFACTION OF THE CITY INSPECTOR.
5. ALTERNATE A SHALL BE USED ON ARTERIAL STREETS, AT INTERSECTIONS, AND FOR STREET CROSSINGS, UNLESS CITY ENGINEER APPROVES THE USE OF ALTERNATE B. ALTERNATE B MAY BE USED FOR PARALLEL CUTS TO A STREET IF APPROVED BY THE CITY INSPECTOR.
6. TRENCHING WITH ROCK WHEELS SHALL NOT BE ALLOWED.
7. TRENCH WIDTH BELOW STRUCTURAL SECTION CAN BE LESS THAN 24 INCHES IF APPROVED BY THE CITY INSPECTOR.
8. UPON COMPLETION OF BACKFILLING THE TRENCH, ASPHALT CONCRETE SHALL BE INSTALLED FLUSH WITH THE EXISTING PAVEMENT. SEVEN CALENDAR DAYS AFTER COMPLETION OF AFOREMENTIONED ASPHALT CONCRETE IT SHALL BE GRIND TO 0.1 FOOT DEPTH FOR THE ENTIRE LENGTH OF THE TRENCH UNLESS OTHERWISE APPROVED BY THE CITY INSPECTOR. NEW ASPHALT CONCRETE SHALL BE INSTALLED EVEN WITH THE FINISH GRADE.
9. ALL TRENCHES SHALL BE COMPACTED BY SELF-PROPELLED ROLLERS. NO WHEEL ROLLING IS ALLOWED.

UTILITY TRENCH REPAIR

**STD. PLAN
223**

Mark Carroll
MARK CARROLL, R.C.E. 31515
CITY OF IRVINE - CITY ENGINEER

AUGUST 2013
DATE

SHEET 1 OF 1



CITY OF IRVINE PUBLIC WORKS

CONCRETE CLASS USE TABLE

CONSTRUCTION	CONCRETE CLASS	MAX. SLUMP	EQUIV. SACK MIX
STREET SURFACE IMPROVEMENTS			
CONCRETE PAVEMENT (not integral with curb)	520-A-2500	3"	5.5
CURB, INTEGRAL CURB & PAVEMENT, GUTTER, WALK, ALLEY APRONS, MEDIAN NOSE	520-C-2500	4"	5.5
EXTRUDED CURB, CURB & GUTTER	520-C-2500	1.5"	5.5
	520-D-2500	1.5"	5.5
SEWER & STORM DRAINAGE FACILITIES			
PIPE COLLARS, BEAM SUPPORT FOR PIPE, PRE-CAST MANHOLE COMPONENTS, CATCH BASINS, SIDEWALK CULVERTS	560-C-3250**	5"	6
SIDEHILL SURFACE DRAINAGE FACILITIES	500-C-2500	3"	5.5
PIPE BEDDING & ENCASEMENT*, ANCHORS & THRUST BLOCKS, WALL SUPPORT FOR PIPE	420-C-2000**	4"	4.5
TUNNEL BACKFILL	480-C-2000	5"	5
TRENCH BACKFILL SLURRY	100-E-100	5"	1
REINFORCED STRUCTURES			
BRIDGES, BUILDINGS, RETAINING WALLS	560-C-3250**	4"	6
CAST-IN-PLACE PILES	560-C-3250**	4"	6
CHANNELS & BOXES			
INVERT	560-B-3250	4"	6
WALLS & DECK	560-C-3250	5"	6
MISCELLANEOUS			
STREET LIGHT & TRAFFIC SIGNAL FOUNDATIONS, SURVEY MONUMENTS	560-C-3250	4"	6
FENCE & GUARDRAIL POST FOUNDATIONS	500-C-2500	5"	5.5
CONCRETE NOT OTHERWISE SPECIFIED	560-C-3250	5"	5.5
AIR PLACED CONCRETE, METHOD B	600-E-3250	4"	6.5

*USE LIMITED TO BEDDING CONCRETE OVER WHICH BACKFILL WILL BE PLACED NOT LESS THAN 40 HOURS AFTER PLACEMENT. FOR BACKFILL AFTER 24 HOURS, ADD 3 PINTS (1.4L) OF CALCIUM CHLORIDE. FOR BACKFILL AFTER 16 HOURS & REMOVAL OF SHEETING AFTER 18 HOURS. USE 660-C-3750 WITH 3 PINTS (1.4L) CALCIUM CHLORIDE SOLUTION.

**USE B AGGREGATE GRADUATION WHEN CONDITIONS PERMIT.

FOR AGGREGATE GRADUATION SEE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. CURRENT EDITION.

TYPE V-CEMENT (6-SACK) SHALL BE USED FOR ALL CONCRETE IN CONTACT WITH SOIL HAVING A HIGH SULFATE CONTENT OR AS SPECIFIED BY THE SOILS ENGINEER.

CONCRETE CLASS USE TABLE

**STD. PLAN
405**

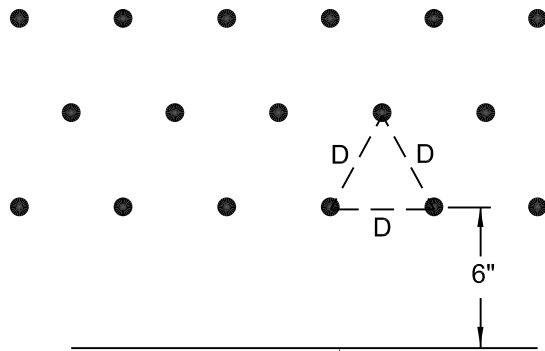
Mark Carroll

MARK CARROLL, R.C.E. 31515
CITY OF IRVINE - CITY ENGINEER

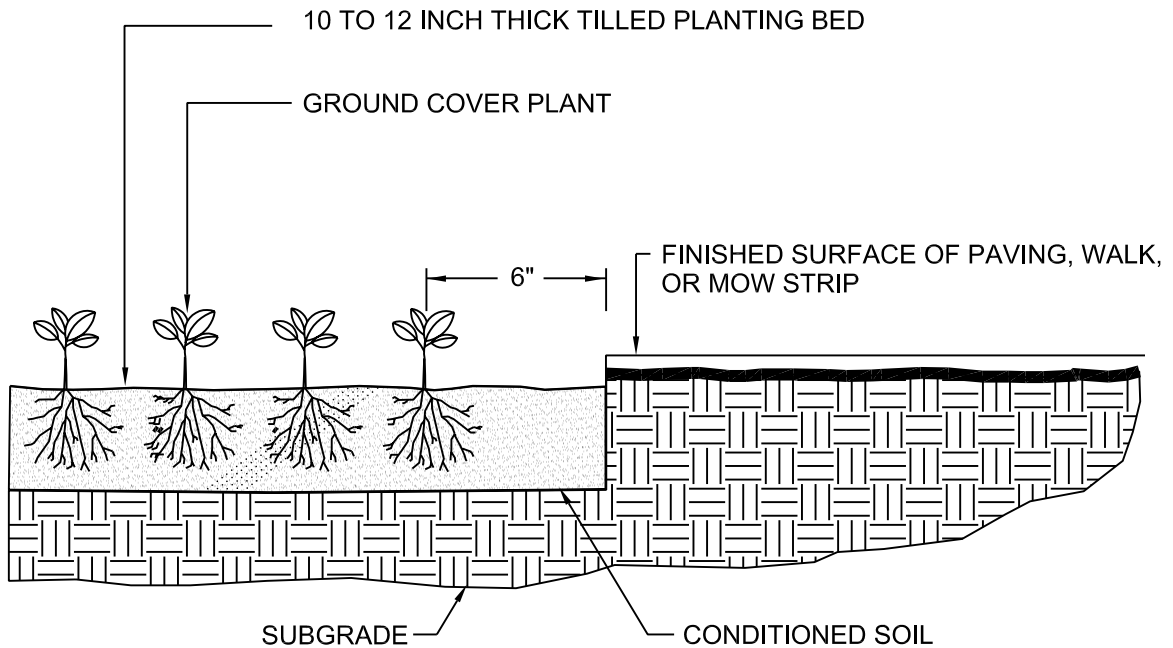
AUGUST 2013

DATE

SHEET 1 OF 1



NOTE: LOCATE PLANTS SPACED EQUAL DISTANT (D)
FROM EACH OTHER AS SHOWN ON PLANTING PLAN.



© Copyright 2000 Global Digi-tech, LLC - The pictorial and graphic expressions displayed with this work are copyrighted under the laws of the United States and shall be used only on projects under the jurisdiction of the agency listed below.

REVISIONS	CITY OF IRVINE	STANDARD PLAN NO.
	GROUND COVER PLANTING	609
	Approved by: Mark L. Carroll R.C.E. 31515 City Engineer <i>Mark L. Carroll</i>	Date: 01-07-05 Sheet 1 of 1

Project Funding Summary

Electric Vehicle Charger Installation at Irvine Civic Center
CIP 361908

August 2020

Project Expenditures

Final Design Engineering	\$ 63,222
Construction (Engineer's Estimate)	\$ 536,551
Construction Contingency	\$ 51,880
Construction Engineering	<u>\$ 35,000</u>
Total Estimated Project Cost	\$ 686,653

Project Funding

Mobile Source Air Pollution Reduction Review Committee grant	\$ 330,490
Southern California Incentive Project grant	\$ 140,000
Air Quality Management District AB2766 Funding	<u>\$ 216,163</u>
Total Funding Available	\$ 686,653