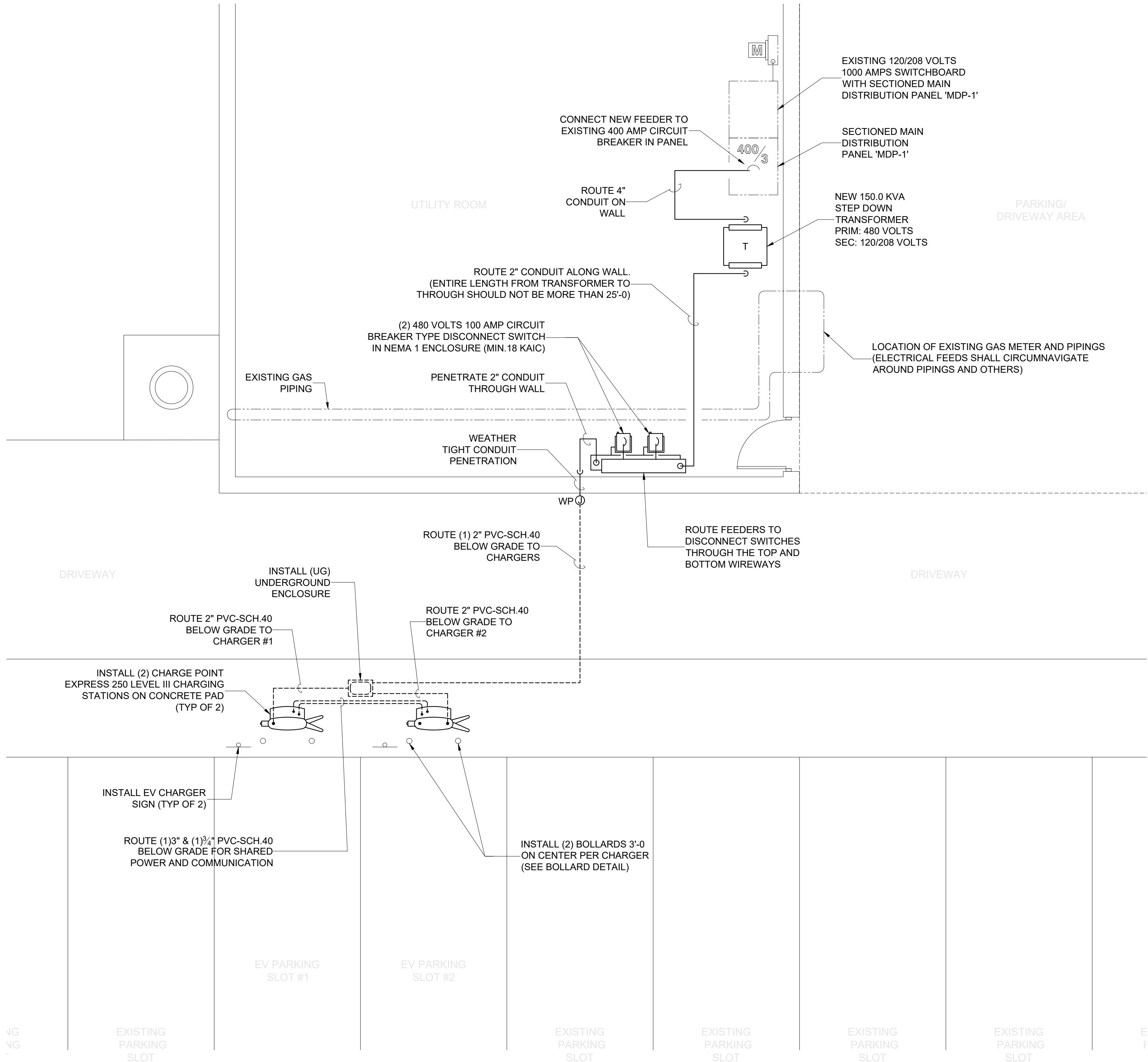
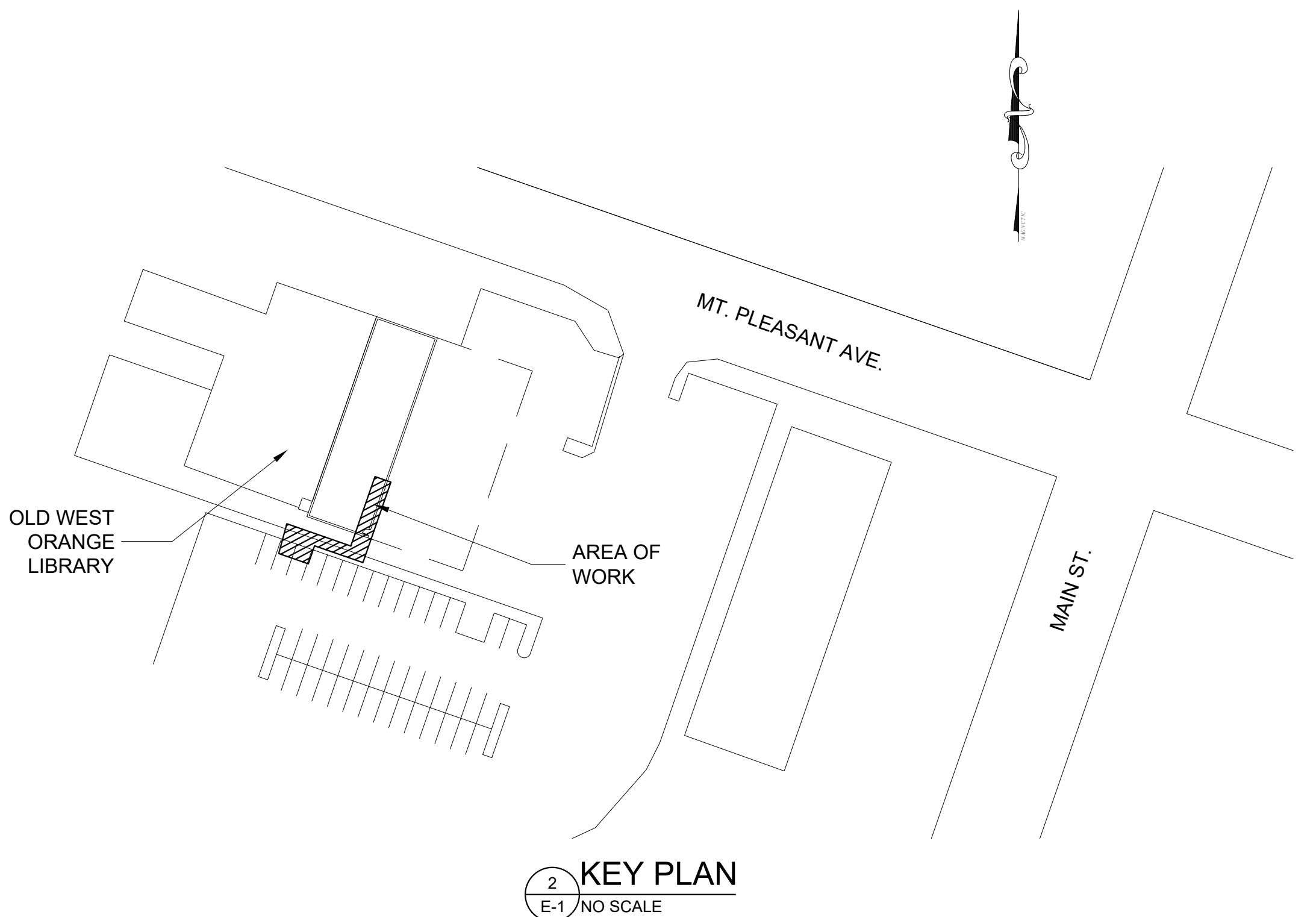




CHARGER SCHEDULE										
MANUFACTURER	MANUFACTURER & EQUIPMENT	FEATURES	KW	VOLTS	PHASE	AMPS	BREAKER	CONDUCTOR SIZE & COUNT	GROUND SIZE & COUNT	CONDUIT SIZE & TYPE
CHARGE POINT	CHARGE POINT: CPE-250 EXPRESS 250 LEVEL III	(1) CCS1 VEHICLE CONNECTOR, (1) CHADEMO VEHICLE CONNECTOR	62.50	480	3Ø	75	100	3 #2 (MIN.)	1 #2/0	2" PVC - SCH 40

NOTE:
CONTRACTOR MUST REFER TO THE MANUFACTURER FOR FULL ELECTRICAL DETAILS, INSTALLATION MANUAL AND SHALL BE RESPONSIBLE FOR FULL INSTALLATION TO COMPLETE THE SYSTEM.

EXISTING MAIN DISTRIBUTION PANEL "MDP-1"										120 / 208 VOLT 3Ø, 4 WIRE	
CKT	LOCATION / ITEM	KVA	WIRE	GND	BREAKER	BREAKER	GND	WIRE	KVA	LOCATION / ITEM	CKT
1	EXISTING LOAD (HVAC-2)				250	400				150.0 KVA TRANSFORMER (PRIMARY VOL: 208 VOLTS SECONDARY:480 VOLTS	2
3							#2/0	#400KCML	125.0		4
5					3	3					6
7	EXISTING LOAD (2A)				125	100				EXISTING LOAD (1A)	8
9											10
11					3	3					12
13	EXISTING LOAD (ELEVATOR)				100	70				EXISTING LOAD (KITCHEN)	14
15											16
17					3	3					18
19	EXISTING SPARE				70	70				EXISTING SPARE	20
21											22
23					3	3					24
25	EXISTING SPARE				30	20				EXISTING SPARE	26
27											28
29					3	3					30
31	SPACE					20				EXISTING SPARE	32
33											34
35						3					36
EXISTING PANEL WITH 36 POLES HAS 1000 AMP MLO. ALL HVAC EQUIPMENT AND MOTOR LOADS SHALL HAVE HACR TYPE CIRCUIT BREAKERS									EST. EXISTING LOAD: NEW LOAD: EST. TOTAL LOAD:	120.0 KVA 125.0 KVA 245.0 KVA	



1 EV CHARGER POWER PLAN
E-1 SCALE: 1/4" = 1'-0"

FOR REVIEW ONLY, NOT FOR CONSTRUCTION

12.20.2024



Project Title:
EV CHARGING STATION
FOR
OLD WEST ORANGE
LIBRARY
AT
66 MAIN STREET
W. ORANGE, NJ 08104

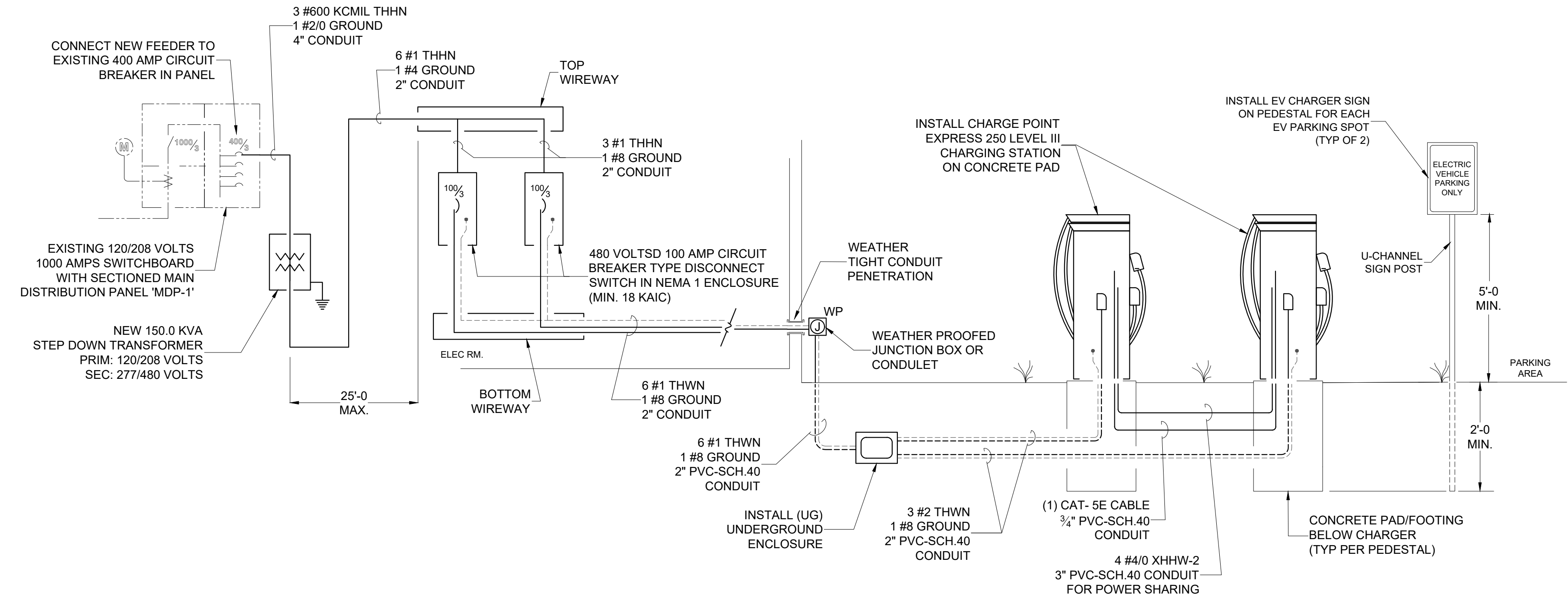
ELECTRICAL SERVICE
TO EV
CHARGING STATIONS

Date: 12/23/2024
Scale: AS SHOWN
Drawing Title: EV CHARGER POWER PLAN, EQUIPMENT SCHEDULE & KEY PLAN
App by: AA

WALTER W. SPENCER, JR. NJ LIC. No. GC044831

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Phone: (856) 374-0056
Fax: (856) 374-1011

Drawing No:
E-1



SHORT CIRCUIT CALCULATION:		
TRANSFORMER SIZE	150	KVA
PHASE	3Ø	
VOLTAGE (L-L)	480	VOLTS
FULL LOAD AMPERES	180	AMPS
%Z (AS PER NAMEPLATE LABEL)	4.81	%*
%Z TOLERANCE	10	%
CALCULATED LET THRU CURRENT	4,168	AMPS
MINIMUM AIC RATING:	22,000	AMPS

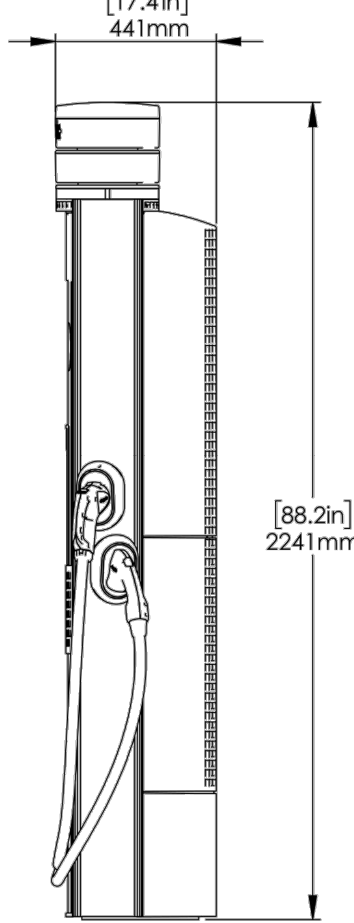
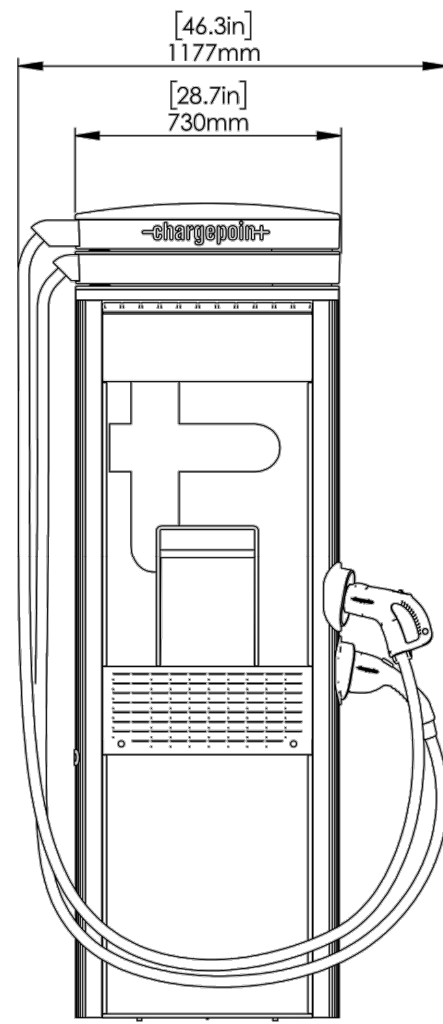
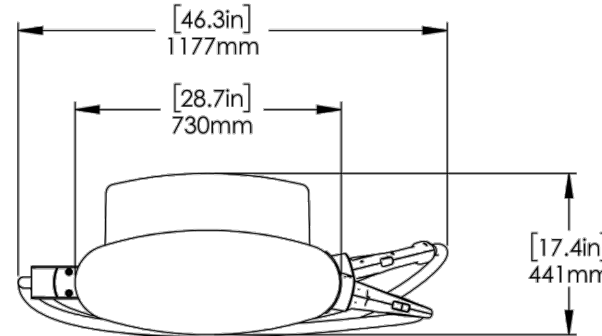
* (Z = TRANSFORMER IMPEDANCE)

ELECTRICAL SPECIFICATIONS

- THE WORK SHALL INCLUDE ALL LABOR, MATERIALS, AND SERVICES REQUIRED TO COMPLETE THE ELECTRICAL INSTALLATION.
- THE CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS TO SECURE THE ELECTRICAL PERMIT. THE OWNER SHALL PAY ALL UTILITY COMPANY CHARGES REQUIRED TO SECURE SAME.
- ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW GENERAL POWER LAYOUTS.
- CONTRACTOR SHALL CALL (800) 272-1000 (NJ ONE CALL) FOR MARK-OUT OF ALL UNDERGROUND UTILITIES AND SERVICES PRIOR TO COMMENCING ANY OUTDOOR WORK.
- ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE NEW JERSEY UNIFORM CONSTRUCTION CODE AND ALL APPLICABLE SECTIONS OF THE 2020 NATIONAL ELECTRICAL CODE.
- ADJUSTMENT FACTORS FOR MORE THAN 3 CURRENT CARRYING CONDUCTORS IN A CONDUIT AND OTHERS SHALL BE APPLIED AS PER NATIONAL ELECTRICAL CODE #310.15(B).
- ROUTING OF CONDUITS SHOWN IS FOR DESIGN PURPOSES ONLY. CONTRACTOR SHALL DETERMINE FINAL ROUTING IN FIELD.
- ALL UNDERGROUND CONDUITS INSTALLATION MUST MAINTAIN MINIMUM 2'-0. PATCH, REPAIR & RESTORE CONCRETE/ASPHALT PAVEMENT, YARD AND OTHERS UPON COMPLETION OF WORK.
- CHARGERS AND OTHERS SHOWN ON DRAWINGS ARE ESTIMATED LOCATIONS ONLY. PRIOR TO INSTALLATION, CONTRACTORS MUST VERIFY FIELD CONDITION AND FINAL LOCATION PRIOR TO INSTALLATION.
- CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS TO MAINTAIN THE BUILDING ELECTRICAL SERVICE AT ALL TIMES. PERIODS OF ELECTRICAL SHUT DOWN SHALL BE COORDINATED WITH OWNER AT LEAST 48 HOURS IN ADVANCE.
- GROUNDING SHALL BE PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, THE UTILITY COMPANY, AND ALL AUTHORITIES HAVING JURISDICTION.
- WIRING METHODS SHALL INCLUDE SCHEDULE 40 PVC &/OR HDPE BELOW GRADE, RIGID METAL CONDUIT, SCHEDULE 80 PVC OUTDOORS WHERE EXPOSED, ELECTRICAL METALLIC TUBING (EMT) AND METAL-CLAD CABLE INDOORS. ALL UNDERGROUND WIRING TO MEET NEC TABLE 300.5
- MINIMUM WIRE TYPE SHALL BE TYPE "THW" OR "THHN" #12 COPPER AND 3/4 INCH MINIMUM CONDUIT.
- VOLTAGE DROP SHALL NOT EXCEED THAT OUTLINED IN THE NATIONAL ELECTRICAL CODE #210.19(A).
- ALL PANELS AND JUNCTION POINTS SHALL BE PERMANENTLY LABELED.
- CONTRACTOR TO FURNISH AND INSTALL PULL BOXES, HAND HOLES, JUNCTION BOXES, ETC. REQUIRED TO PROPERLY ACCESS ALL CONNECTIONS.
- ALL PENETRATIONS OF RATED WALLS AND FLOORS SHALL BE SEALED WITH U.L. APPROVED FIRE-STOPPING MATERIAL.
- NUMBERING OF CIRCUITS ON DRAWING IS FOR CONVENIENCE ONLY AND BEARS NO RELATION TO USE OF PARTICULAR CIRCUIT BREAKERS IN PANEL BOARDS. LOADS SHALL BE BALANCED AND BREAKERS SHALL BE ARRANGED IN LOGICAL OPERATING SEQUENCE.
- ALL ELECTRICAL DEVICES SHALL BE APPROVED BY A RECOGNIZED TESTING LABORATORY AND SHALL BEAR LABEL OF THE SAME.
- CONTRACTOR MUST FOLLOW MANUFACTURER'S INSTALLATION PROCEDURE AND PROVIDE NECESSARY COMPONENTS TO COMPLETE THE ENTIRE CHARGING STATION SYSTEM.
- FURNISH ROUGH WIRING AND FINAL ACCEPTANCE CERTIFICATE FROM AUTHORITY PERFORMING ELECTRICAL INSPECTION.
- CONTRACTOR SHALL REMOVE CONSTRUCTION DEBRIS FROM PREMISES AT THE END OF EACH DAY. UPON COMPLETION OF THE THE WORK, CONTRACTOR SHALL BROOM CLEAN AREA OF CONSTRUCTION. ALL DAMAGED SURFACES INCLUDING DRIVEWAY, SIDEWALKS, AND OTHER PAVEMENTS SHALL BE REPAIRED, AND REFINISHED AT THE END OF CONSTRUCTION PERIOD.

ChargePoint Express 250 Datasheet

Architectural Drawings (Dimensions)

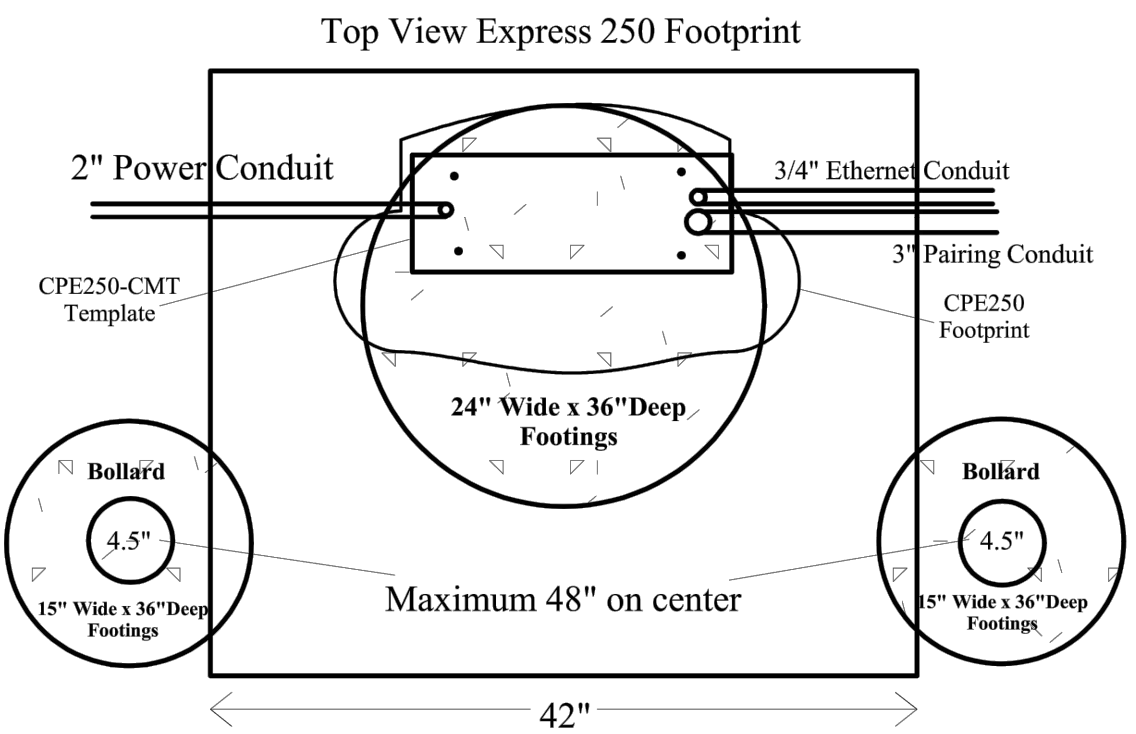
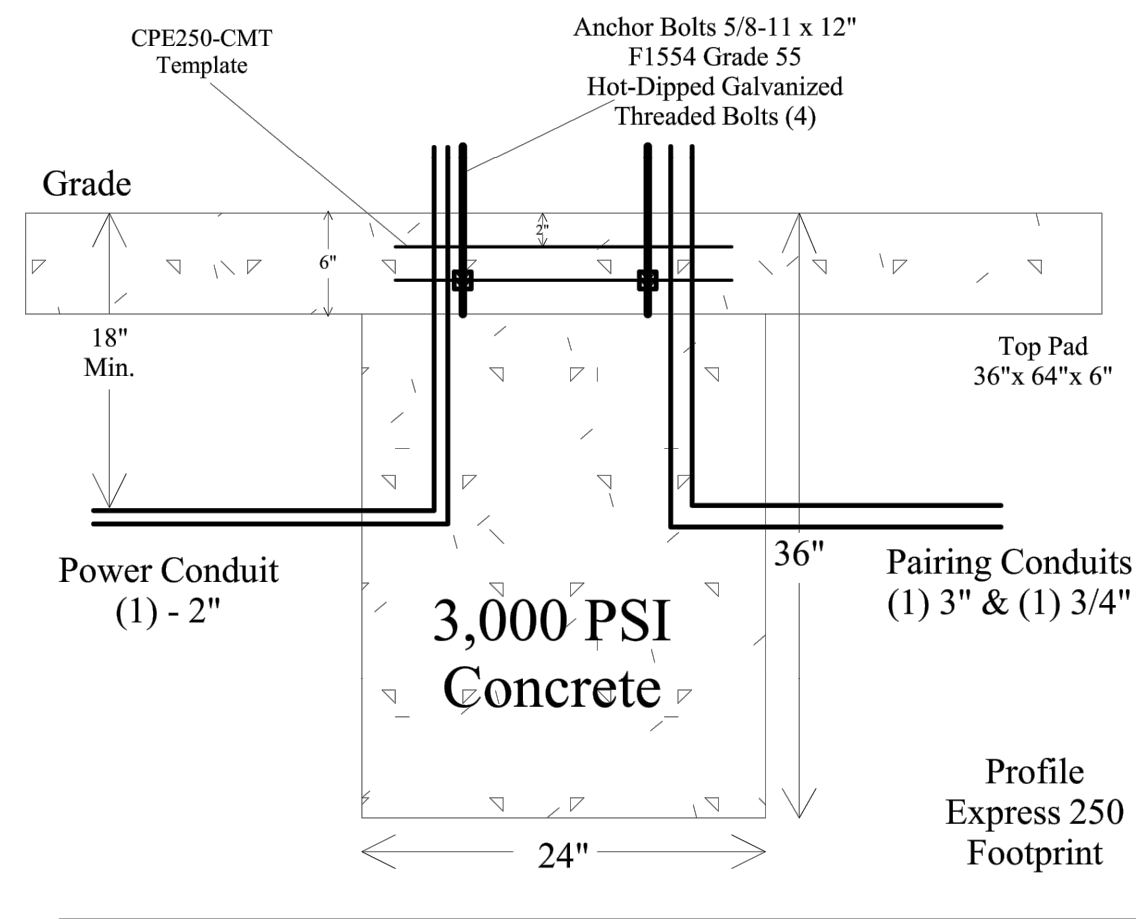


2 DIMENSIONS: CPE-250

E-2 NO SCALE

1 ELECTRICAL SINGLE LINE DIAGRAM

E-2 NO SCALE

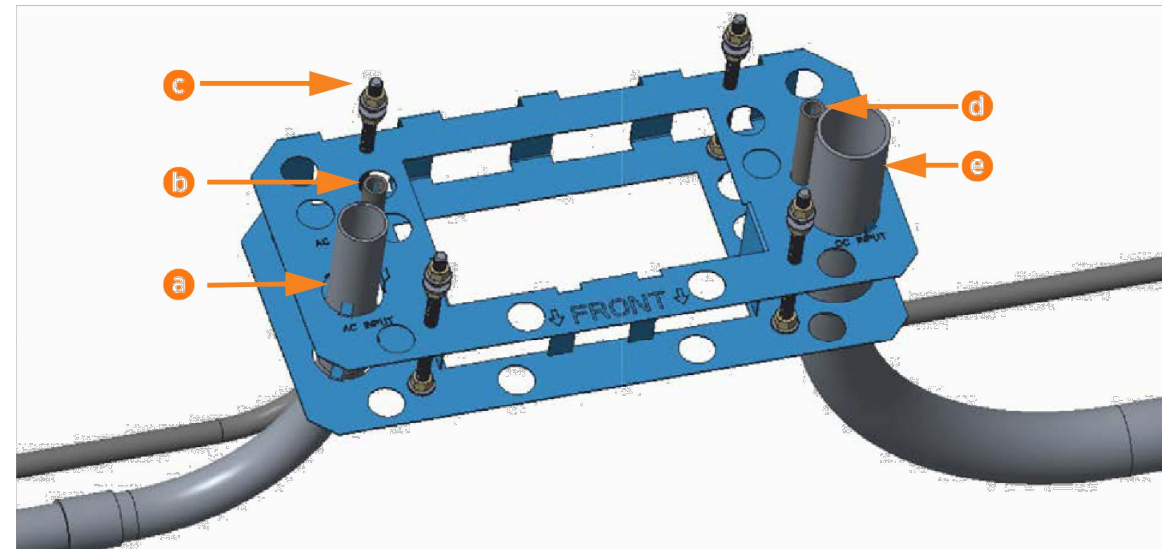


3 FOOTING / PAD DETAILS: CPE-250

E-2 NO SCALE

An assembled CPE250-CMT template is shown below with the positions of all conduit and anchor bolts.

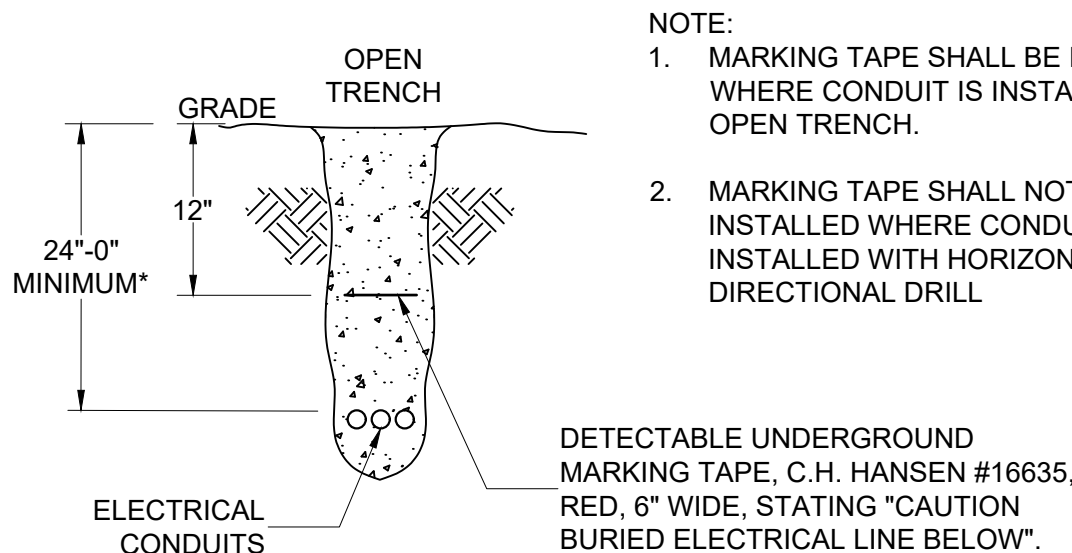
Note: A separate CPE250-CMT is required for each charging station (two per Paired installation).



- a. AC conduit
- b. Shunt trip conduit
- c. Anchor bolts (x4)
- d. Ethernet conduit (Paired installations only)
- e. DC conduit (Paired installations only)

4 CONDUIT TEMPLATE: CPE-250

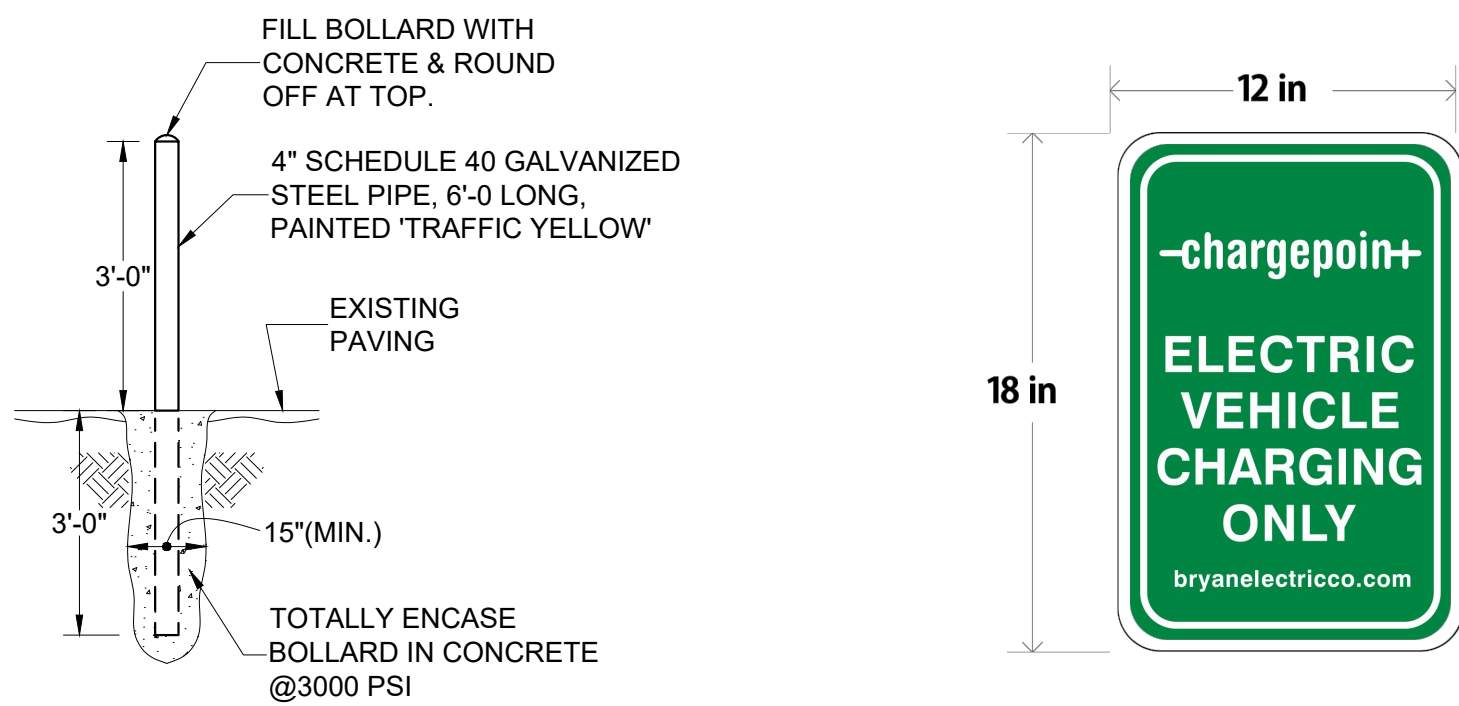
E-2 NO SCALE



* 24" MINIMUM FOR OPEN TRENCH UNDER ROADWAY. 18" MINIMUM FOR OPEN TRENCH NOT UNDER ROADWAY

5 UNDERGROUND FEEDER DETAILS

E-2 NO SCALE

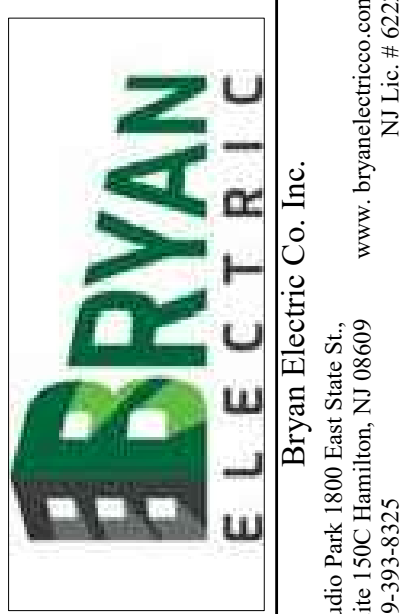


6 BOLLARD DETAILS

E-2 NO SCALE

7 EV CHARGER PARKING SIGN

E-2 NO SCALE



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ELECTRICAL SERVICE TO EV CHARGING STATIONS

Date: 12/23/2024

Scale: AS SHOWN

Drawn by: AA

Drawing Title:
PANEL SCHEDULE,
SHORT CIRCUIT
CALCULATION,
SPECIFICATION & DETAILS

App by:

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Drawing No:

E-2