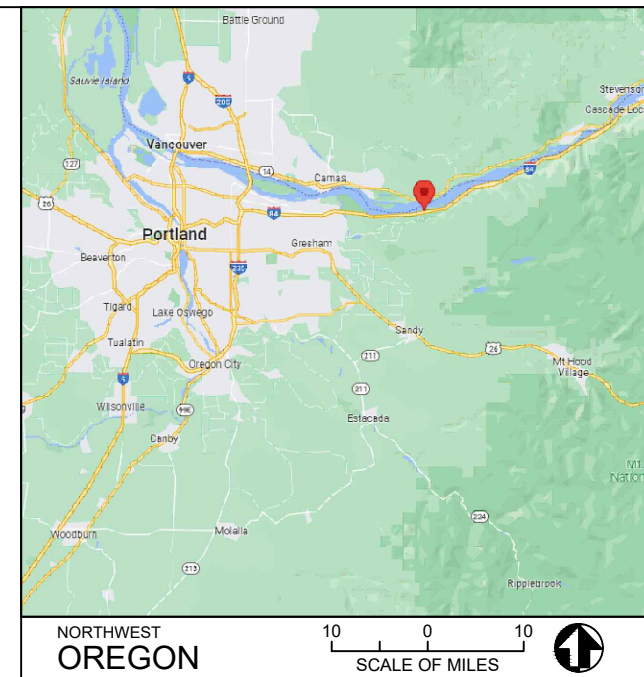




Exhibit A.21



PROJECT INFORMATION	
SITE ADDRESS	ROOSTER ROCK STATE PARK, CORBETT, OR. 97017
COORDINATES	N45.54696, W122.23621
COUNTY	MULTNOMAH
ELEVATION	42'
AHJ CONTACT INFORMATION	TBD
RIVIAN INSTALLATION MANAGER	EMILY BRADY ebrady@rivian.com
PROPERTY OWNER	OREGON PARKS & WILDLIFE
CIVIL ENGINEER OF RECORD	ROBERT JENSEN
ELECTRICAL ENGINEER OF RECORD	SHELTON KEISLING
EOR ADDRESS	7171 W 95TH STREET SUITE 600, OVERLAND PARK KANSAS 66212
EOR CONTACT INFORMATION	913-438-7700
UTILITY NAME	UNITED POWER



PROJECT DESCRIPTION
INSTALLATION OF (4) RIVIAN LEVEL 2 CHARGERS, ALL RELATED ELECTRICAL AND CIVIL ACTIVITIES, AND INSTALLATION OF NECESSARY PARKING SIGNS.

ORDOT SPECIFICATION
THE STANDARD SPECIFICATIONS OF THE STATE OF OREGON, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

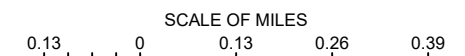
APPLICABLE CODES
2018 INTERNATIONAL BUILDING CODE (IBC) 2020 NATIONAL ELECTRICAL CODE (NEC)

DESIGN LOADING	
LATERAL LOAD DESIGN DATA: WIND DESIGN DATA (ASCE 7-16):	
BASIC WIND SPEED (V_{ult})	97 MPH
RISK CATEGORY	II
EXPOSURE CATEGORY	C
SEISMIC DESIGN DATA (ASCE 7-16):	
SEISMIC IMPORTANCE FACTOR (I)	1.0
RISK CATEGORY	II
SITE CLASS (ASSUMED)	D
MAPPED SPECTRAL RESPONSE	
SHORT PERIODS (S_s)	0.710
1 SEC. PERIODS (S_1)	0.315
SPECTRAL RESPONSE COEFF.	
SHORT PERIODS (S_{ps})	0.583
1 SEC. PERIODS (S_{p1})	NULL
SEISMIC DESIGN CATEGORY	NULL

CD90

INDEX	
SHEET	SHEET NAME
C0	COVER SHEET
-	RIVIAN EQUIPMENT SPEC SHEET
C1	CIVIL GENERAL NOTES
C2	SITE PLAN
C3	STALL LAYOUT PLAN
C4	SITE DETAILS
E1	ELECTRICAL GENERAL NOTES
E2	SYSTEM ONE-LINE DIAGRAM & PANEL SCHEDULE
E3	ELECTRICAL & GROUNDING DETAILS

PROJ. NO. OR-2001



SSC, INC.	
ADDRESS 7171 WEST 95TH ST, STE 600 OVERLAND PARK, KS 66212	CLIENT MANAGER: D.C. PELLAND A&E PROJECT MANAGER: A.M. WHYTE LEAD ENGINEER: R.E. JENSEN LEAD ELECTRICAL: S.D. KEISLING
CONTACT: PHONE: (913) 438-7700 FAX: (913) 438-7777	

90% CONSTRUCTION				
Mark	Sheet	REVISION	Date	Initial
		CD90 - ISSUED FOR REVIEW	08.23.23	DWO

TITLE OF DRAWING		
COVER SHEET		
NAME OF PARK		
ROOSTER ROCK STATE PARK		
REGION	COUNTY	STATE
PNWR	MULTNOMAH	OR

DRAWING NO.	
CD90v0	
PKG. NO.	SHEET
1	1
	OF 9

RIVIAN WAYPOINTS CHARGER: KEY FEATURES

- Max charge speed of 11.5kW¹, compared to common 6.8 or 7.2kW varieties
- Aesthetic exterior design and SAE J1772 plug provides maximum compatibility
- Plug and Charge (ISO 15118) compatible
- Enables for over-the-air firmware updates via ethernet, cellular, or Wi-Fi
- Remotely view and control settings via a Rivian-developed online portal, Rivian Energy Cloud
- Time of sale information communicated via user-friendly display screen (\$/kWh)
- Provides charger location, real-time charging updates, and payment details to drivers

¹When plugged into a vehicle with sufficiently sized on-board charger and at 240V AC

²Pending



Dual Pedestal Waypoints Charger



RIVIAN WAYPOINTS CHARGER: TECHNICAL SPECIFICATIONS

ELECTRICAL

Input	2-Pole, Single Phase, Nominal Voltage: 208 / 240V AC, 60Hz
Max. Continuous Current	48A
DIP Switch Adjustable Max. Current Values	40A, 32A, 24A, 20A, 16A, 12A, 6A
Vehicle Connector Type	SAE J1772 (IEC 62196 Type 1)
Output Cable Length	18 ft [5.49m]
Recommended Installation Type	Hardwired with non-GFCI type Service Panel Breaker
Wiring	L1, L2, Ground (no neutral)

MECHANICAL, ENVIRONMENTAL, AND CERTIFICATIONS

Operating Ambient Temperature	-35°C to +50°C
Ventilation	Not Required
Dimensions (Ind. Mount Plate) HxWxD	16.27 x 7.32 x 5.75in [413.23 x 185.79 x 146.02mm]
Enclosure Rating	NEMA 3R, Outdoor Use
Certifications	UL and cUL Listed to UL2594, UL2231, UL1998
Codes & Standards	FCC Part 15 Class B, NEC 265 compliant, ENERGY STAR ²
Mounting Configurations	Wall Mount, Rivian Pedestal Mounted (single or dual)

CONNECTIVITY

Card Reader (NFC)	ISO 14443 A/B, ISO 151693, and FeliCa
Bluetooth	Version 5.0
Local Area Network (LAN)	Wi-Fi – 2.4GHz (802.11 b/g/n), Ethernet – 10/100BASE-T
Wide Area Network (WAN)	Cellular – LTE Cat M1 / LTE Cat NB1
Vehicle Communication	ISO 15118 ²

PROPRIETARY AND CONFIDENTIAL | DO NOT DISTRIBUTE | 1

SSC, INC.		DESIGNED:	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
STATE OF COLORADO		DWO	---	RIVIAN EQUIPMENT SPEC SHEET	CD90 v0
STATE CERTIFICATE OF AUTHORIZATION # 20041302439		CADD			
ENGINEER:	PE#:	DISCIPLINE:			
KMV KEVIN M. VANMAELE 53946		CIVIL			
REJ ROBERT E. JENSEN 54720		CIVIL			
SDK SHELTON D. KEISLING 49643		ELECTRICAL			
TMS TERRANCE M. SUPER 36490		ELECTRICAL			
		TECH. REVIEW:			
		RES			
		DATE:			
		08.23.23			
				ROOSTER ROCK STATE PARK	
PKG. NO.	SHEET				
0	2				
	OF				
	9				

FEEDER REFERENCE	
#	DENOTES FEEDER REFERENCE. REFER TO SHEET E2 FOR FEEDER/CIRCUIT SCHEDULE.

PARKING STALL SCHEDULE	
EXISTING STANDARD STALLS UTILIZED AS A RESULT OF THIS PROJECT	4

BLOCKS	
■	DISPENSER
•	PARKING SIGN
•	BOLLARD
—	WHEELSTOP
⎓	PANELBOARD
□	PULLBOX

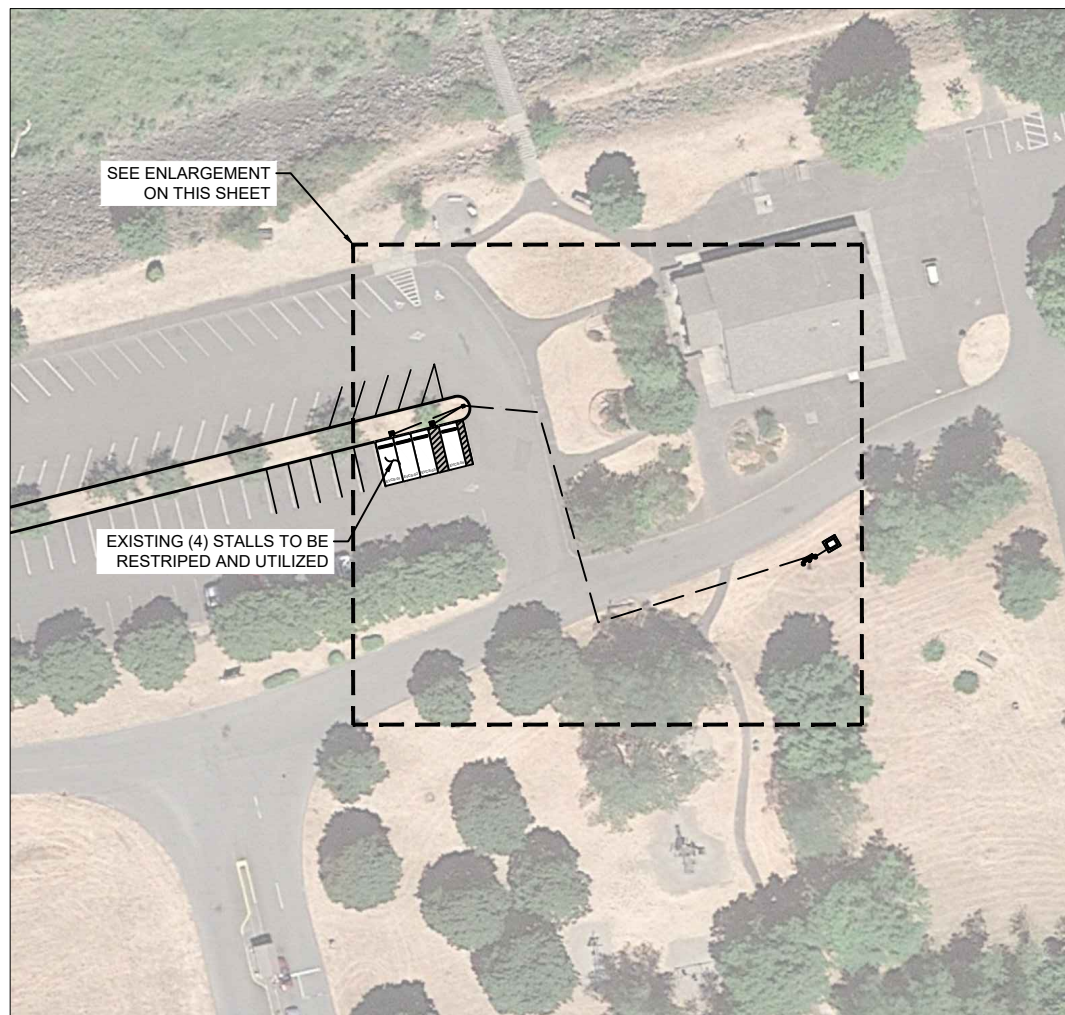
EVCS SCHEDULE					
EVCS #	EVCS STALL TYPE	CHARGING LEVEL	STATUS	DISPENSER	CONDUIT LENGTH(±)
01	STANDARD	LEVEL 2	PROPOSED	DUAL	35'
02	STANDARD	LEVEL 2	PROPOSED		
03	STANDARD	LEVEL 2	PROPOSED		
04	ADA VAN	LEVEL 2	PROPOSED	DUAL	15'

CONSTRUCTION KEYNOTES (#)

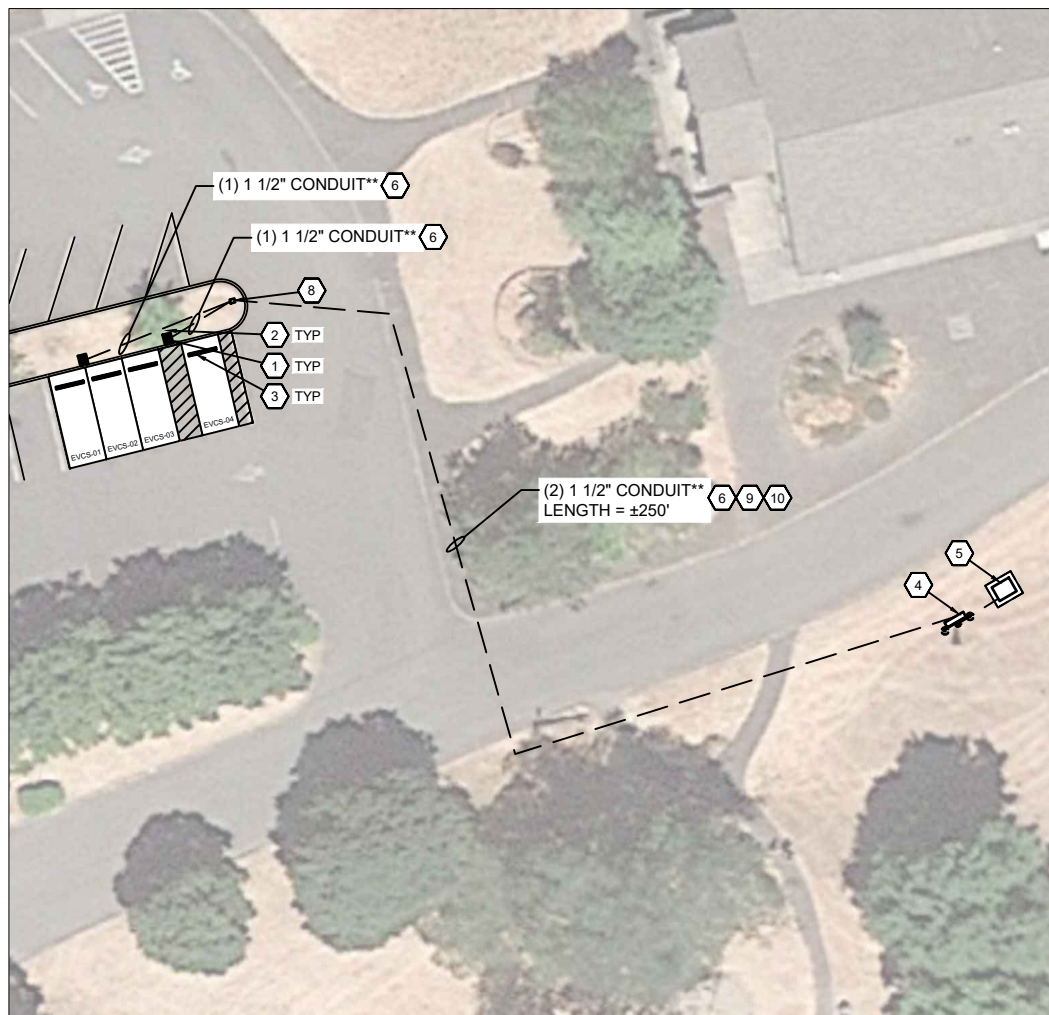
- 1 PROPOSED RIVIAN LEVEL 2 DUAL DISPENSER WITH INDIVIDUAL CAST IN PLACE CONCRETE FOUNDATION. SEE DETAILS ON SHEET C4.
 - 2 PROPOSED SIGN POST. (TYP OF 2) (SEE DETAILS ON SHEET C4)
 - 3 PROPOSED WHEELSTOP. (TYP OF 4) (SEE DETAIL ON SHEET C4)
 - 4 EXISTING 200A METER PEDESTAL TO BE REMOVED & REPLACED WITH AN H-FRAME MOUNTED 200A PANELBOARD WITH METER SOCKET.
 - 5 EXISTING TRANSFORMER.
 - 6 PROPOSED CONDUIT(S) TO BE DIRECTIONALLY BORED. SEE DETAILS ON SHEET E3.
 - 7 ALL DISTURBED AREAS SHALL BE SODDED/MULCHED UNLESS OTHERWISE NOTED. SEE LANDSCAPE/IRRIGATION NOTES ON SHEET C1.
 - 8 PROPOSED HANDHOLE.
 - 9 EXISTING LANDSCAPE TO REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION.
 - 10 CONTRACTOR SHALL TAKE EXTRA CARE TO PRESERVE THE EXISTING CONDITION / SIDEWALK / TREES / PLANTS. MAINTAIN DISTURBANCE TO THE MINIMUM AND RESTORE WHEN WORK IS COMPLETE.
- ** CONTRACTOR SHALL COORDINATE CONDUIT ROUTING WITH PROPERTY OWNER AND INSTALL THE FOLLOWING CONDUIT TYPE WHERE APPLICABLE (UNLESS OTHERWISE NOTED):
- PVC SCH 40 BELOW GRADE. PVC SCH 80 BELOW DRIVES AND PARKING LOTS.
 - RGS 8'-0" OR LESS ABOVE GRADE.
 - RGS TO BE USED IN PARKING GARAGES.
 - EMT 8'-0" MINIMUM ABOVE GRADE AND WHERE NOT SUBJECT TO DAMAGE. CONTRACTOR SHALL VERIFY WITH ELECTRICAL INSPECTOR IF EMT IS APPROVED AT THIS PROJECT PRIOR TO ROUGH-IN.

GENERAL SHEET NOTES

1. CONTRACTOR SHALL REMOVE EXISTING PAVEMENT AND/OR CURB AS NECESSARY USING CLEAN SAWCUTS TO INSTALL PROPOSED UNDERGROUND CONDUITS AND REPLACE PAVEMENT AND/OR CURB AFTER CONDUITS HAVE BEEN INSTALLED. CONTRACTOR SHALL MEET OR EXCEED EXISTING PAVEMENT SPECIFICATIONS. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
2. APPLY LIQUID ASPHALT AT ALL JOINTS BETWEEN CONCRETE AND ASPHALT AND WHERE PROPOSED ASPHALT MEETS EXISTING, INCLUDING SAW CUT JOINTS.
3. CONTRACTOR RESPONSIBILITIES INCLUDES CHARGING STATION PAD, TRENCHING, CONDUIT INSTALLATION, AND WIRING.
4. CONTRACTOR SHALL RETURN SIDEWALKS, LANDSCAPING, PLANTERS, IRRIGATION SYSTEMS, AND ANY OTHER FACILITIES DISTURBED BY THE WORK TO THE SAME OR BETTER CONDITION THAN EXISTED PRIOR TO THE COMMENCEMENT OF THE WORK.
5. EXACT PLACEMENT AND ORIENTATION OF THE RIVIAN CHARGING STATIONS MAY VARY. VERIFY WITH RIVIAN PM PRIOR TO INSTALLATION.
6. CONTRACTOR SHALL CONTACT UTILITY LOCATION SERVICES PRIOR TO THE START OF CONSTRUCTION. EXTREME CAUTION SHOULD BE USED WHEN EXCAVATING OR ROUTING CONDUIT AROUND OR NEAR UTILITIES.
7. CONTRACTOR TO PAINT PROPOSED EV PARKING SPACES PER JURISDICTIONAL REQUIREMENTS.
8. EXISTING CURB, PAVEMENT MARKINGS, AND OTHER EXISTING ENTITIES ARE OBTAINED FROM AERIAL IMAGERY. SURVEY AND/OR FIELD VERIFICATION IS REQUIRED TO OBTAIN TRUE LOCATION AND DIMENSIONS.
9. THESE DRAWINGS WERE PRODUCED WITHOUT THE BENEFIT OF A CURRENT LAND SURVEY. ALL PROPERTY LINES, EASEMENTS, AND SETBACKS SHALL BE VERIFIED PRIOR TO START OF CONSTRUCTION. RIVIAN & GPD GROUP DOES NOT GUARANTEE THE ACCURACY OF SAID PROPERTY LINES, EASEMENTS, ROADS, AND SETBACKS IF APPROXIMATE LOCATIONS ARE SHOWN IN PLAN.
10. CONTRACTOR SHALL HAND DIG AROUND ALL EXISTING UTILITIES.
11. CONDUIT ELBOWS SHALL BE SIZED PER NEC. CONTRACTOR SHALL VERIFY MANUFACTURER ALLOWABLE FILL. SEE FEEDER SCHEDULE FOR CONDUCTOR SPECIFICATIONS.
12. ALL CONDUITS ACCESSIBLE TO THE PUBLIC OR WHICH CAN BE DAMAGED SHALL BE RIGID GALVANIZED STEEL.
13. CONTRACTOR SHALL PROVIDE WATER TIGHT & FIRE TIGHT FITTINGS IN ALL PENETRATIONS.
14. CONTRACTOR SHALL COORDINATE ANY/ALL BUILDING OUTAGES WITH BUILDING OWNER.
15. CONDUIT ROUTING IS SHOWN DIAGRAMMATICALLY ONLY. CONDUIT PLACEMENT TO BE VERIFIED BY CONTRACTOR BASED ON EXISTING SITE CONDITIONS AND PHYSICAL MEASUREMENTS.
16. ALL UNDERGROUND CONDUITS ROUTED TO PROPOSED EQUIPMENT SHALL BE ROUTED UP THROUGH CONCRETE SLAB.
17. CONTRACTOR SHALL COORDINATE WITH PROPERTY OWNER PRIOR TO PERFORMING WORK IF TREE LANDSCAPE DISTURBANCE IS UNAVOIDABLE.



1 SITE PLAN
NO SCALE



2 ENLARGED SITE PLAN
NO SCALE



SSC, INC.		DESIGNED:	DWO
STATE OF COLORADO		CADD	DWO
STATE CERTIFICATE OF AUTHORIZATION # 20041302439		TECH. REVIEW:	RES
ENGINEER:	PE#:	DISCIPLINE:	
KMV KEVIN M. VANMAELE 53946		CIVIL	C
REJ ROBERT E. JENSEN 54720		CIVIL	C
SDK SHELTON D. KEISLING 49643		ELECTRICAL	E
TMS TERRANCE M. SUPER 36490		ELECTRICAL	E
DATE:		08.23.23	

SUB SHEET NO.	C2
TITLE OF SHEET	
SITE PLAN	
ROOSTER ROCK STATE PARK	

DRAWING NO.		CD90 v0
PKG. NO.	0	SHEET
	4	OF 9

LEGEND	
	DISPENSER
	PARKING SIGN
	WHEELSTOP

NOTES:
 1. EXACT CHARGER PLACEMENT AND STRIPING TO BE CONFIRMED BY PROPERTY OWNER PRIOR TO INSTALL.
 2. FOR SPECIFIC PEDESTAL DIMENSIONS, REFER TO SHEET C4.

ACCESSIBILITY KEYNOTES #	
1	VAN ACCESSIBLE STALL.
2	ACCESS AISLE.
3	STANDARD STALL.
4	SURFACE MARKING TO READ "EV CHARGING ONLY".
5	ACCESSIBLE IDENTIFICATION SIGN(S).

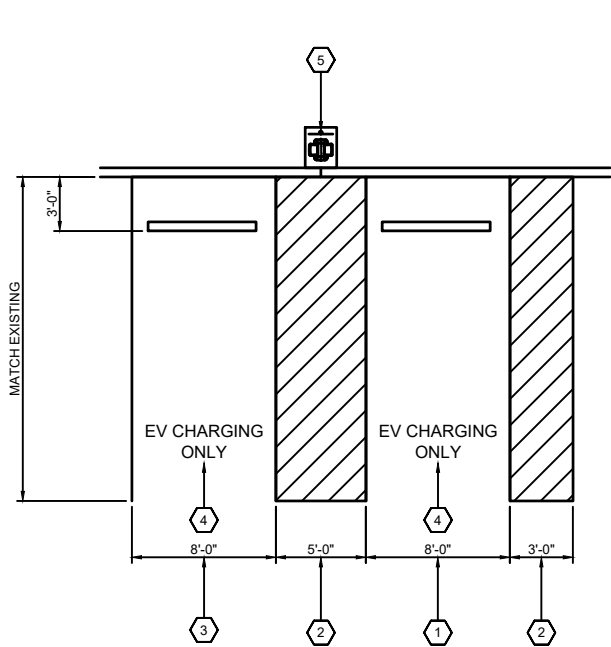
ACCESSIBILITY GENERAL NOTES	
1.	ALL WORK SHALL COMPLY WITH THE 2019 CBC 11B: ACCESSIBILITY TO PUBLIC BUILDINGS, PUBLIC ACCOMMODATIONS, COMMERCIAL BUILDINGS, AND PUBLIC HOUSING.
2.	OPERABLE PARTS: THE CHARGE POST HANDLE IS A MAXIMUM OF 48" FROM THE GROUND.
3.	ACCESS AISLE CROSS SLOPE & RUNNING SLOPE SHALL NOT EXCEED 1:48.
4.	ACCESSIBLE ROUTE RUNNING SLOPE SHALL NOT EXCEED 1:20.
5.	ACCESSIBLE ROUTE CROSS SLOPE SHALL NOT EXCEED 1:48.
6.	ADA PAVEMENT MARKING COLOR SHALL CONFORM WITH NATIONAL ADA STANDARDS.
7.	ACCESSIBLE EV CHARGERS ARE COMPLIANT WITH NATIONAL CLEAR FLOOR AND HEIGHT DIMENSIONS.
8.	EVCS VEHICLE SPACES SHALL PROVIDE SURFACE MARKING STATING "EV CHARGING ONLY" IN LETTERS A MINIMUM OF 12 INCHES (305 MM) IN HEIGHT AND LOCATED SO THAT THE CENTERLINE OF THE TEXT SHALL BE A MAXIMUM OF 6 INCHES FROM THE CENTERLINE OF THE VEHICULAR SPACE.
9.	PAVEMENT MARKING COLORS SHALL TO MATCH EXISTING SITE CONDITIONS, UNLESS NOTED OTHERWISE ON THE SITE PLAN.
10.	THERE ARE NO OTHER EV DEVICES ASSOCIATED WITH THE SITE.
11.	EV CHARGERS SHALL BE ADJACENT TO, AND WITHIN THE PROJECTED WIDTH OF, THE VEHICLE SPACE BEING SERVED.
12.	OPERABLE PARTS SHALL BE OPERABLE WITH A ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS (22.2 N) MAXIMUM.

EXCEPTION: GAS PUMP NOZZLES AND ELECTRIC VEHICLE CONNECTORS SHALL NOT BE REQUIRED TO PROVIDE OPERABLE PARTS THAT HAVE AN ACTIVATING FORCE OF 5 POUNDS (22.2 N) MAX.

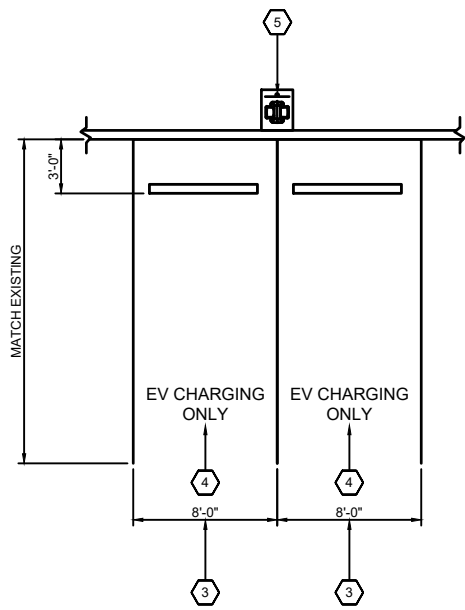
ELECTRIC VEHICLE CHARGING STATIONS FOR PUBLIC USE AND COMMON USE			
TOTAL NUMBER OF EVCS AT A FACILITY	MINIMUM NUMBER (BY TYPE) OF EVCS REQUIRED TO COMPLY WITH STANDARDS		
	VAN ACCESSIBLE	STANDARD ACCESSIBLE	AMBULATORY
1 TO 4	1	0	0
5 TO 25	1	1	0
26 TO 50	1	1	1
51 TO 75	1	2	2
76 TO 100	1	3	3
101 AND OVER	1, PLUS 1 FOR EACH 300, OR FRACTION THEREOF, OVER 100	3, PLUS 1 FOR EACH 60, OR FRACTION THEREOF, OVER 100	3, PLUS 1 FOR EACH 50, OR FRACTION THEREOF, OVER 100

NOTES:
 WHERE AN EV CHARGER CAN SIMULTANEOUSLY CHARGE MORE THAN ONE VEHICLE, THE NUMBER OF EVCS PROVIDED SHALL BE CONSIDERED EQUIVALENT TO THE NUMBER OF ELECTRIC VEHICLES THAT CAN BE SIMULTANEOUSLY CHARGED.

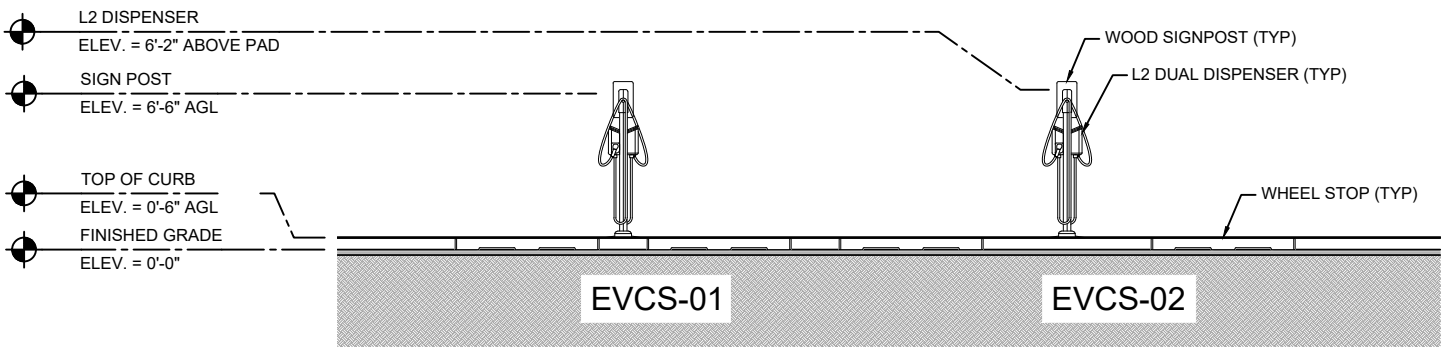
SIGN REQUIREMENTS	
IDENTIFICATION SIGNS. EVCS IDENTIFICATION SIGNS SHALL BE PROVIDED.	
FOUR OR FEWER. WHERE FOUR OR FEWER TOTAL EVCS ARE PROVIDED, IDENTIFICATION WITH AN INTERNATIONAL SYMBOL OF ACCESSIBILITY (ISA) SHALL NOT BE REQUIRED.	
FIVE TO TWENTY-FIVE. WHERE FIVE TO TWENTY-FIVE TOTAL EVCS ARE PROVIDED, ONE VAN ACCESSIBLE EVCS SHALL BE IDENTIFIED BY AN ISA. THE REQUIRED STANDARD ACCESSIBLE EVCS SHALL NOT BE REQUIRED TO BE IDENTIFIED WITH AN ISA.	
TWENTY-SIX OR MORE. WHERE TWENTY-SIX OR MORE TOTAL EVCS ARE PROVIDED, ALL REQUIRED VAN ACCESSIBLE AND ALL REQUIRED STANDARD ACCESSIBLE EVCS SHALL BE IDENTIFIED BY AN ISA.	
AMBULATORY. AMBULATORY EVCS SHALL NOT BE REQUIRED TO BE IDENTIFIED BY AN ISA.	
DRIVE-UP. DRIVE-UP EVCS SHALL NOT BE REQUIRED TO BE IDENTIFIED BY AN ISA.	
FINISH AND SIZE. IDENTIFICATION SIGNS SHALL BE REFLECTORIZED WITH A MINIMUM AREA OF 70 SQUARE INCHES (45,161 MM ²).	
LOCATION. REQUIRED IDENTIFICATION SIGNS SHALL BE VISIBLE FROM THE EVCS IT SERVES. SIGNS SHALL BE PERMANENTLY POSTED EITHER IMMEDIATELY ADJACENT TO THE VEHICLE SPACE OR WITHIN THE PROJECTED VEHICLE SPACE WIDTH AT THE HEAD END OF THE VEHICLE SPACE. SIGNS IDENTIFYING VAN ACCESSIBLE VEHICLE SPACES SHALL CONTAIN THE DESIGNATION "VAN ACCESSIBLE." SIGNS SHALL BE 60 INCHES (1525 MM) MINIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE MEASURED TO THE BOTTOM OF THE SIGN. SIGNS LOCATED WITHIN AN ACCESSIBLE ROUTE SHALL BE 80 INCHES (2032 MM) MINIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE MEASURED TO THE BOTTOM OF THE SIGN. SIGNS MAY ALSO BE PERMANENTLY POSTED ON A WALL AT THE INTERIOR END OF THE VEHICLE SPACE.	



1 ADA STALL LAYOUT
NO SCALE

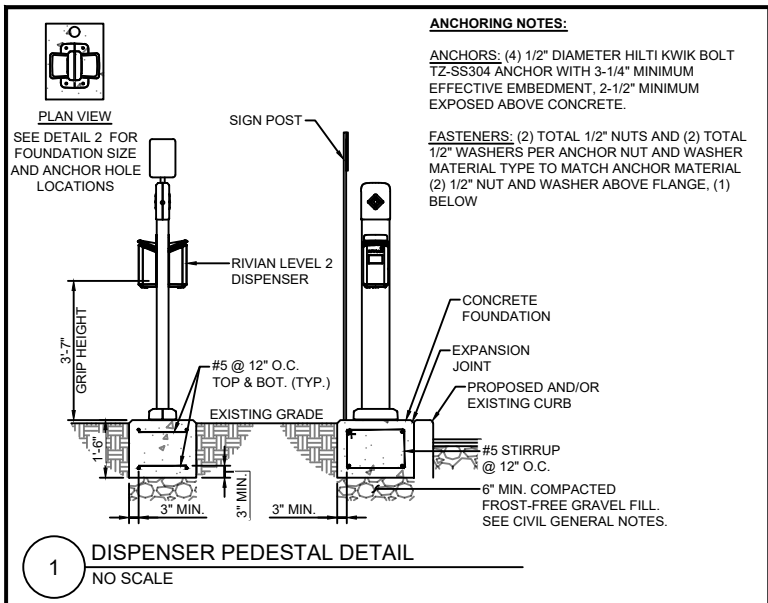


2 STALL LAYOUT
NO SCALE

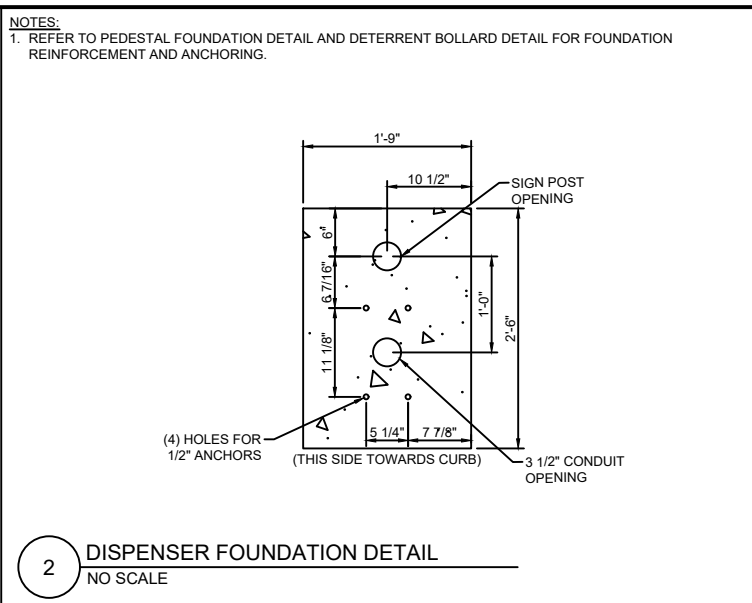


3 STALL ELEVATION
NO SCALE

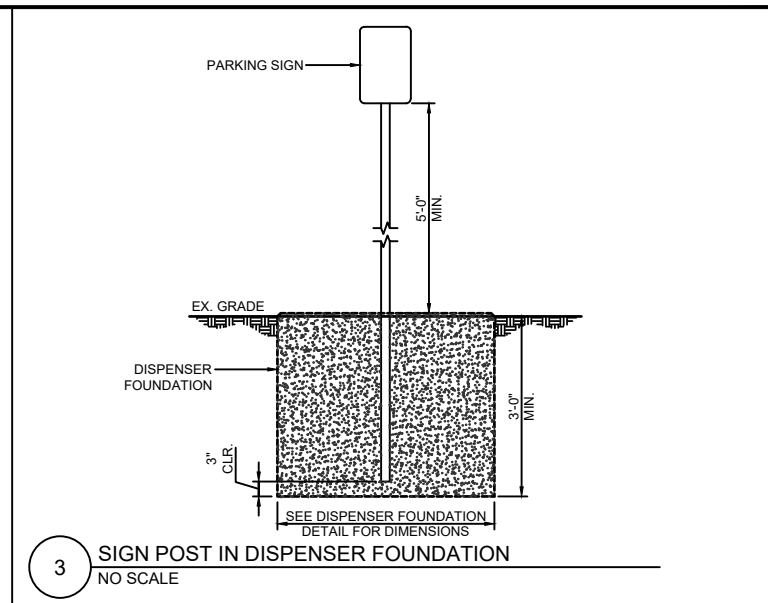
SSC, INC.		DESIGNED:	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
STATE OF COLORADO		DWO	C3	STALL LAYOUT PLAN	CD90 v0
STATE CERTIFICATE OF AUTHORIZATION # 20041302439		CADD			
ENGINEER:	PE#:	DISCIPLINE:	DWO	TECH. REVIEW:	RES
KMV KEVIN M. VANMAELE 53946		CIVIL		DATE:	08.23.23
REJ ROBERT E. JENSEN 54720		CIVIL			
SDK SHELTON D. KEISLING 49643		ELECTRICAL			
TMS TERRANCE M. SUPER 36490		ELECTRICAL			
			ROOSTER ROCK STATE PARK		PKG. NO. 0
					SHEET 5 OF 9



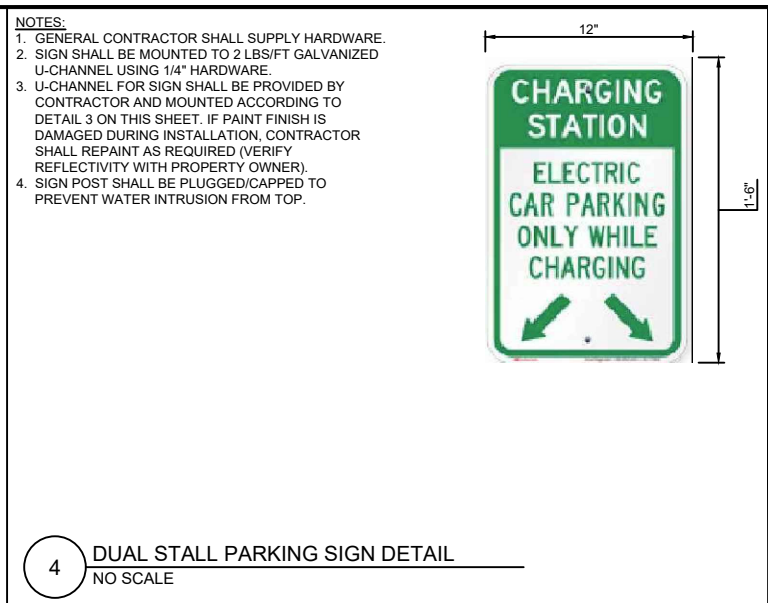
1 DISPENSER PEDESTAL DETAIL
NO SCALE



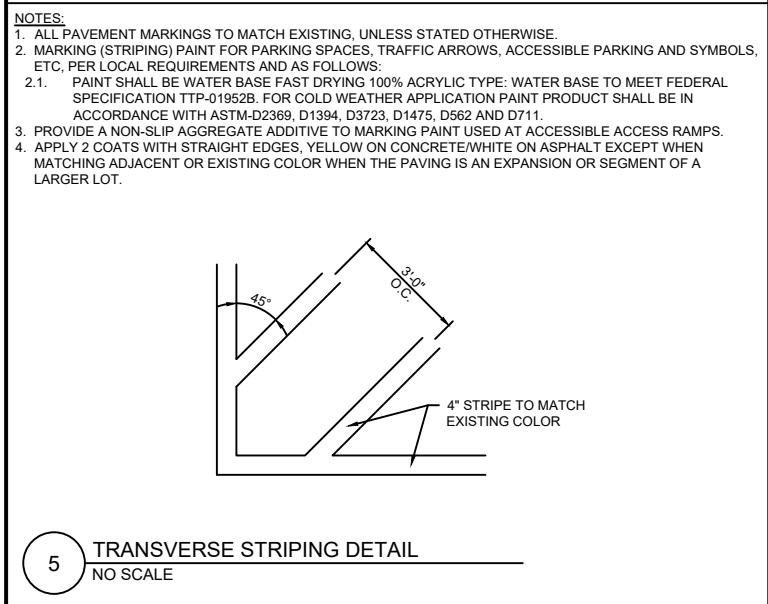
2 DISPENSER FOUNDATION DETAIL
NO SCALE



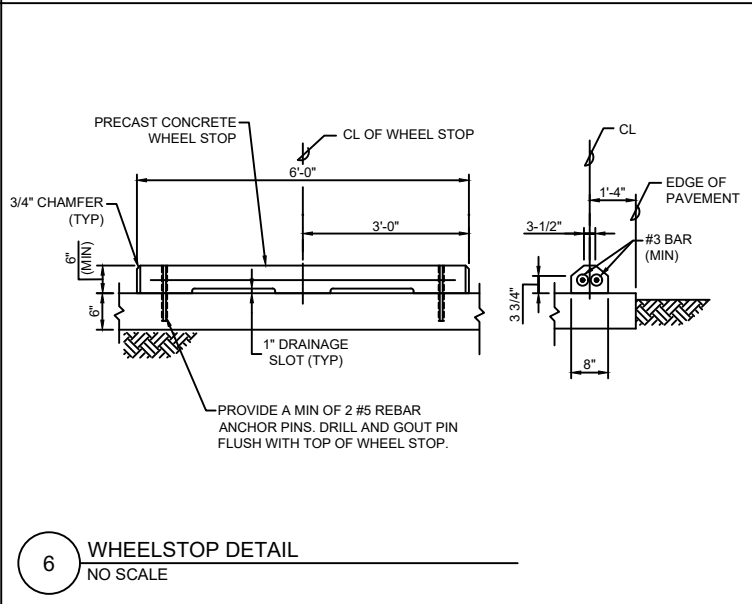
3 SIGN POST IN DISPENSER FOUNDATION
NO SCALE



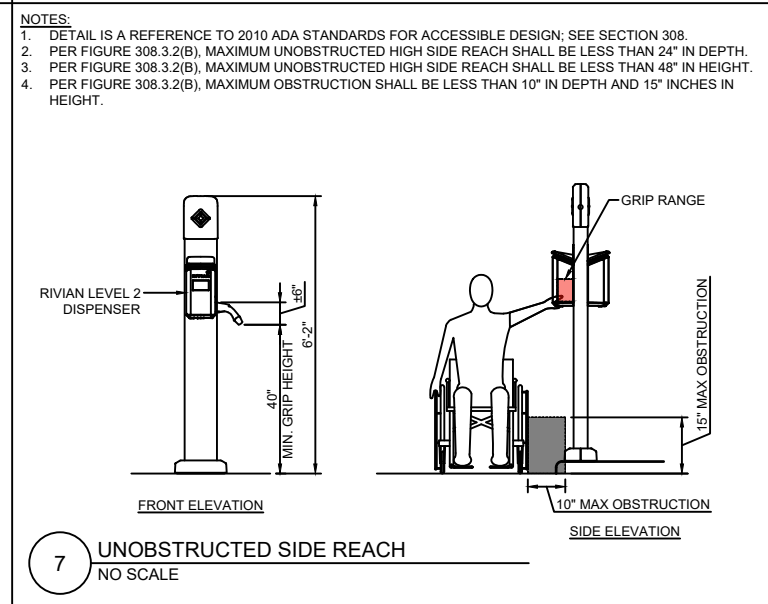
4 DUAL STALL PARKING SIGN DETAIL
NO SCALE



5 TRANSVERSE STRIPING DETAIL
NO SCALE



6 WHEELSTOP DETAIL
NO SCALE



7 UNOBSTRUCTED SIDE REACH
NO SCALE

SSC, INC. STATE OF COLORADO STATE CERTIFICATE OF AUTHORIZATION # 20041302439 ENGINEER: PE#: DISCIPLINE: KMV KEVIN M. VANMAELE 53946 CIVIL C REJ ROBERT E. JENSEN 54720 CIVIL C SDK SHELTON D. KEISLING 49643 ELECTRICAL E TMS TERRANCE M. SUPER 36490 ELECTRICAL E		DESIGNED: DWO CADD DWO TECH. REVIEW: RES DATE: 08.23.23	SUB SHEET NO. C4	TITLE OF SHEET SITE DETAILS ROOSTER ROCK STATE PARK	DRAWING NO. CD90 v0 PKG. NO. 0 SHEET 6 OF 9
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GENERAL SHEET NOTES

- ALL CONDUIT & WIRING SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE.
- ALL CONDUITS ACCESSIBLE TO THE GENERAL PUBLIC OR WHICH CONDUITS CAN BE DAMAGED SHALL BE RIGID GALVANIZED STEEL.
- CONTRACTOR SHALL FIELD VERIFY EXACT PLACEMENT OF PROPOSED EQUIPMENT AND MAINTAIN REQUIRED CLEARANCES PER NEC.
- LEVEL 2 CHARGERS CAN OPERATE ON 240V OR 208V SINGLE PHASE.
- LEVEL 2 CHARGERS USED ON THIS PROJECT COMPLY WITH THE FOLLOWING STANDARDS:
 - UL AND cUL LISTED TO UL2594, UL2231, UL1998

FEEDER/CIRCUIT SCHEDULE

NO	FROM	TO	NOMINAL VOLTAGE (V _{AC} - PHASE)	NOMINAL CURRENT (AMPS)	OCPD (AMPS)	CONDUCTOR SPECIFICATION (THWN-2, 90°C, CU) SEE PLAN FOR CONDUIT SIZE
1A	EXISTING 50KVA TRANSFORMER	PROPOSED METER SOCKET	120/240V - 1ϕ	SEE PANEL SCHEDULE	N/A	EXISTING
1B	PROPOSED METER SOCKET	PROPOSED PANELBOARD "EV-1"	120/240V - 1ϕ	SEE PANEL SCHEDULE	N/A	(3) #3/0 AWG CU
2	PROPOSED PANELBOARD "MP-1"	PROPOSED RIVIAN LEVEL 2 CHARGER	240V - 1ϕ	32	40	(4) #6 AWG CU (1) #10 AWG CU GND

CONDUCTOR SIZING CHART

(2) STATIONS MAX IN A SINGLE CONDUIT

<180'	180'-210'	210'-260'	260'-340'	340'-430'	430'-540'	540'-645'	645'-840'	840'-1040'
(2) #6 AWG Cu (1) #10 AWG Cu GND	(2) #4 AWG Cu (1) #10 AWG Cu GND	(2) #3 AWG Cu (1) #8 AWG Cu GND	(2) #2 AWG Cu (1) #8 AWG Cu GND	(2) #1 AWG Cu (1) #6 AWG Cu GND	(2) #1/0 AWG Cu (1) #4 AWG Cu GND	(2) #2/0 AWG Cu (1) #4 AWG Cu GND	(2) #3/0 AWG Cu (1) #4 AWG Cu GND	(2) #4/0 AWG Cu (1) #2 AWG Cu GND

CONDUCTOR SIZING CHART GENERAL NOTES

- CONDUCTORS FOR UP TO (2) STATIONS CAN BE IN THE SAME CONDUIT. SEE PLAN FOR CONDUIT SIZE.
- ALL SPECIFIED CONDUCTOR SIZES ACCOUNT FOR VOLTAGE DROP AND HAVE BEEN DERATED FOR (4) CURRENT CARRYING CONDUCTORS IN A SINGLE CONDUIT.
- CONTRACTOR SHALL INSTALL THE FOLLOWING WHERE APPLICABLE (UNLESS OTHERWISE NOTED):
 - PVC SCH 40 BELOW GRADE. PVC SCH 80 BELOW DRIVES AND PARKING LOTS.
 - RGS 8'-0" OR LESS ABOVE GRADE AND IN PARKING GARAGES
 - EMT 8'-0" MINIMUM ABOVE GRADE AND WHERE NOT SUBJECT TO DAMAGE. CONTRACTOR SHALL VERIFY WITH ELECTRICAL INSPECTOR IF EMT IS APPROVED AT THIS PROJECT PRIOR TO ROUGH-IN.

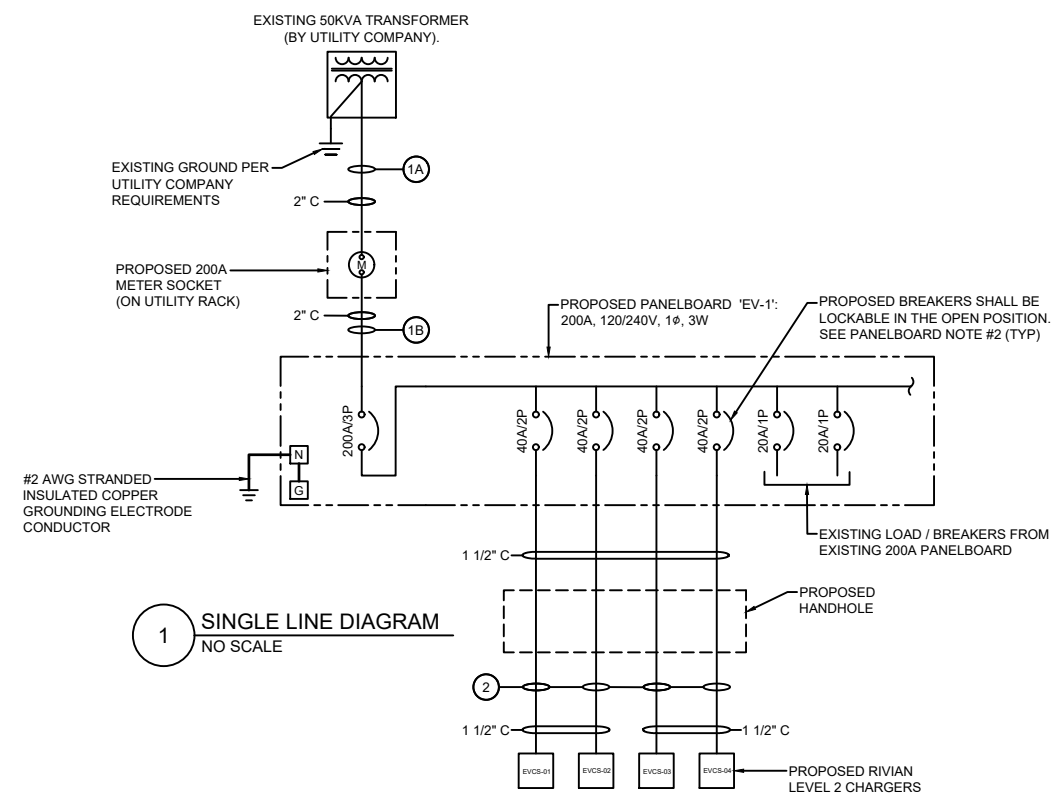
PANELBOARD NOTES:

- CIRCUITS SHALL BE REARRANGED AS REQUIRED TO MAINTAIN THE MOST BALANCED LOADS ON EACH PHASE WITHIN EACH PANELBOARD. PROVIDE TYPED PANELBOARD DIRECTORY MOUNTED PER MANUFACTURERS RECOMMENDATIONS WITH SERVICE EQUIPMENT.
- CONTRACTOR IS RESPONSIBLE FOR LOADING ON ALL PANELBOARDS AND FEEDERS PER THE N.E.C. CONTRACTOR SHALL KEEP CIRCUIT CONTINUITY TO DEVICES TO REMAIN. E.C. SHALL VERIFY THAT ALL LOADS PLACED ON EXISTING PANELBOARDS AND FEEDERS DO NOT EXCEED THE MAXIMUM LOADING REQUIREMENT PER THE LATEST EDITION OF THE NEC. NOTIFY A/E IF OVERLOAD IS POSSIBLE.
- CONTRACTOR SHALL REMOVE EXISTING SPARE BREAKERS AS REQUIRED TO INSTALL PROPOSED BREAKERS.
- PROVIDE EQUIPMENT WITH SUFFICIENT INTERRUPTING CAPACITY (AIC) REQUIRED FOR A SAFE INSTALLATION. AIC RATING NOTED ON EACH PANELBOARD SCHEDULE IS MINIMUM RATING ACCEPTED WITHOUT ADDITIONAL DOCUMENTATION THAT INDICATES DIFFERENTLY.

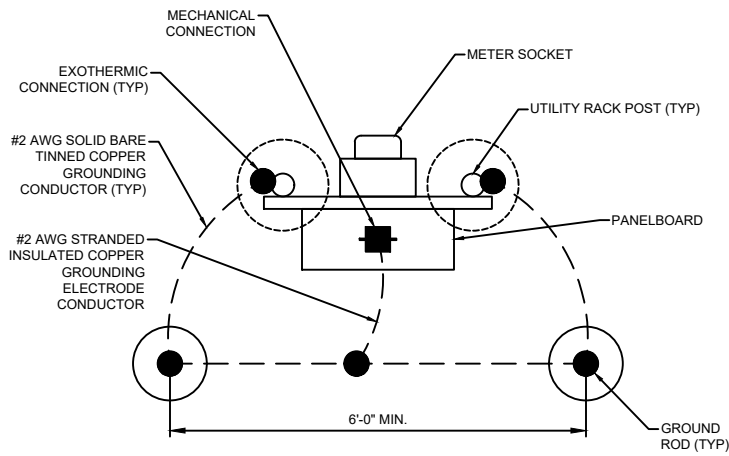
PANEL NAME:		PANELBOARD "EV"		MAINS TYPE:		MCB		DISTRIBUTION TYPE:		120/240V, 1-PH, 3-WIRE	
STATUS:		EXISTING		MAINS RATING (A):		200		RATED FAULT CURRENT:		22 KAC (VERIFY W/ UTILITY PRIOR TO ORDERING)	
LOCATION:		OUTSIDE		BUS RATING (A):		200		RATING TYPE:		FULLY RATED	
SUPPLY FROM:		TRANSFORMER		ENCLOSURE:		NEMA 3R		SERVICE ENTRANCE RATED:		YES	
				MOUNTING:		H-FRAME		ISOLATED GND BAR:		NO	

CKT #	LOAD					DESCRIPTION	NOTE	AMP	POLE	TOTAL PER PHASE IN KVA	DESCRIPTION	NOTE	AMP	POLE	LOAD	CKT #
	L	R	HV	M	C											
1					3.84	PROPOSED RIVIAN LEVEL 2 CHARGER EVCS-01		40	2	7.68			40	2		2
3					3.84	PROPOSED RIVIAN LEVEL 2 CHARGER EVCS-02		40	2	7.68			40	2		4
5					3.84	PROPOSED RIVIAN LEVEL 2 CHARGER EVCS-03		40	2	7.68			40	2		6
7					3.84	PROPOSED RIVIAN LEVEL 2 CHARGER EVCS-04		40	2	7.68			40	2		8
9				1.92		EXISTING		20	1	4.80			30	1		10
TOTAL KVA =										20.16	15.36	35.52 TOTAL CONN KVA				
TOTAL AMPS =										168.0	128.0	148.00 TOTAL CONN AMPS				

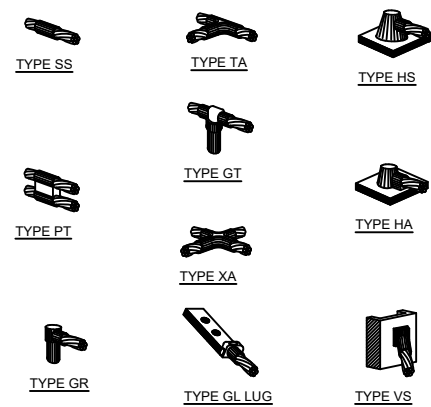
DEMAND FACTOR	A	B	TOTAL	NOTES
LIGHTING	1.25	0.00	0.00	0.00
FIRST 10KVARECEPTACLES (3.33 KVAPER PHASE)	1.00	0.00	0.00	0.00
REMAINING RECEPTACLES	0.50	0.00	0.00	0.00
HVAC EQUIP	1.00	0.00	0.00	0.00
25% OF LARGEST MOTOR	0.25	0.00	0.00	0.00
MISCELLANEOUS	1.00	0.00	0.00	0.00
CONTINUOUS	1.25	19.20	19.20	38.40
TOTALS (KVA)	19.20	19.20	38.40	
TOTALS (A)	160.00	160.00	160.00	



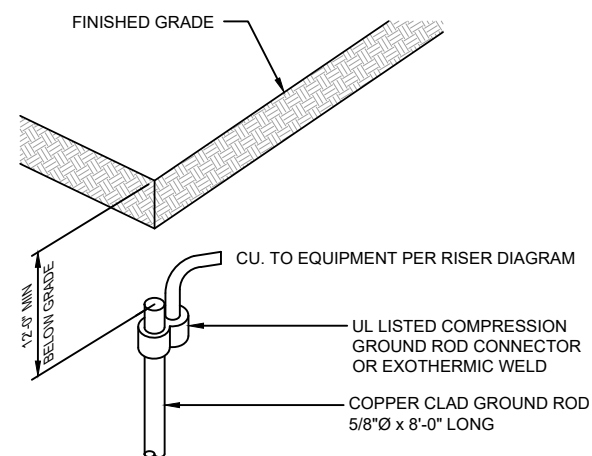
SSC, INC.		DESIGNED:	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
STATE OF COLORADO		DWO	E2	SYSTEM ONE-LINE DIAGRAM & PANEL SCHEDULE	CD90 v0
STATE CERTIFICATE OF AUTHORIZATION # 20041302439		CADD			
ENGINEER:	PE#:	DISCIPLINE:			
KMV KEVIN M. VANMAELE 53946		CIVIL			
REJ ROBERT E. JENSEN 54720		CIVIL			
SDK SHELTON D. KEISLING 49643		ELECTRICAL			
TMS TERRANCE M. SUPER 36490		ELECTRICAL			
DATE: 08.23.23		RES			
		DATE:			



1 PANELBOARD GROUNDING PLAN
NO SCALE

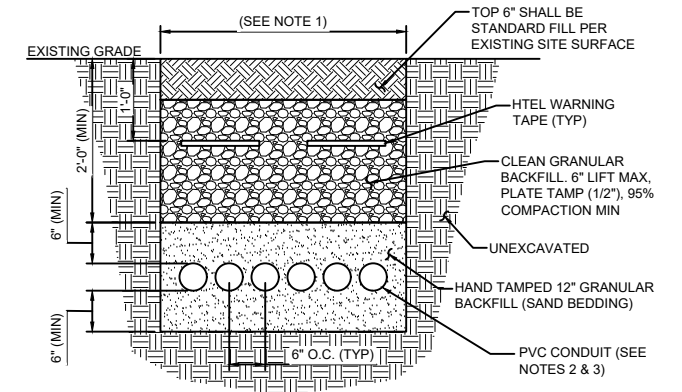


2 EXOTHERMIC CONNECTION DETAILS
NO SCALE



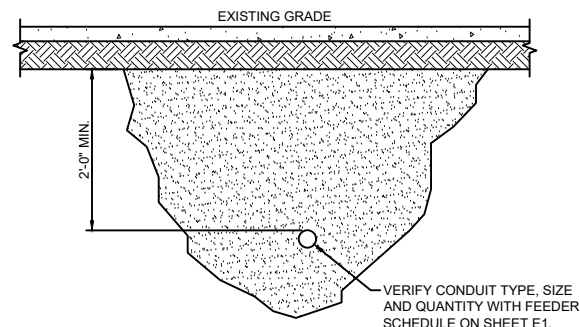
3 GROUND ROD DETAIL
NO SCALE

NOTES:
1. WIDTH OF TRENCH AS REQUIRED BY UTILITY COMPANY OR PER QUANTITY OF CONDUITS AND LOCAL CODE REQUIREMENTS.
2. VERIFY DISTANCE PER LOCAL CODE, UTILITY COMPANY, AND CLIENT REQUIREMENTS.
3. VERIFY NUMBER, SIZE, AND QUANTITY OF CONDUITS.



4 CONDUIT TRENCH DETAIL
NO SCALE

NOTES:
1. CONTRACTOR SHALL INSTALL CONDUITS BELOW LOCAL FROST LINE. SHOULD FIELD CONDITIONS VARY, CONTRACTOR SHALL COORDINATE WITH CONTACT ENGINEER LISTED ON SHEET C0.
2. CONDUITS UNDER DRIVES AND PARKING LOTS SHALL BE PVC SCHEDULE 80.
3. CONTRACTOR IS RESPONSIBLE TO CALL AN UNDERGROUND LOCATING COMPANY TO MARK ALL EXISTING UNDERGROUND UTILITIES.
4. CONTRACTOR SHALL COORDINATE WITH ALL EXISTING UTILITIES AND VERIFY AND KEEP REQUIRED DISTANCES FROM EXISTING UTILITIES.
5. CONTRACTOR IS RESPONSIBLE FOR ANY/ALL DAMAGES TO EXISTING UTILITIES AND MAKE ALL REPAIRS IF REQUIRED AND PAY ALL DAMAGE FEES.



5 DIRECTIONAL BORE SECTION DETAIL
NO SCALE

CURRENT	CIRCUIT BREAKER SPECIFICATION	TYPICAL WIRE SPECIFICATION*	DIP SWITCH			FIGURE
			SWITCH 1	SWITCH 2	SWITCH 3	
6A	7.5A	14-12 AWG Cu	OFF	OFF	OFF	
12A	15A	14-12 AWG Cu	OFF	OFF	ON	
16A	20A	12-10 AWG Cu	OFF	ON	OFF	
20A	25A	10 AWG Cu	OFF	ON	ON	
24A	30A	10 AWG Cu	ON	OFF	OFF	
32A	40A	8 AWG Cu	ON	OFF	ON	
40A	50A	8 AWG Cu	ON	ON	OFF	
48A (DEFAULT)	60A	6 AWG Cu	ON	ON	ON	

* THESE TYPICAL WIRE SIZES ARE BASED ON THE 90°C COLUMN IN THE NATIONAL ELECTRICAL CODE.

6 OPERATING CURRENT - DIP SWITCH SETTINGS DETAIL
NO SCALE

SSC, INC.		DESIGNED:	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
STATE OF COLORADO		DWO	E3	ELECTRICAL & GROUNDING DETAILS	CD90 v0
STATE CERTIFICATE OF AUTHORIZATION # 20041302439		CADD			
ENGINEER:	PE#:	DISCIPLINE:			
KMV KEVIN M. VANMAELE 53946		CIVIL			
REJ ROBERT E. JENSEN 54720		CIVIL			
SDK SHELTON D. KEISLING 49643		ELECTRICAL			
TMS TERRANCE M. SUPER 36490		ELECTRICAL			
DATE:		08.23.23			
ROOSTER ROCK STATE PARK					