

## **Business Services Contracts Office**

5735 47th Avenue • Sacramento, CA 95824 (916) 643-2464

Janea Marking, Chief Business Officer Robert Aldama, Purchasing Manager II

### ADDENDUM NO. 2

Date: November 21, 2024

Issued by: Sacramento City Unified School District

**Project: Project #: 403** 

**Bus Electrification and Site Improvements** 

This addenda shall supersede the original Information, attachments, and specifications regarding Project No. 403 where it adds to, deletes from, clarifies or otherwise modifies them. All other conditions and any previous addenda shall remain unchanged.

### Part A – Bidding Documents:

AD 1.01 Refer to 403 Project Manual, Section 00 11 13 - NOTICE TO BIDDERS, Article 1 General, Section 1.01

Revised to Read:

License required: A, B, and or C-10

### AD 1.02 Refer to 403 Project Manual, Section 00 11 13 - NOTICE TO BIDDERS, Article 1 General, Section 1.01

### Revised to Read:

The following is the anticipated schedule for bidding and award of the contract for the Project:

Bidding Documents Released Mandatory Bidder's Conference Bidder question deadline Prequalification application deadline Addendum responding to questions

Bids due

Notice of Intent to Award Board Meeting to Award contract Anticipated Notice to Proceed

Thursday, November 7th, 2024. Friday, November15<sup>th</sup>,2024, 10:00a.m. Wednesday, November 27th, 2024, 10:00a.m. Wednesday, November 20th, 2024, 10:00a.m. Tuesday, December 3rd, 2024, 10:00a.m. Friday, December 6th, 2024 2:00p.m. Wednesday, December 11th, 2024.

Thursday, December 19th, 2024. Friday, December 20th, 2024.

## AD 1.03 Refer to 403 Project Manual, Section 00 11 13 - NOTICE TO BIDDERS Page 2, Article 1 General. Section 1.01

### Revised to Read:

Bids are due:

### **BID INFORMATION**

Location: 5735 47th Avenue, Sacramento, CA 95824

# Project No: 403 Bus Electrification & Site Improvements ADDENDUM NO. 2

Contact: Tina Alvarez-Bevens

Date: Friday, December 6<sup>th</sup>, 2024

Bids Due: 2:00pm

At this time such Bids will be opened and publicly read. Untimely Bids will not be accepted or opened.

# AD 1.04 Refer to 403 Project Manual, Section 00 21 13 – INSTRUCTIONS TO BIDDERS, Section 1.01, C.

### Revised to Read:

C. Should a Bidder find discrepancies, ambiguities, inconsistencies, errors or omissions in the Bidding Documents, Contract Documents and/or applicable Federal, State, and local regulations or requirements, and/or should Bidder have any doubt about the meaning of any of the Contract Documents, the Bidder shall submit questions to Robert Aldama at <a href="mailto:robert-aldama@scusd.edu">robert-aldama@scusd.edu</a>, Tina Alvarez-Bevens at <a href="mailto:tina-alvarez-bevens@scusd.edu">tina-alvarez-bevens@scusd.edu</a>, and Eric McMullen at <a href="mailto:Emcmullen@kitchell.com">Emcmullen@kitchell.com</a>. Bidder's questions shall be submitted no later than <a href="Wednesday">Wednesday</a>, <a href="Wednesday">November 27th</a>, <a href="mailto:2024">2024</a>, <a href="mailto:by 10:00a.m">by 10:00a.m</a>.

### Part B - Bidder Questions

**QUESTION #1:** Is a contractors license A, N or B required if we (Brooke Electric, C-10) are able to self perform the concrete work, on a approved level, according to the plans specifications (sheet A1.31)?

**RESPONSE: See AD1.01** 

**QUESTION #2:** Could you please clarify the 1" conduit that needs to be provided referenced to on page E1.1 Keynotes #4? Is conduit in questions existing and just needing to be rerouted from a near by location into the base of the new DC Fast Charger? Or is it going to require to be installed new, to the building? The E1.1 page does not express if it is a new install or existing?

**RESPONSE:** All existing conduit on the plan is shown in a light color with the word 'existing' or the abbreviation '(E)'. This 1" conduit is new, and the contractor shall field verify if the site has an internet connection near the fast charger. Otherwise, the contractor needs to provide an underground conduit, route it close to the wall, and connect it to the wall-mounted weatherproof J-box. It should be labeled as the 'Fast Charger Internet Connection Point'.

**QUESTION #3:** Do you (the District) have a preferred vendor for the chargers, both DC Fast and Level 2?

**RESPONSE:** The district does not have a preferred vendor for the chargers.

**QUESTION #4:** Key Note 3/E1.1 states that the contractor shall procure and install the EV chargers but sheet A1.21 has a note calling the chargers OFCI (owner furnished contractor installed) please advise.

# Project No: 403 Bus Electrification & Site Improvements ADDENDUM NO. 2

**RESPONSE:** Contractor is to furnish and install all EV Charging units. (CFCI)

QUESTION #5: Who is responsible for the commissioning and startup of the chargers?

**RESPONSE:** The Contractor is responsible for the startup of all units. The district will then bring on a 3<sup>rd</sup> party Commissioning Agent to commission the units.

**QUESTION #6:** Is an annual maintenance contract required for the chargers and is to be included in this project?

**RESPONSE**: No

**QUESTION #7:** Please explain what 2. e. Financing Requirement (12-month post construction phase) on the Mandatory Pre-Bid Conference Agenda means. I do not see anything in the Project Manual referring to financing.

**RESPONSE:** This is mistakenly included within the agenda and is not required for this project.

### **List of Attachments**

AD1.05 – Bus Electrification and Site Improvements – ADDENDUM A, ADDENDUM DRAWINGS (8 Pages)

### **END OF ADDENDUM NO. 2**

Acknowledgement of this Addendum will be required at time of bid.

### HMC ARCHITECTS 2101 Capitol Avenue, Suite 100 Sacramento, California 95816

November 20, 2024

Sacramento City Unified School District Bus Electrification Site Improvement HMC #3186074-000 DSA # N/A

### **ADDENDUM A**

The following changes, additions, deletions or corrections shall become a part of the Contract Documents for the project named above and all other conditions shall remain the same. The bidders shall be responsible for transmitting this information to all affected subcontractors and suppliers prior to the closing of bids.

### **ADDENDUM DRAWINGS** (Included with this Addendum)

Item No. AD A-1: Clarify 1" Conduit on Sheet E1.1 Keynote #4

Question – "Clarify the 1" conduit that needs to be provided referenced to on page E1.1 Keynotes #4? Is conduit in questions existing and just needing to be rerouted from a nearby location into the base of the new DC Fast Charger? Or is it going to require to be installed new to the building? The E1.1 page does not express if it is a new install or existing?"

Response - All existing conduit on the site plan is shown in a light color with the word 'existing' or the abbreviation '(E)'. This 1" conduit is new, and the contractor shall field verify if the site has an internet connection near the fast charger. Otherwise, the contractor needs to provide an underground conduit, route it close to the wall, and connect it to the wall-mounted weatherproof J-box. It should be labeled as the 'Fast Charger Internet Connection Point'.

Revised DC fast Charger per owner direction, for BorgWagner model RES-DCVC 60-480, charger and 2 Dispensers. The following modify or supplement the original drawings:

G0.10 Cover Sheet

A1.21 Revise Sheet Site Plan

A1.31 Site Details

E0.10 Symbol Legend, Abbreviations & Notes

E1.1 Electrical Site Plan

E2.1 One Line Diagram & Load Calculations

E3.1 Electrical Details & Schedules

**HMC ARCHITECTS** 

Michael Rath, Architect of Record

3186074-000 SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

# ELECTRIC BUS CHARGING STATIONS

FR

Name Elevation

REFERENCE FLOOR LEVEL

IDENTIFICATIONS

FIRE RATED

FIRE RATED GLASS

PLAS

PLUMB

PLASTER

PANFI

PREFIN PREFINISHED

PLUMBING

POLY ISO POLYISOCYANURATE

PAINT / PAINTED

POINT OF CONNECTION

PREP / PREPARATION

WSCT WAINSCOT

WWF WELDED WIRE FABRIC

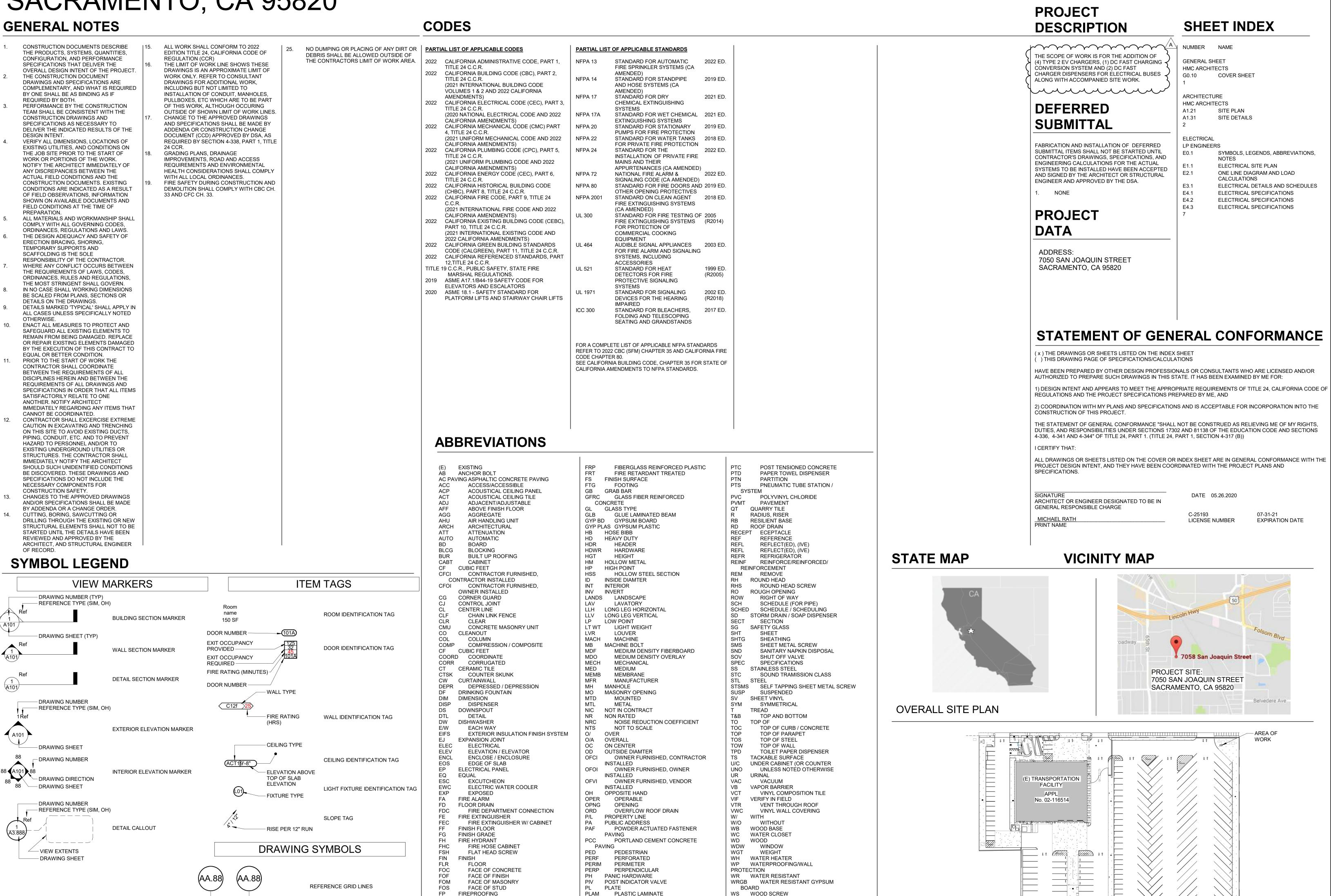
FOR NECESSARY CLARIFICATION.

OTHER ABBREVIATIONS USED ON THESE

DRAWINGS ARE CONSIDERED STANDARDS IN

THE BUILDING INDUSTRY. CONTACT ARCHITECT

7050 SAN JOAQUIN STREET SACRAMENTO, CA 95820



**AGENCY APPROVAL** 

HMC Architects 3186074-000 C-25193 2101 CAPITOL AVENUE, SUITE 100, SACRAMENTO, CA, 95816 916 368 7990 / www.hmcarchitects.com

SACRAMENTO CITY USD 5735 47TH AVENUE, SACRAMENTO, CA 95824 (916)

**ARCHITECT** 

HMC ARCHITECTS 2101 CAPITOL AVENUE, SUITE 100 SACRAMENTO, CA 95816 (916) 36807990 ATTN: STANLEY NG (Stanley.Ng@hmcarchitects.com) ELECTRICAL

# LP ENGINEERS

1209 PLEASANT GROVE BLVD. ROSEVILLE CA, 95678 (916) 771-0778 ATTN: ROGER PEREZ (Robert Perez (rperez@lpengineers.com)

**7050 SAN JOAQUIN STREET** SACRAMENTO, CA 95820

**ELECTRIC BUS CHARGING STATIONS** 

**COVER SHEET** 

# CONSTRUCTION DOCUMENTS

DATE: **2024-10-01** 

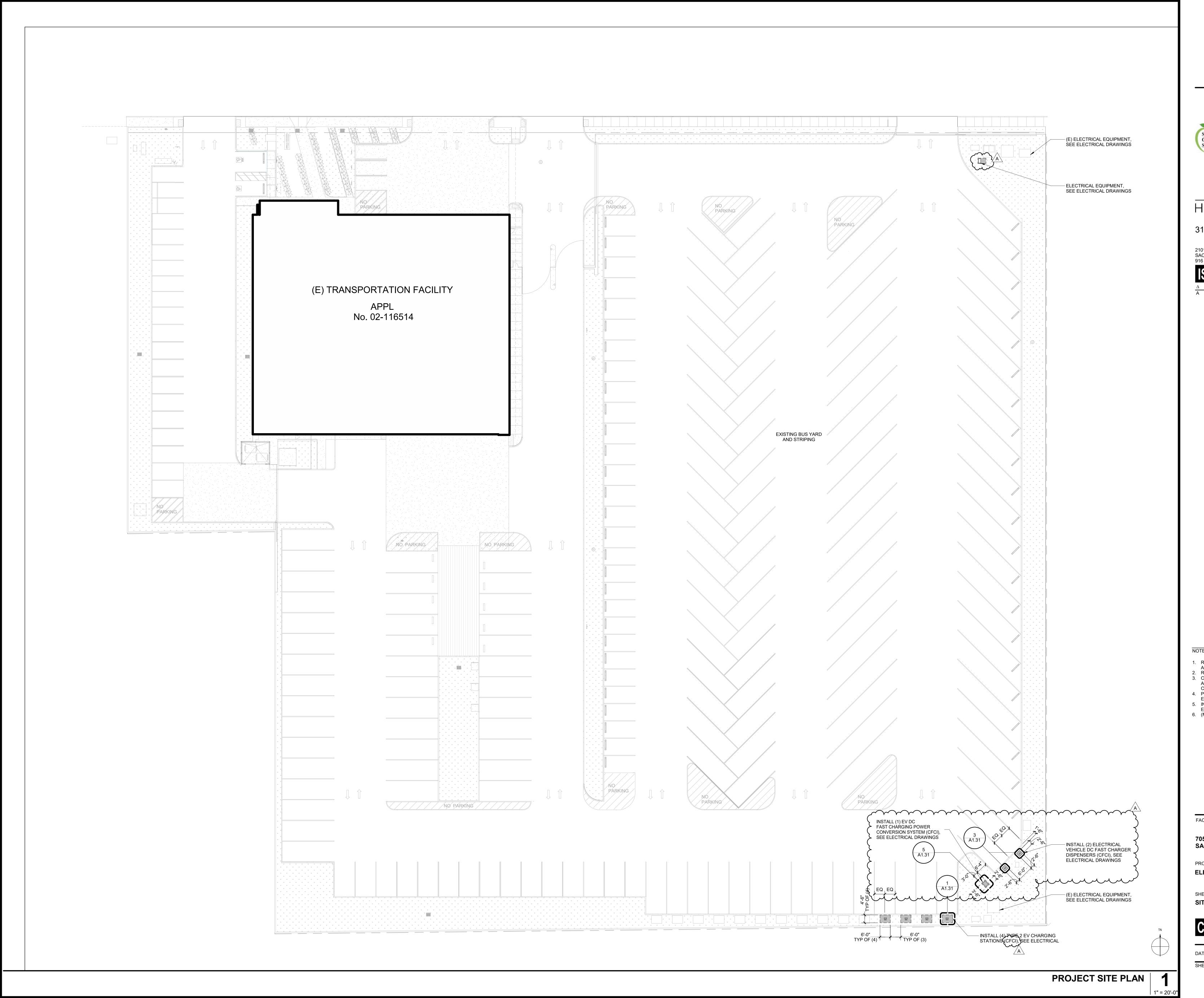
PLEASE RECYCLE

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**ADDENDA A** 

CLIENT PROJ NO:





SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

7050 SAN JOAQUIN STREET SACRAMENTO, CA 95820

HMC Architects

3186074-000

2101 CAPITOL AVENUE, SUITE 100, SACRAMENTO, CA, 95816 916 368 7990 / www.hmcarchitects.com

△ **DESCRIPTION** A REVISED DC FAST CHARGER

DATE

1. REFER TO SHEET G0.10 SERIES FOR TYPICAL SYMBOLS AND ABBREVIATIONS.

2. REFER TO ELECTRICAL DRAWINGS FOR UTILITY INFORMATION 3. CONTRACTORS ARE RESPONSIBLE FOR REPAIR/REPLACEMENT OF ALL HARDSCAPE/ PLANTING OUTSIDE OF LIMIT OF WORK LINE FOR

CONNECTION OF UNDERGROUND UTILITIES. 4. PATCH AND REPAIR LANDSCAPE AND IRRIGATION TO MATCH

EXISTING CONDITIONS INFORM ARCHITECT OF ANY MISC. MODIFICATIONS DISTURBING EXISTING CONDITIONS FOR FURTHER REVIEW

6. (MM.) STANDS FOR MILLIMETER

FACILITY:

**7050 SAN JOAQUIN STREET** SACRAMENTO, CA 95820

**ELECTRIC BUS CHARGING STATIONS** 

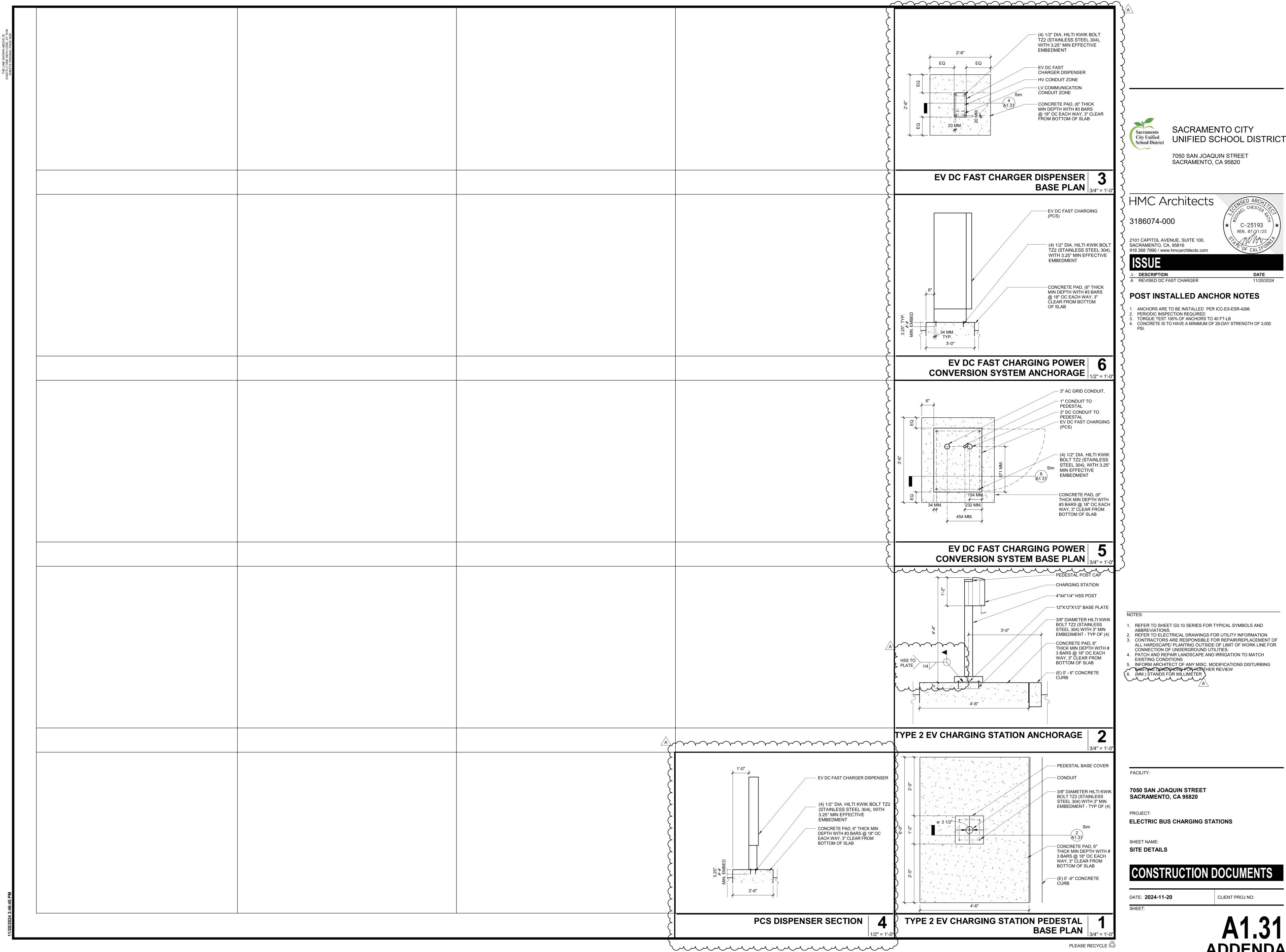
SHEET NAME: SITE PLAN

CONSTRUCTION DOCUMENTS

DATE: **2024-11-20** 

CLIENT PROJ NO:

A1.21 ADDENDA A PLEASE RECYCLE 😂



**ADDENDA A** 

# MEP COMPONENT ANCHORAGE NOTE

APPLICABLE CODE: 2022 CBC

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC SECTIONS 1617A.1.17 THROUGH 1617A.1.20 & 1617A.1.23 AND ASCE 7-16 CHAPTERS 13, 26 AND 30:

- ALL PERMANENT EQUIPMENT AND COMPONENTS. 2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
- 3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

- A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
- THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

**ELECTRICAL SCOPE DRAWINGS** 

THESE ELECTRICAL DRAWINGS INDICATE THE GENERAL SCOPE OF THE PROJECT IN TERMS OF ELECTRICAL DESIGN CONCEPT. MAJOR

| ELECTRICAL ELEMENTS, AND THE TYPE OF ELECTRICAL SYSTEMS. AS SCOPE DOCUMENTS, THESE DRAWINGS DO NOT NECESSARILY INDICATE OR DESCRIBE ALL WORK REQUIRED FOR FULL PERFORMANCE AND COMPLETION OF THE REQUIREMENTS. ON THE BASIS OF THE GENERAL SCOPE INDICATED OR DESCRIBED, THE CONTRACTOR SHALL FURNISH ALL ITEMS REQUIRED FOR THE PROPER

THE PROJECT CONSISTS OF ADDING NEW EV-BUS CHARGERS, LOCATED IN THE EXISTING TRANSPORTATION YARD.

(INSTALLING FOUR (4) LEVEL 2 CHARGERS, AND ONE (1) FAST CHARGER WITH TWO DISPENSERS.

THE ONE (1) FAST CHARGER TO BE FED FROM THE EXISTING 480V MAIN SWITCHBOARD AND WILL PROVIDE DC POWER TO TWO

/ NEW CHARGERS TO BE CONNECTED TO THE EXISTING 600A, 277/480V, 3 PHASE ELECTRICAL SERVICE.

THE FOUR (4) LEVEL 2 CHARGERS TO BE FED FROM THE EXISTING 208V DISTRIBUTION SWITCHBOARD.

EXECUTION AND COMPLETION OF THE WORK.

DISPENSERS, WHICH WILL OPERATE SEQUENTIALLY.

B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE

SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

# GENERAL NOTES

ALL GENERAL NOTES SHOWN BELOW ARE NOT NECESSARILY USED ON PLANS IF NOT REQUIRED.

- THESE GENERAL NOTES ARE INTENDED TO ASSIST THE CONTRACTOR IN THE EXECUTION OF THE ELECTRICAL WORK AND TO BE INCLUDED IN CONJUNCTION WITH THE CONTRACT DOCUMENT DRAWINGS AND SPECIFICATION REQUIREMENTS. SOME OF THE GENERAL NOTES ARE EXCERPTS FROM THE SPECIFICATION.
- PROCURE PERMITS AND LICENSES REQUIRED. PAY ALL NECESSARY FEES AND ARRANGE FOR INSPECTIONS REQUIRED BY LOCAL CODES, ORDINANCES, AND UTILITY COMPANIES.
- COORDINATE ALL ELECTRICAL SERVICES WITH THE RESPECTIVE UTILITY COMPANIES AND PROVIDE ALL TRENCHING, CONDUITS, WIRING, METER FACILITIES AND OUTLETS REQUIRED BY THEM.
- 4. WORKMANSHIP SHALL BE OF THE HIGHEST QUALITY. DEFECTIVE EQUIPMENT OR EQUIPMENT DAMAGED IN THE COURSE OF INSTALLATION OR TEST SHALL BE REPLACED OR REPAIRED IN A MANNER
- 5. INSTALL ALL EQUIPMENT, CONDUITS, PAD, PULL BOX IN STRICT ACCORDANCE WITH THE CURRENT EDITION OF ALL APPLICABLE CODES (CEC, STATE, COUNTY, AND CITY).

MEETING WITH THE ACCEPTANCE OF THE ARCHITECT.

- 6. DO NOT SCALE PLANS FOR EQUIPMENT LOCATIONS. USE FIGURED DIMENSIONS IF GIVEN OR CHECK DISTRICT PERSON IN CHARGE. ALSO REFER TO ACTUAL ON-SITE CONDITIONS.
- . ALL MATERIAL AND EQUIPMENT IS TO BE LISTED AND INSTALLED PER MANUFACTURER'S SPECIFICATIONS AND CEC 110.3.
- UNLESS OTHERWISE NOTED.
- 9. THE FINAL LOCATION OF ALL EQUIPMENT SHALL BE VERIFIED WITH THE ARCHITECT AND/OR DISTRICT AT TIME OF CONSTRUCTION.
- 10. ALL OUTDOOR ELECTRICAL EQUIPMENT SHALL BE WEATHER-PROTECTED.
- 11. ALL CONDUIT SHALL BE ROUTED CONCEALED UNLESS NOTED ON PLAN OR ACCEPTED BY THE
- 12. ALL WIRING SHALL BE INSTALLED IN RIGID METALLIC CONDUIT, UNLESS OTHERWISE NOTED. USE PVC INSTALLED UNDERGROUND AND/OR UNDER SLAB. ALL EXPOSED CONDUITS SHALL BE RIGID STEEL CONDUITS WITH THREADED TYPE FITTINGS. INSTALL ALL CONDUITS IN ACCORDANCE WITH CEC STANDARDS OF INSTALLATION.
- 13. ELECTRICAL NON-METALLIC TUBING (ENT) AND MC CABLE ARE NOT PERMITTED TO BE USED FOR THIS PROJECT, UNLESS ALLOWED PRIOR TO BID.
- 14. CONDUCTORS, #8 AND LARGER, SHALL BE STRANDED COPPER WITH THNN/THWN INSULATION, UNLESS OTHERWISE NOTED.
- 15. PROVIDE WORKING CLEARANCE PER CEC 110.26 FOR SERVICE SWITCHBOARD, DISTRIBUTION PANEL, TRANSFORMERS, DISCONNECT SWITCHES, CHARGERS, ETC.
- 16. PROVIDE A WARNING LABEL (SIGN) CLEARLY VISIBLE TO QUALIFIED PERSONS TO COMPLY WITH NEC AND CEC 110.16 OF POTENTIAL ÉLECTRIC ARC FLASH HAZARDS AT SWITCHBOARDS, PANELBOARDS, INDUSTRIAL CONTROL PANELS AND MOTOR CONTROL CENTERS THAT ARE LIKELY TO REQUIRE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE WHILE ENERGIZED. SERVICE EQUIPMENT SHALL BE LEGIBLY MARKED WITH THE MAXIMUM AVAILABLE FAULT CURRENT PER CEC SECTION
- 17. MAIN SWITCHBOARDS, DISTRIBUTION SWITCHBOARDS AND CHARGERS TO COMPLY WITH CEC 110.9 AND 110.10 INTERRUPTING RATING AND BRACING. PROVIDE A.I.C. CALCULATIONS FOR SUBPANELS IF INTERRUPTING RATING TO BE USED IS LOWER THAN MAIN SERVICE RATING.
- 18. CONTRACTOR SHALL SIZE ALL EXTERIOR PULL BOXES AND UNDERGROUND PULL BOXES PER CEC 314.16 AND COMPLY WITH CEC 314.28 FOR INSTALLATION OF RACEWAYS AND WIRING AS REQUIRED BY CODE, UNLESS OTHERWISE NOTED.
- 19. WHERE ACCESSIBILITY IS NOT AVAILABLE TO ELECTRICAL OUTLETS. DEVICES AND/OR EQUIPMENT.
- COORDINATE WITH THE ARCHITECT FOR PROVISIONS TO PROVIDE ACCESSIBILITY TO THEM. 20. ALL TERMINATION PROVISIONS OF EQUIPMENT, INCLUDING CIRCUITS RATED 100 AMPERES OR LESS.
- 21. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL BRANCH CIRCUITS LENGTH WITH BRANCH CIRCUIT WIRING TABLE LOCATED ON THIS SHEET AND ADJUST WIRE SIZES PER THE TABLE BASED ON

SHALL BE RATED AT 60 DEGREE, CENTIGRADE PER CEC 110.14(c).

- DISTANCES TO ACCOUNT FOR A VOLTAGE DROP. 22. ENERGY SHALL NOT BE ALLOWED TO BE BACK FED THROUGH FROM THE CHARGING SYSTEM TO THE
- UTILITY SERVICE SYSTEM.
- 23. ELECTRICAL CONTRACTOR SHALL PROVIDE AIC LABELING ON ALL ELECTRICAL DISTRIBUTION SYSTEM. 24. PERSONNEL PROTECTION SYSTEM. THE EQUIPMENT SHALL HAVE A LISTED SYSTEM OF PROTECTION AGAINST ELECTRIC SHOCK OF PERSONNEL PER CEC 625.22.

# UNDERGROUND TRENCHING NOTES

UNDERGROUND TRENCHING:

- A.USE EXTREME CAUTION WHEN DIGGING TO AVOID BURIED ELECTRICAL CABLES. CALL UNDERGROUND SERVICE ALERT (U.S.A.) 800-227-2600, 48 HOURS BEFORE DIGGING
- B.BEFORE START OF ANY UNDERGROUND TRENCHING FOR CONDUIT RUNS, THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH ALL PLANS OF OTHER TRADES (ARCHITECTURAL, CIVIL, LANDSCAPE), AND SITE CONDITIONS TO AVOID
- C.TRENCHING AND BACKFILLING SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS. COORDINATE WITH CIVIL, LANDSCAPE, AND ARCHITECTURAL SITE PLAN PRIOR TO THE TRENCHING, ETC. AND THE INSTALLATION OF THE ELECTRICAL SYSTEM.
- D.ALL UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC, UL LISTED FOR DIRECT BURIAL, AND TERMINATED WITH FACTORY END BELL FITTINGS. ALL ELBOWS, BENDS AND TURNS TRANSITIONING TO GRADE SHALL BE INSTALLED USING PER MANUFACTURED 40-MIL PVC COATED GALVANIZED STEEL ELBOWS AND OFFSETS.
- E.ALL UNDERGROUND SERVICE CONDUITS SHALL BE SEALED TO COMPLY WITH CEC
- F.PROVIDE 24" MINIMUM COVERAGE FOR UNDERGROUND CONDUITS, UNLESS OTHERWISE NOTED. THE EXCEPTION IS FOR PG&E SERVICE CONDUITS WHICH SHALL HAVE A 36" MINIMUM BURIAL DEPTH AND BE INSTALLED WITH A RED OXIDE CONCRETE CAP. MAINTAIN 12" MINIMUM SEPARATION BETWEEN THE POWER AND LOW VOLTAGE SYSTEM UNDERGROUND CONDUITS. TRENCHES SHALL ALL BE INSTALLED WITH A RED POLYETHYLENE WARNING RIBBON LABELED "ELECTRICAL", LOCATED 8" BELOW GRADE
- G.PROVIDE UNDERGROUND TRACER WHERE NON-METAL CONDUITS ARE INSTALLED. H.PROVIDE PARTEX IDENTIFICATION TAGS TO IDENTIFY UNDERGROUND CIRCUITS.
- I. ALL UNDERGROUND SPLICES SHALL BE MADE WATERPROOF BY PROVIDING WITH "SPLICE-KOTE" SPLICE KITS OR OTHER ACCEPTED METHODS. ALL FUSEHOLDERS SHALL BE WATERTIGHT.
- J. ALL UNDERGROUND RACEWAYS SHALL BE PROVIDED WITH A #8 AWG MINIMUM SIZE COPPER EQUIPMENT GROUNDING CONDUCTOR, WHETHER SHOWN ON PLAN OR NOT, UNLESS OTHERWISE NOTED.
- K.THE CONTRACTOR SHALL BE RESPONSIBLE UNDER THIS CONTRACT TO REPAIR AND REPLACE ANY AND ALL DAMAGES TO EXISTING PCC WALKS, AC PAVING, UTILITIES, TREES, TURF, PLANTED AREAS, AND OTHER FACILITIES RESULTING FROM THIS PROJECT. WHEN CUTTING OR TRENCHING THROUGH EXISTING CONCRETE SIDEWALKS, DRIVEWAYS, AND WALKWAYS. THE CONTRACTOR SHALL BE REQUIRED TO COMPLETELY REPLACE ENTIRE SECTIONS OF CONCRETE PANELS FROM SCOREMARK TO SCOREMARK AFFECTED BY THE CONSTRUCTION WORK. ALL SIDEWALKS, DRIVEWAYS, AND WALKWAYS SHALL BE REPLACED TO MATCH ADJACENT CONDITION AND AS DIRECTED BY THE ARCHITECT.

# ELECTRICAL SHEET INDEX

SHEET NO.	SHEET TITLE
E0.1	SYMBOL LEGEND, ABBREVIATIONS & NOTES
E1.1	ELECTRICAL SITE PLAN
E2.1	ONE LINE DIAGRAM & LOAD CALCULATIONS
E3.1	ELECTRICAL DETAILS & SCHEDULES
E4.1	ELECTRICAL SPECIFICATIONS
E4.2	ELECTRICAL SPECIFICATIONS
E4.3	ELECTRICAL SPECIFICATIONS

# ELECTRICAL SYMBOL LEGEND ALL SYMBOLS SHOWN IN THIS LEGEND ARE NOT NECESSARILY USED ON PLANS IF NOT REQUIRED. DESCRIPTION MAIN SWITCHBOARD OR DISTRIBUTION PANEL, AS NOTED RECESSED MOUNTED LIGHTING OR DISTRIBUTION PANEL SURFACE MOUNTED LIGHTING OR DISTRIBUTION PANEL RECESSED TERMINAL CABINET w/ 3/4"C., PLYWOOD BACKBOARD, DUPLEX RECEPTACLE & #6 CU GND, UON. SURFACE MOUNTED TERMINAL CABINET w/ 3/4"C., PLYWOOD BACKBOARD, DUPLEX RECEPTACLE & #6 CU GND, UON. DISTRIBUTION TRANSFORMER, MOUNTING AND SIZE AS NOTED NON-FUSED DISCONNECT SWITCH ENCLOSED CIRCUIT BREAKER DISCONNECT SWITCH FUSED DISCONNECT SWITCH; SIZE DISCONNECT AND FUSES PER UNIT LABEL DUPLEX RECEPTACLE OUTLET 20A, 120V, @ +16" TO BOTTOM OF BOX, UNO. DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER TOP. +44" TO TOP FOR FORWARD REACH, AND +46" TO TOP FOR SIDE REACH, PER CBC 11B-308. ISOLATED GROUND DUPLEX RECEPTACLE, 20A, 120V @ +16" TO BOTTOM OF BOX, UNO. 8. ALL ELECTRICAL DEVICES, EQUIPMENT, CONDUITS, AND WIRING SHOWN ON THESE PLANS ARE NEW, DEDICATED DUPLEX RECEPTACLE OUTLET 20A, 120V, @ +16" TO BOTTOM OF BOX, UNO. GFCI DUPLEX RECEPTACLE OUTLET 20A, 120V, @ +16" TO BOTTOM OF BOX, UNO. PANEL IDENTIFICATION CIRCUIT BREAKER UNDERGROUND TERMINATION SERVICE LUG UTILITY METER $\longrightarrow$ MUTILITY METER WITH C.T. COMPARTMENT METER SOCKET TRANSFORMER WITH GROUND UFER GROUND BOND TO COLD WATER PIPE, GAS PIPE, BUILDING STEEL NEUTRAL LINK JUNCTION BOX - SIZE AS REQUIRED BY CODE. MECHANICAL EQUIPMENT I.D. TAG - MP&S

# **ELECTRICAL ABBREVIATIONS**

DETAIL DESIGNATION, TOP LETTER INDICATES DETAIL,

BOTTOM LETTER/NUMBER INDICATES SHEET

CIRCUIT CONCEALED IN CEILING OR WALL W/(2) #12 THWN/THHN

CIRCUIT CONCEALED IN FLOOR OR UNDERGROUND W/(2) #12 THWN/THHN

ISOLATED GROUND WIRE IN ADDITION TO EQUIPMENT GROUND WIRE.

CURVED HATCH DENOTES GROUND WIRE. OTHERS AS NOTED FLEXIBLE CONDUIT, 6'-0" LONG MAX. W/ #12 CU GROUND UON.

HOMERUN TO PANELBOARD OR TERMINAL CABINET W/ CONDUCTORS AS NOTED

AND #12 CU EQUIPMENT GROUND, UON.

AND #12 CU EQUIPMENT GROUND, UON.

CONDUIT RISER - UP

CONDUIT DROP - DOWN

KEY NOTE SHOWN ON SAME SHEET

~

DENOTES # OF #12 WIRES,NO MARKS = 2 #12,1/2"C,

SYMBOL	DESCRIPTIONS
A/AMP	AMPERES
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
AFC	ABOVE FINISHED CEILING
AFG	ABOVE FINISHED GRADE
AIC	AMPERES INTERRUPTING CAPACITY (SYMMETRICAL)
С	CONDUIT
CCT	CIRCUIT
CKT	CIRCUIT
DC	DIRECT CURRENT
(E)	EXISTING TO REMAIN
EC	EMPTY CONDUIT
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
FACP	FIRE ALARM CONTROL PANEL
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE METALLIC CONDUIT
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND/G	GROUND
HP	HORSEPOWER
IG	ISOLATED GROUND
J-BOX	JUNCTION BOX
KVA	KILOVOLT-AMPS
KW	KILOWATTS
LTG	LIGHTING
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
MTD	MOUNTED
(N)	NEW
N	NEUTRAL CONDUCTOR (GROUNDED CIRCUIT CONDUCTOR)
N.I.E.S.	NOT IN ELECTRICAL SCOPE OR SPECIFICATIONS
NL	NIGHT LIGHT
PH/P	PHASE OR POLE
PNL	PANELBOARD
PVC	POLYVINYL CHLORIDE CONDUIT (SCHEDULE 40)
(R)	RELOCATE/RELOCATED
RECEP	RECEPTACLE
RGSC	RIGID GALVANIZED STEEL CONDUIT
U	UNSWITCHED
UNO	UNLESS NOTED OTHERWISE
V	VOLTAGE OR VOLTS
W	WATTS
WP	WEATHERPROOF

WEATHERPROOF WHILE IN USE

REMOVE

TRANSFORMER

(X)

XFMR



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No. E 16762

(Exp. 9/30/26 /

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Job #: 24-2169

SACRAMENTO CITY

Sacramento

City Unified

School District

3186062-000

SACRAMENTO, CA 95833

100% CD SUBMITTAI

△ **DESCRIPTION** 

A ADDENDUM

2495 NATOMAS PARK DRIVE, STUDIO 100

916 325 1100 / www.hmcarchitects.com

UNIFIED SCHOOL DISTRICT

7058 SAN JOAQUIN STREET

DATE

10/18/2024

11/20/2024

SACRAMENTO, CA 95820

FACILITY:

**7058 SAN JOAQUIN STREET** 

**ELECTRIC BUS CHARGING STATIONS** 

SYMBOL LEGEND, ABBREVIATIONS &

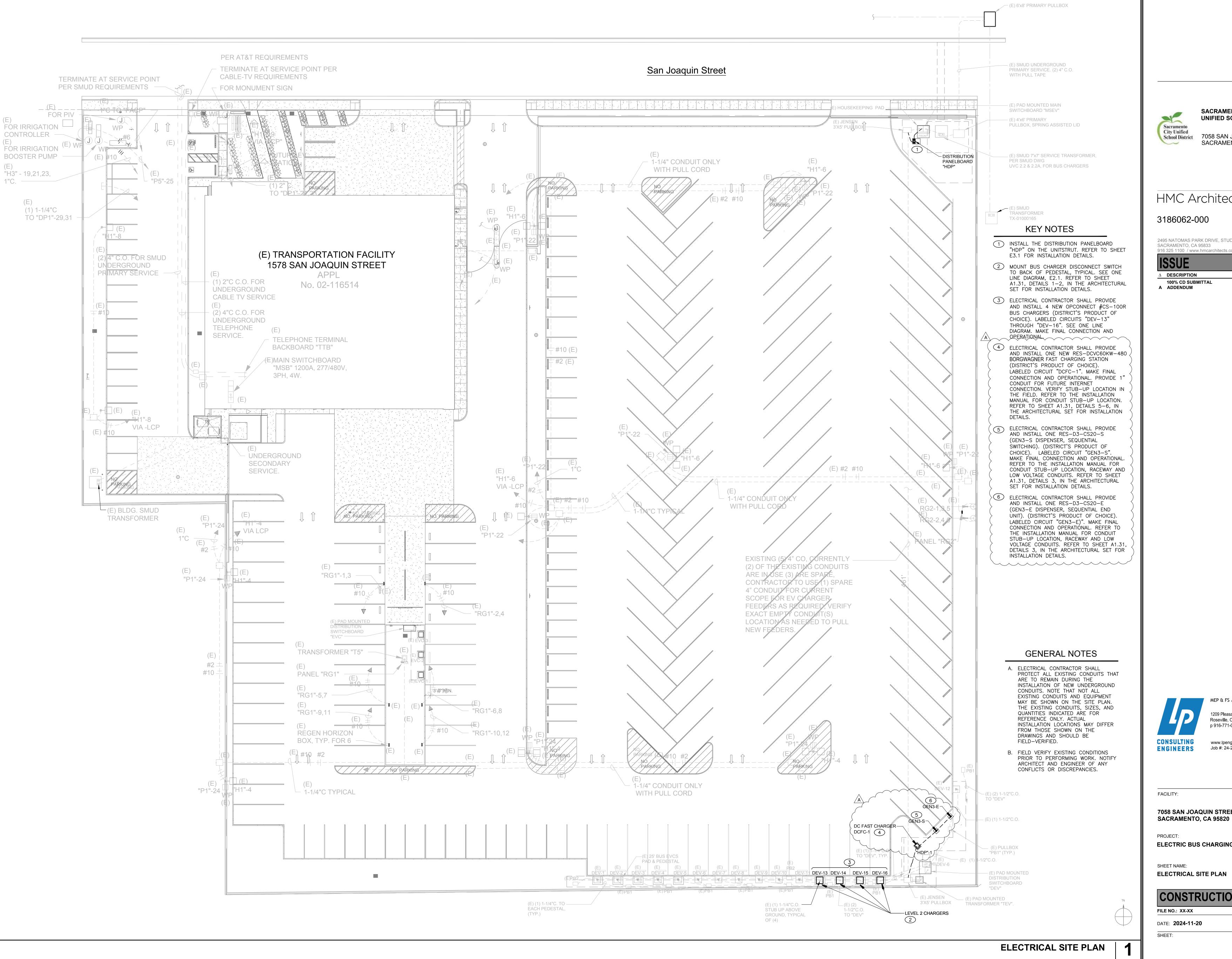
# CONSTRUCTION DOCUMENTS

DATE: **2024-11-20** CLIENT PROJ NO:

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SACRAMENTO, CA 95820

FILE NO.: XX-XX A NO.: XX-XXXXXX





SACRAMENTO CITY **UNIFIED SCHOOL DISTRICT** 7058 SAN JOAQUIN STREET

SACRAMENTO, CA 95820

HMC Architects

3186062-000

2495 NATOMAS PARK DRIVE, STUDIO 100 SACRAMENTO, CA 95833 916 325 1100 / www.hmcarchitects.com

△ **DESCRIPTION** 100% CD SUBMITTAL

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Job #: 24-2169

No. E 16762 ¥ Exp. 9/30/26 ¥

**7058 SAN JOAQUIN STREET** 

PROJECT:

**ELECTRIC BUS CHARGING STATIONS** 

SHEET NAME: **ELECTRICAL SITE PLAN** 

# **CONSTRUCTION DOCUMENTS**

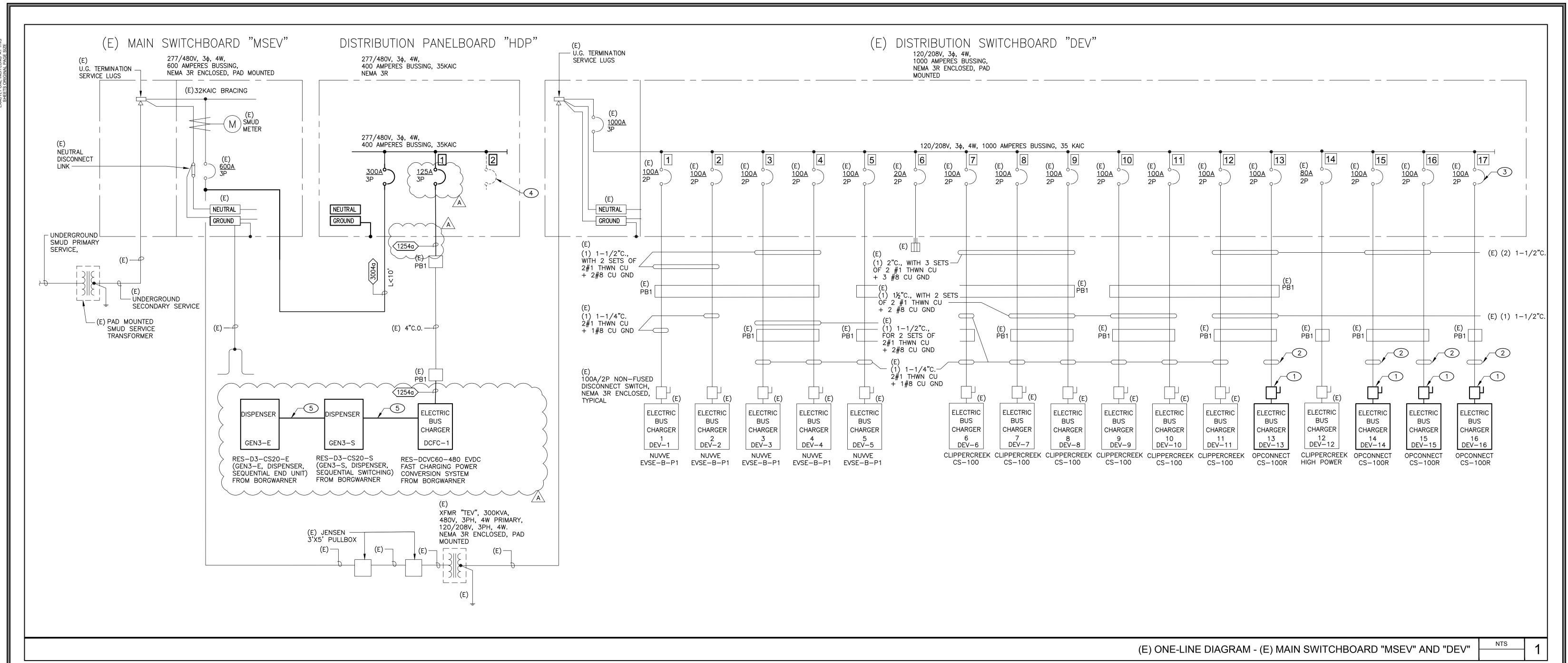
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DATE: **2024-11-20** CLIENT PROJ NO:

**ADDENDA A** 

A NO.: XX-XXXXXX



**GENERAL NOTES** 

A. PROVIDE A WARNING LABEL (SIGN) CLEARLY VISIBLE TO QUALIFIED PERSONS TO COMPLY WITH CEC 116.16 AND NFPA-70E-2000 OF POTENTIAL ELECTRIC ARC FLASH HAZARDS AT SWITCHBOARD, PANELBOARDS, AND INDUSTRIAL CONTROL PANELS THAT ARE LIKELY TO REQUIRE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE WHILE ENERGIZED.

# **KEY NOTES**

- 1 PROVIDE 100A/2P NON-FUSED DISCONNECT SWITCH, NEMA 3R ENCLOSED. INSTALL LOCKABLE ON DISCONNECT SWITCH TO BACKSIDE OF PEDESTAL. GROUND ALL METAL PARTS OF PEDESTAL AND CHARGER BACK TO MAIN SWITCHBOARD "DEV".
- 2 EXISTING 1-1/4"C.O. PULL 2#1 THWN CU + 1#8 CU GND.
- 3 CONNECT NEW LEVEL 2 CHARGERS TO THE EXISTING 100A, 2P BREAKERS. (TYP)
- 4 MAKE PROVISIONS FOR (3)125A/3P FRAME SIZE SPACES.

  5 PROVIDE A 3" CONDUIT FOR DC POWER CONDUCTORS AND A 1.25" CONDUIT FOR LOW VOLTAGE AND COMMUNICATION CONDUCTORS. REFER TO THE INSTALLATION MANUAL FOR DETAILS REGARDING RACEWAYS AND WIRE TYPES.

			VOL	TAGE	DROP	CALC	CULAT	IONS	3				
Project:	Name						Note:	Enter No	minal C	onductor Siz	zes exce	ept as below	<i>I</i> .
								1/0 = 10	1, 2/0 =	102, 3/0 = 1	103, 4/0	= 104	
Cir	cuit		Raceway		Conduc	tor		Lo	ad	Line-to-N	leutral	Line-to-	Line
Designation	Voltage	Phase	Metalic (M) or Non-Metalic (NM)	Material (AL) or (CU)	Nominal Size	Parallel Runs	Length in Feet	AMPS	Pow er Factor	Volt Drop	%	Volt Drop	%
DCFC-1	480	3	NM	CU	2	1	500	64.0	80%			9.92	2.07
DEV-13	208	1	NM	CU	1	1	80	89.0		0.66	0.31		
DEV-14	208	1	NM	CU	1	1	70	89.0		0.57	0.28		
DEV-15	208	1	NM	CU	1	1	60	89.0		0.49	0.24		
DEV-16	208	1	NM	CU	1	1	50	89.0		0.41	0.20		

These Voltage Drop Calculations are made in accordance with Table 9 of Chapter 9 of the National Electrical Code.

(SOUR	E: PER DISTRICT CHAMBERLAIN'S PLUS 25% OF EXISTING DEMAN TOTAL EXISTING DEMAND LOA	ND LOAD	)	_	97.0 24.3 121.3	KVA
ADD N	W LOAD					
	NEW CHARGERS 16.64 NEW FAST CHARGER 60 KW		8.5 kvA ea X 6.7 kvA ea X	1	74.0 66.7	
TOTAL	ADDED LOAD			_	140.7	KVA
\	IG AND ADDED TOTAL SERVICE LO			=	261.9	kvA
26	.9 KVA @ 277/480 VOLT	, 3 PHASE	= 315 AM	PERES	<b>^ ^ ^ ^</b>	<u> </u>



SACRAMENTO CITY
UNIFIED SCHOOL DISTRICT

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 $\Delta$  DESCRIPTION 100% CD SUBMITTAL

A ADDENDUM

10/18/2024 11/20/2024

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CONSULTING

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www.lpengineers.com Job #: 24-2169

FACILITY:

7058 SAN JOAQUIN STREET SACRAMENTO, CA 95820

OAGINAMEITTO, OA 30020

ELECTRIC BUS CHARGING STATIONS

SHEET NAME:
ONE LINE DIAGRAM & LOAD CALCULATIONS

**CONSTRUCTION DOCUMENTS** 

DATE: **2024-11-20** CLIENT PROJ NO: SHEET:

E2.1 ADDENDA A

A NO.: XX-XXXXXX

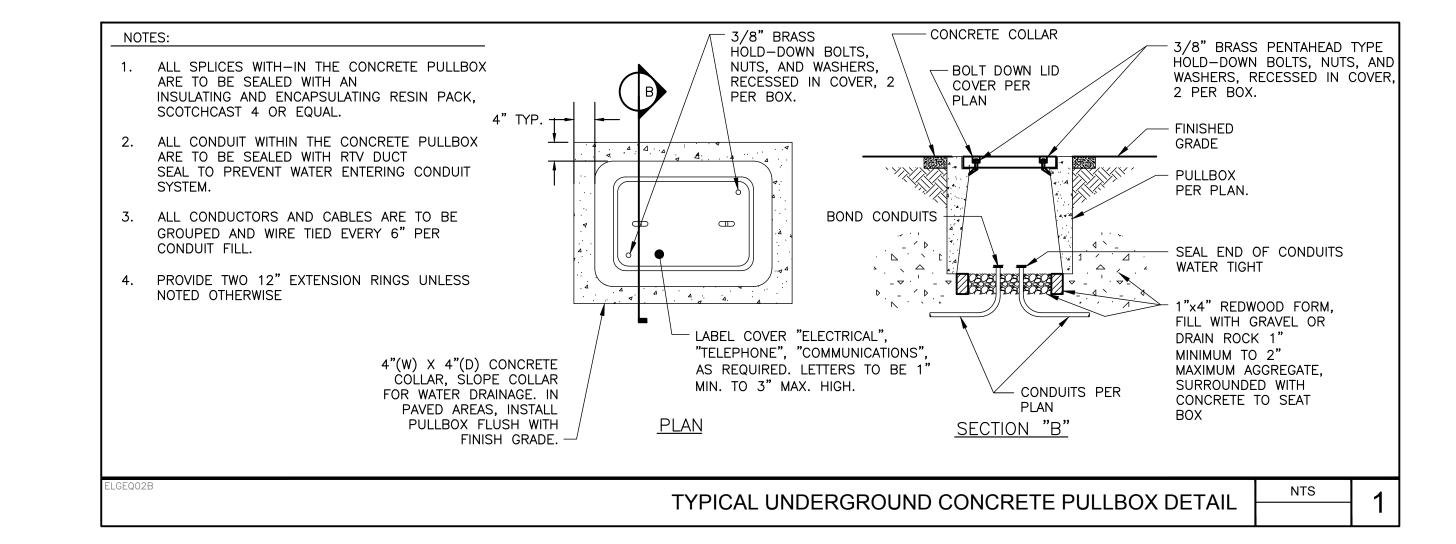
# ONE LINE DIAGRAM FEEDER SCHEDULE

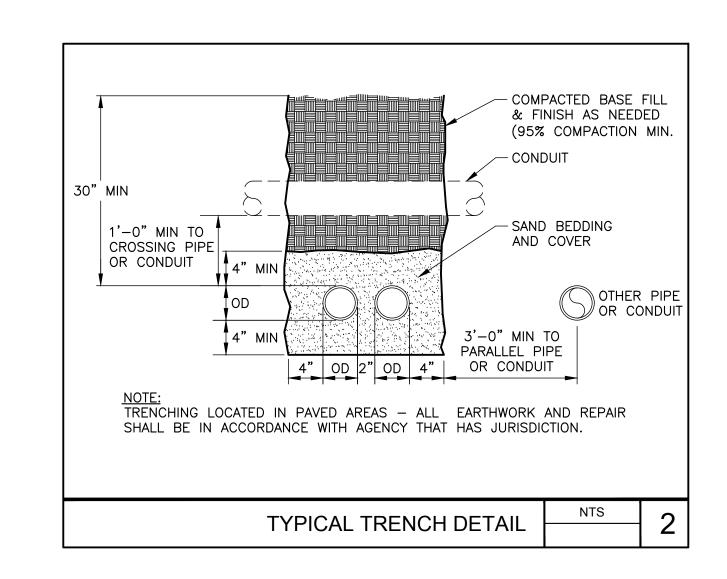
		3	3Ø, 3W + G	ND CIRCUITS		] [		30	ί, 4W + GNI	D CIRCUITS	
FEEDER	RATING	CON		PHASE CONDUCTORS	EQUIP. GND. CONDUCTOR (EGC)	FEEDER	RATING		DUIT	PHASE, NEUTRAL CONDUCTORS	EQUIP. GND. CONDUCTOR (EGC)
TAG	(AMPS)	EMT	PVC	(COPPER)	(NEC TABLE 250.122)	TAG	(AMPS)	EMT	PVC	(COPPER)	(NEC TABLE 250.122)
203	20	3/4"C	1"C	(3) #12	#12	204	20	3/4"C	1"C	(4) #12	#12
253	25	3/4"C	1"C	(3) #10	#10	254	25	3/4"C	1"C	(4) #10	#10
303	30	3/4"C	1"C	(3) #10	#10	304	30	3/4"C	1"C	(4) #10	#10
403	40	3/4"C	1"C	(3) #8	#10	404	40	1"C	1"C	(4) #8	#10
453	45	1"C	1"C	(3) #6	#10	454	45	1"C	1-1/4"C	(4) #6	#10
503	50	1"C	1"C	(3) #6	#10	504	50	1"C	1-1/4"C	(4) #6	#10
603	60	1-1/4"C	1-1/4"C	(3) #4	#10	604	60	1-1/4"C	1-1/4"C	(4) #4	#10
703	70	1-1/4"C	1-1/4"C	(3) #4	#8	704	70	1-1/4"C	1-1/4"C	(4) #4	#8
803	80	1-1/4"C	1-1/2"C	(3) #2	#8	804	80	1-1/2"C	1-1/2"C	(4) #2	#8
903	90	1-1/4"C	1-1/2"C	(3) #2	#8	904	90	1-1/2"C	1-1/2"C	(4) #2	#8
1003	100	1-1/2"C	2"C	(3) #1	#8	1004	100	2"C	2"C	(4) #1	#8
1253	125	1-1/2"C	2"C	(3) #1	#6	1254	125	2"C	2"C	(4) #1	#6
1503	150	2"C	2"C	(3) #1/0	#6	1504	150	2"C	2"C	(4) #1/0	#6
1753	175	2"C	2"C	(3) #2/0	#6	1754	175	2"C	2-1/2"C	(4) #2/0	#6
2003	200	2"C	2-1/2"C	(3) #3/0	#6	2004	200	2-1/2"C	2-1/2"C	(4) #3/0	#6
2253	225	2-1/2"C	2-1/2"C	(3) #4/0	#4	2254	225	2-1/2"C	3"C	(4) #4/0	#4
2503	250	2-1/2"C	3"C	(3) #250 KCMIL	#4	2504	250	2-1/2"C	3"C	(4) #250 KCMIL	#4
3003	300	3"C	3"C	(3) #350 KCMIL	#4	3004	300	3"C	3-1/2"C	(4) #350 KCMIL	#4
3503	350	3"C	3-1/2"C	(3) #500 KCMIL	#3	3504	350	3-1/2"C	4"C	(4) #500 KCMIL	#3
4003	400	(2) 2"C	(2) 2-1/2"C	(3) #3/0 (EACH)	#3 (EACH)	4004	400	(2) 2-1/2"C	(2) 2-1/2"C	(4) #3/0 (EACH)	#3 (EACH)
4503	450	(2) 2-1/2"C	(2) 2-1/2"C	(3) #4/0 (EACH)	#2 (EACH)	4504	450	(2) 2-1/2"C	(2) 3"C	(4) #4/0 (EACH)	#2 (EACH)
5003	500	(2) 2-1/2"C	(2) 3"C	(3) #250 KCMIL (EACH)	#2 (EACH)	5004	500	(2) 2-1/2"C	(2) 3"C	(4) #250 KCMIL (EACH)	#2 (EACH)
6003	600	(2) 3"C	(2) 3"C	(3) #350 KCMIL (EACH)	#1 (EACH)	6004	600	(2) 3"C	(2) 3-1/2"C	(4) #350 KCMIL (EACH)	#1 (EACH)
7003	700	(2) 3"C	(2) 3-1/2"C	(3) #500 KCMIL	#1/0 (EACH)	7004	700	(2) 3-1/2"C	(2) 4"C	(4) #500 KCMIL	#1/0 (EACH)
8003	800	(3) 2-1/2"C	(3) 3"C	(3) #300 KCMIL (EACH)	#1/0 (EACH)	8004	800	(3) 3"C	(3) 3-1/2"C	(4) #300 KCMIL (EACH)	#1/0 (EACH)
10003	1000	(3) 3"C	(3) 3-1/2"C	(3) #400 KCMIL (EACH)	#2/0 (EACH)	10004	1000	(3) 3"C	(3) 3-1/2"C	(4) #400 KCMIL (EACH)	#2/0 (EACH)
12003	1200	(4) 3"C	(4) 3"C	(3) #350 KCMIL (EACH)	#3/0 (EACH)	12004	1200	(4) 3"C	(4) 3-1/2"C	(4) #350 KCMIL (EACH)	#3/0 (EACH)
16003	1600	(5) 3"C	(5) 3-1/2"C	(3) #400 KCMIL (EACH)	#4/0 (EACH)	16004	1600	(5) 3"C	(5) 3-1/2"C	(4) #400 KCMIL (EACH)	#4/0 (EACH)
20003	2000	(6) 3"C	(6) 3-1/2"C	(3) #400 KCMIL (EACH)	#250 KCMIL (EACH)	20004	2000	(6) 3"C	(6) 3-1/2"C	(4) #400 KCMIL (EACH)	#250 KCMIL (EACH)
25003	2500	(7) 3"C	(7) 3-1/2"C	(3) #500 KCMIL (EACH)	#350 KCMIL (EACH)	25004	2500	(7) 3-1/2"C	(7) 4"C	(4) #500 KCMIL (EACH)	#350 KCMIL (EACH)
30003	3000	(8) 3"C	(8) 3-1/2"C	(3) #500 KCMIL (EACH)	#400 KCMIL (EACH)	30004	3000	(8) 3-1/2"C	(8) 4"C	(4) #500 KCMIL (EACH)	#400 KCMIL (EACH)
40003	4000	(10) 3-1/2"C	(10) 4"C	(3) #600 KCMIL (EACH)	#500 KCMIL (EACH)	40004	4000	(10) 4"C	(10) 4"C	(4) #600 KCMIL (EACH)	#500 KCMIL (EACH)
						1					٨

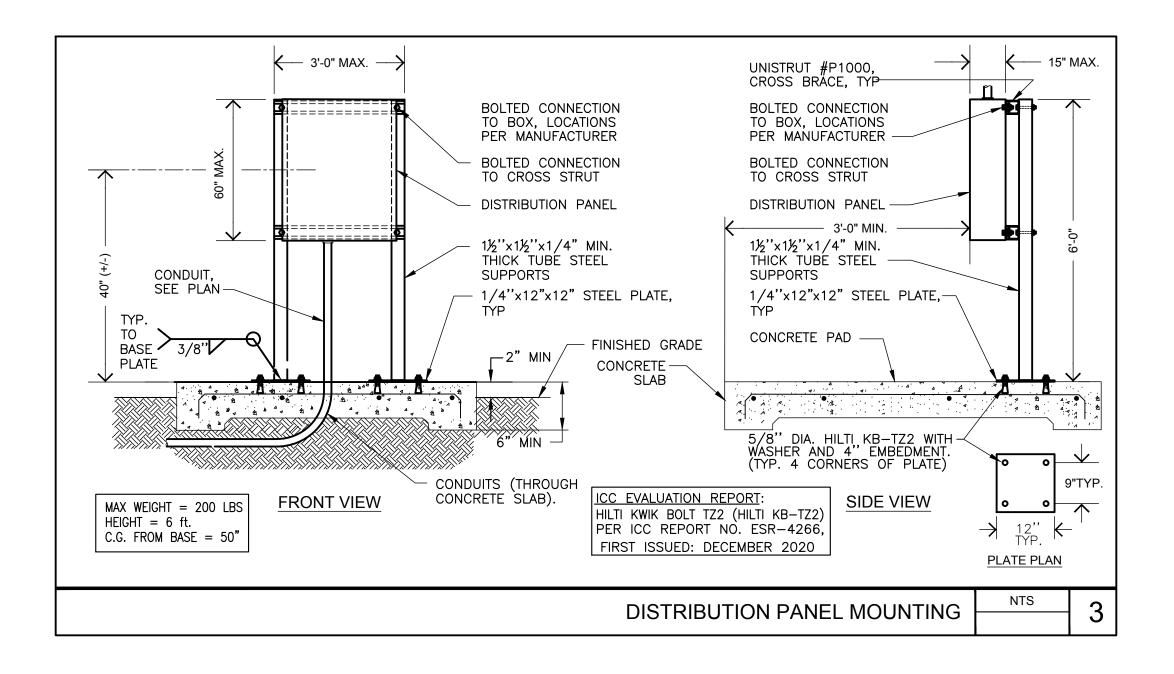
3Ø, 3W + GND CIRCUITS ADJUSTED FOR VOLTA	AGE DROP	$\sim$	3Ø, 4W +	GND CIRC	UITS ADJU	JSTED FOR VOLTAGE	DROP A
	125	4a	125	2"C	(E) 4"C (N) 3"C	(3) #1+1#4 N	#4
	300	4a	300	3"C	3-1/2"C	(4) #350 KCMIL	#1

- A. ALL CONDUCTORS SHALL BE DUAL RATED THHN/THWN, 90°/75°, 600V, COPPER WHERE INSTALLED UNDERGROUND OR IN WET LOCATIONS.
- B. CONDUCTOR SIZES ARE BASED ON 2020 NEC TABLE 310.16, COPPER. C. ALL CIRCUITS 100A AND LOWER ARE SIZED FROM THE 60° COLUMN (NEC 110.14(C)). ALL OTHER CIRCUITS
- ARE SIZED FROM THE 75° COLUMN. D. PVC CONDUIT HAS BEEN SIZED BASED ON TABLE C.1 - SCHEDULE 80.
- . WHERE UNGROUNDED CONDUCTORS ARE INCREASED FROM THE MINIMUM SIZE DUE TO VOLTAGE DROP, THE EGC SHALL BE UPSIZED PROPORTIONATELY ACCORDING TO CIRCULAR MIL (NEC 250.122(B)).

			MISCELLA	ANEOUS	
PS	PRIMARY SERVICE	N/A		PULL STRING	N/A
SEC	SECONDARY SERVICE				N/A
EXIST	EXISTING FEEDER			(E) CONDUCTORS	(E)









SACRAMENTO CITY **UNIFIED SCHOOL DISTRICT** School District 7058 SAN JOAQUIN STREET

SACRAMENTO, CA 95820



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FACILITY:

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**ELECTRIC BUS CHARGING STATIONS** 

**ELECTRICAL DETAILS & SCHEDULES** 

# **CONSTRUCTION DOCUMENTS**

A NO.: XX-XXXXXX DATE: **2024-11-20** CLIENT PROJ NO:

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