KERN HEALTH SYSTEM
NEW EV CHARGING SYSTEM

TEAM

PROJECT OWNER
ALONSO HURTADO
2900 BUCK OWENS BLVD.
(661)-664-5541

CONTRACTOR
TURNKEY ENERGY
7257 N. MAPLE AVE. #108
FRESNO, CA 93720
CACL# 991046
CONTACT: RYAN MOMENEE
PH: (559) 392-1990

ELECTRICAL ENGINEER
KRAMER PV ASSOCIATES, INC
1163 MAIN STREET
SUITE B
MORRO BAY, CA 93442
PH: (805) 704-8107
GEOFFREY T. KRAMER, PE

DESCRIPTION

THIS PROJECT CONSISTS OF THE INSTALLATION OF AN ELECTRIC VEHICLE CHARGING STATION (EVCS) SYSTEM AT AN EXISTING FACILITY.

EVCS SYSTEM DESCRIPTION

MANUFACTURER:	CHARGE POINT
PRODUCT:	LEVEL 2 COMMERCIAL CHARGING STATION
MODEL:	CT4021
DESCRIPTION:	DUAL PORT, BOLLARD MOUNT
QUANTITY:	4
SYSTEM VOLTAGE:	208V

NEW EVCS LOADS TO BE ADDED TO EXISTING 4000A, 480V SWITCHGEAR.

AUTHORITY HAVING JURISDICTION
(AHJ): CITY OF BAKERSFIELD
UTILITY: PG&E

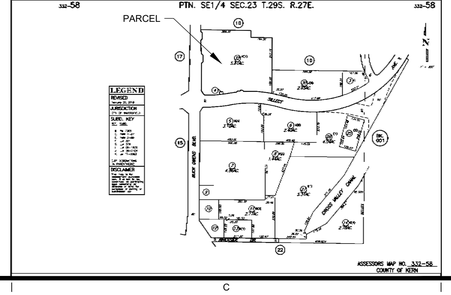
PARKING DESCRIPTION

EV STANDARD PARKING	9' x 18'	6
EV HANDICAP PARKING	9' x 18'	1
EV VAN PARKING	12' x 18'	1
NON EV PARKING	TYPICAL	427
	TOTAL SPACES:	435

LOCATION

PROPERTY
2900 BUCK OWENS BLVD,
BAKERSFIELD CA 93308

APN: 332-580-32-00-2



CODES

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUCTED IF NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING CODES:

OSHA – STATE VERSION OF OSHA
ANSI/EIA-222- LIFE SAFETY CODE NFPA-101
LOCAL ORDINANCES (CITY OF BAKERSFIELD)
2017 NATIONAL ELECTRIC SAFETY CODE (NESC)
CALIFORNIA BUILDING CODE, 2019 EDITION
CALIFORNIA MECHANICAL CODE, 2019 EDITION
CALIFORNIA ELECTRICAL CODE, 2019 EDITION
CALIFORNIA GREEN CODE, 2019 EDITION
CALIFORNIA PLUMBING CODE, 2019 EDITION
CALIFORNIA ENERGY CODE, 2019 EDITION
CALIFORNIA FIRE CODE, 2019 EDITION

SHEET INDEX

UNDERGROUND UTILITIES

811

COLOR CODE

WHITE	-	PROPOSED EXCAVATION
PINK	-	TEMP SURVEY MARKINGS
RED	-	ELECTRIC
YELLOW	-	GAS-OIL-STEAM
ORANGE	-	COMMUNICATION CATV
BLUE	-	WATER
PURPLE	-	RECLAIMED WATER
GREEN	-	SEWER

EXISTING UNDERGROUND FACILITIES ARE SHOWN ON THESE PLANS FROM RECORD INFORMATION AND ARE FOR INFORMATION ONLY. OTHER UNDERGROUND FACILITIES NOT SHOWN ON THE PLANS MAY EXIST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING UNDERGROUND FACILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY A ONE-CALL SERVICE CENTER, TOLL FREE AT 811, NO LESS THAN TWO DAYS PRIOR TO ANY EXCAVATION.

ELECTRICAL CONTRACTOR

TURNKEY ENERGY

TURNKEY ENERGY
7257 N MAPLE AVE #108
FRESNO, CA 93720
PH (888) 994-1663
TURNKEYENERGY.COM

ENGINEER OF RECORD

REGISTERED PROFESSIONAL ENGINEER
GEOFFREY T. KRAMER
No. E21305
ELECTRICAL
STATE OF CALIFORNIA

ELECTRONICALLY SIGNED: 4/28/2021

OWNER

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2900 BUCK OWENS BLVD.
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PROJECT

KERN HEALTH SYSTEM EV CHARGING SYSTEM
2900 BUCK OWENS BLVD,
BAKERSFIELD CA 93308

REV	DATE	DESCRIPTION
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-	DATE	PERMIT

DATE	4/28/2021
PROJECT NUMBER	21TK-KERN290
DESIGNER	JPL
CHECKED BY	GK

PERMIT SET

SHEET TITLE
COVER SHEET

SHEET NUMBER
G.1

TORQUE SPECS

APPLICATION	FT-LBS	IN-LBS
UNISTRUT - BOLT & NUT		
1/4"-20	6.0	72.0
5/16"-18	11.0	132.0
3/8"-16	19.0	228.0
1/2"-13	50.0	600.0
BUILDEX TEK SCREW		
1/4"-14 BUILDEX TEK SCREW	12.5	150.0
WEDGE ANCHOR - TRUBOLT - REDHEAD		
1/4" DIA	4.0	48.0
3/8" DIA	25.0	300.0
1/2" DIA	55.0	660.0
5/8" DIA	90.0	1080.0
3/4" DIA	110.0	1320.0
GRADE 5 BOLT		
1/2"-13 (PLAIN STEEL UNC THREAD)	75.0	900.0
1/2"-13 (GALV. STEEL UNC THREAD)	94.0	1128.0
1/2"-20 (PLAIN STEEL UNF THREAD)	85.0	1020.0
GRADE 8 BOLT		
1/2"-13 (UNC THREAD)	119.0	1428.0
1/2"-20 (UNF THREAD)	129.0	1548.0

ELECTRICAL AND MECHANICAL NOTE

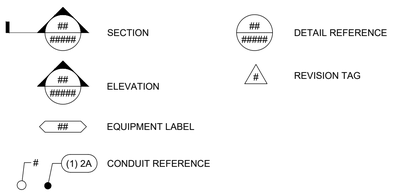
ALL ELECTRICAL TERMINATION AND MECHANICAL FASTENERS TO BE TORQUED TO MANUFACTURER'S SPECIFICATIONS (UNO). ELECTRICAL TERMINATIONS AND MECHANICAL FASTENERS SHOULD BE CLEARLY PERMANENT TORQUE MARKED WITH PAINT PEN.

TEK SCREW NOTE

HEAD OF FASTENER SHOULD BE FULLY SEATED AGAINST THE WORK SURFACE AND MUST PENETRATE THE METAL STRUCTURE A MINIMUM OF 3 PITCHES OF THREAD. AVOID DISTORTION OF STRUCTURAL MEMBERS DUE TO OVER TIGHTENING (UNO).

SYMBOLS

FOR ADDITIONAL SYMBOLS SEE INDIVIDUAL SHEETS



ABBREVIATIONS

A/AMP	AMPERE
AC	ALTERNATING CURRENT
ACB	ARRAY COMBINER BOX
ACD	AC DISCONNECT
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPERE INTERRUPTING CAPACITY
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWG	AMERICAN WIRE GAUGE
CBT	CABLE TRAY
CT	CURRENT TRANSFORMER
DC	DIRECT CURRENT
DCD	DC DISCONNECT
DEG	DEGREE
DIA	DIAMETER
(E)	EXISTING
EV	ELECTRIC VEHICLE CHARGING STATION
EVCS	ELECTRIC VEHICLE CHARGING SYSTEM
GEC	GROUNDING ELECTRODE CONDUCTOR
GEN	GENERATOR
GFCI	GROUND-FAULT CIRCUIT INTERRUPTER
G	GROUND
HCS	HEX CAP SCREW
HDPE	HIGH DENSITY POLYETHYLENE
HLS	HEX LAG SCREW
HRN	HARNESS, WIRE
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
INV	INVERTER
JBX	JUNCTION BOX
KW	KILOWATT
MAX	MAXIMUM
MIN	MINIMUM
MON	MONITORING EQUIPMENT
MPT	MAXIMUM POWER TRACKING
MTR	METER
NEC	NATIONAL ELECTRICAL CODE
NEG	NEGATIVE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NTS	NOT TO SCALE
OC	ON CENTER
PBX	PULL BOX
PDB	POWER DISTRIBUTION BLOCK
PH	PHASE
PNL	PANEL
POI	POINT OF INTERCONNECTION
POL	POLARITY
POS	POSITIVE
PSI	POUNDS PER SQUARE INCH
PV	PHOTOVOLTAIC
PVT	PV TIE
RD	ROOF DRAIN
RFI	REQUEST FOR INFORMATION
RT	RAIN TIGHT
RV	ROOF VENT
SCB	STRING COMBINER BOX
SCH	SCHEDULE
SD	SATELLITE DISH
SFB	SPARE FUSE BOX
SL	SKYLIGHT
SLD	SINGLE LINE DIAGRAM
SS	STAINLESS STEEL
STR	STRING
SWG	SWITCHGEAR
TPS	TWISTED PAIR SHIELDED
TRN	TRANSFORMER
TSW	TRANSFER SWITCH
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	VOLT
VDC	VOLTAGE DIRECT CURRENT
VOC	OPEN CIRCUIT VOLTAGE
VT	VOLTAGE TAPS
W	WATT
XFM	TRANSFORMER

PARKING FACILITY NOTES

TOTAL NUMBER OF PARKING SPACES PROVIDED IN PARKING FACILITY	MINIMUM NUMBER OF REQUIRED ACCESIBLE PARKING SPACES
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	2 PERCENT OF TOTAL
1001 and over	20, PLUS 1 FOR EACH 100, OR FRACTION THEREOF, OVER 1000

CONDUCTOR COLOR PHASING

AC SYSTEMS

CONDUCTORS	3PH 277/480Y VAC	3PH 120/208Y VAC & 1PH 120/240 VAC	3PH 4-W 120/240 DELTA[1]
PHASE A / LINE 1	BROWN	BLACK	BLACK
PHASE B[1] / LINE 2	ORANGE	RED	RED[1]
PHASE C	YELLOW	BLUE	BLUE
GROUNDED CONDUCTOR	GRAY	WHITE	WHITE
EGC OR GEC	GREEN OR BARE	GREEN OR BARE	GREEN OR BARE

DC SYSTEMS

CONDUCTORS	DC NEGATIVELY GROUNDED INVERTERS OR NEGATIVELY GROUNDED HALF OF BI-POLAR INVERTERS	DC POSITIVELY GROUNDED INVERTERS OR POSITIVELY GROUNDED HALF OF BI-POLAR INVERTERS	DC UN-GROUNDED INVERTERS
UNGROUNDED CONDUCTOR	(+) FROM MODULE RED WIRE	(-) FROM MODULE BLACK WIRE	(+) FROM MODULE RED WIRE (-) FROM MODULE BLACK WIRE
GROUNDED CONDUCTOR	(-) FROM MODULE WHITE WIRE	(+) FROM MODULE GRAY WIRE	N/A
EGC OR GEC	GREEN OR BARE	GREEN OR BARE	GREEN OR BARE
MODULE STRING JUMPER	BLUE TAPE WITH POLARITY COLOR TAPE	BLUE TAPE WITH POLARITY COLOR TAPE	BLUE TAPE WITH POLARITY COLOR TAPE

NOTES:
1. ON GROUNDED 3PH 4-WIRE 240VAC DELTA SUPPLY, PHASE B IS TYPICALLY THE "STINGER LEG" (1PH 208V TO GROUND), HOWEVER YOU MUST IDENTIFY THE CORRECT PHASE AS IT COULD BE ANOTHER PHASE. TO IDENTIFY/MARK THIS STINGER LEG, PHASE TAPE THE CONDUCTOR WITH A 3" - 6" BAND OF ORANGE PHASE TAPE BETWEEN 1" - 6" OF THE TERMINATION.
2. ALL CONDUCTOR SIZES ARE REQUIRED TO HAVE COLORED INSULATION.

GENERAL NOTES

GENERAL:

1. CONTRACTOR SHALL PROVIDE A COMPLETE WORKING ELECTRICAL INSTALLATION WITH ALL EQUIPMENT CALLED FOR IN PROPER OPERATING CONDITION. DOCUMENTS DO NOT UNDERTAKE TO SHOW OR LIST EVERY ITEM TO BE PROVIDED. WHEN AN ITEM NOT SHOWN OR LISTED IS CLEARLY NECESSARY FOR PROPER OPERATION OF EQUIPMENT SHOWN OR LISTED, PROVIDE THE ITEM WHICH WILL ALLOW THE SYSTEM TO FUNCTION PROPERLY.
2. CODE COMPLIANCE: COMPLY WITH ALL RELEVANT CODES, LAWS, RULES, REGULATIONS, AND STANDARDS OF APPLICABLE CODE-ENFORCING AUTHORITIES.
3. REFERENCES AND STANDARDS: ALL MATERIALS AND EQUIPMENT SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE STANDARDS LISTED BELOW. NOTHING IN THE DRAWINGS OR SPECIFICATIONS SHALL BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO APPLICABLE LAWS, ORDINANCES, RULES, OR REGULATIONS. IT IS NOT THE INTENT OF DRAWINGS OR SPECIFICATIONS TO REPEAT REQUIREMENTS OF CODES EXCEPT WHERE NECESSARY FOR COMPLETENESS OR CLARITY.
   - 3.1. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI).
   - 3.2. INSULATED CABLE ENGINEERS ASSOCIATION (ICEA).
   - 3.3. INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS D. (IEEE).
   - 3.4. NATIONAL ELECTRICAL CODE (NEC) (NFPA 70).
   - 3.5. NATIONAL MANUFACTURER'S ASSOCIATION (NEMA).
   - 3.6. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA).
   - 3.7. INTERNATIONAL FIRE CODE (CFC).
   - 3.8. INTERNATIONAL BUILDING CODE (CBC).
   - 3.9. UNDERWRITERS LABORATORIES, INC. (UL).
   - 3.10. LOW-VOLTAGE ELECTRICAL SAFETY ORDERS (OSHA).
   - 3.11. HIGH-VOLTAGE ELECTRICAL SAFETY ORDERS (OSHA).
4. IF ANY OF THE REQUIREMENTS OF THE ABOVE STANDARDS ARE IN CONFLICT WITH ONE ANOTHER, OR WITH THE REQUIREMENTS OF THESE DRAWINGS OR SPECIFICATIONS, THE MOST STRINGENT REQUIREMENT SHALL GOVERN.
5. THE CONTRACTOR IS RESPONSIBLE FOR ALL SAFETY MEASURES AND OSHA REQUIREMENTS ON SITE.
6. ALL DIMENSIONS OF EXISTING CONDITIONS MUST BE VERIFIED PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES NOTED.
7. THE CONTRACTOR IS RESPONSIBLE FOR ALL BRACING AND SHORING OF EQUIPMENT DURING INSTALLATION.
8. ALL CONTRACTOR INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE ENGINEER FOR APPROVAL PRIOR TO MAKING ANY CHANGES.
9. THE CONTRACTOR IS RESPONSIBLE FOR PROPER INSTALLATION OF ALL EQUIPMENT AND SHALL FOLLOW ALL MANUFACTURER INSTRUCTIONS AND RECOMMENDATIONS. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCY BETWEEN MANUFACTURER RECOMMENDATIONS AND THE INSTRUCTIONS INDICATED IN THIS DRAWING SET.
10. EXACT LOCATION AND MOUNTING OF ALL EQUIPMENT SHALL BE VERIFIED IN THE FIELD.
11. CONTRACTOR SHALL READ AND UNDERSTAND ALL DRAWINGS AND EQUIPMENT MANUALS PRIOR TO INSTALLATION OR OPERATION OF EQUIPMENT.
12. ALL EQUIPMENT AND COMPONENTS SHALL BE LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY (UL, ETL, ETC.).
13. ALL OUTDOOR EQUIPMENT ENCLOSURES SHALL BE RATED NEMA 3R MINIMUM.
14. ALL RELEVANT COMPONENTS OF THE SYSTEM SHALL BE CLEARLY MARKED AND LABELED.
15. UNISTRUT OR SIMILAR MOUNTING SYSTEM SHALL BE USED TO MOUNT ALL ENCLOSURES, PULL BOXES, AND OTHER EQUIPMENT TO ROOFTOPS AND WALLS TO PREVENT WATER BUILD-UP. WEEP HOLES SHALL BE PROVIDED IN ENCLOSURES WHERE CONDENSATION OR WATER BUILD-UP MAY OCCUR.
16. ALL WORK SHALL BE PERFORMED IN A SAFE, EFFICIENT, AND WORKMANLIKE MANNER. CONTRACTOR SHALL USE GOOD TRADE PRACTICES AS REQUIRED BY SECTION 110.12 OF THE NEC.
17. CONTRACTOR SHALL CLEAN ANY METAL SHAVINGS WITHIN ENCLOSURES, ON TOP OF ENCLOSURES, AT GROUND LEVEL, AND ANY ADDITIONAL AREAS WHERE OXIDIZED OR CONDUCTIVE METAL SHAVINGS MAY CAUSE RUST, ELECTRICAL SHORT CIRCUITS, OR OTHER DAMAGE.
18. ALL ELECTRICAL COMPONENTS AND MATERIALS SHALL BE LISTED FOR THEIR INTENDED USE AND INSTALLED PER MANUFACTURER SPECIFICATIONS.
19. ALL OUTDOOR EQUIPMENT SHALL MEET APPROPRIATE NEMA STANDARDS.
20. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON THE DRAWINGS, INCLUDING EXISTING STRUCTURES, AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES AND/OR EXISTING CONDITIONS BEFORE STARTING THE WORK.
21. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL WORK AS INDICATED ON THE DRAWINGS AND SPECIFICATIONS.
22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ANY EXISTING UTILITIES AND EQUIPMENT ENCOUNTERED IN THE WORK AREAS.
23. THE CONTRACTOR SHALL COORDINATE ALL OPERATIONS WITH EQUIPMENT AND INSTALLERS.
24. CONTRACTOR INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE ENGINEER IN THE FORM OF A "RFI", REQUEST FOR INFORMATION, PRIOR TO MAKING ANY CHANGES. APPROVED CHANGES SHALL REQUIRE A DRAWING REVISION TO MAINTAIN CONTROL OVER THE ENGINEER APPROVED DESIGN.
25. ALL MECHANICAL HARDWARE SHALL BE CORROSION RESISTANT APPROPRIATE FOR SITE CONDITIONS.
26. ALL CONNECTIONS SHALL BE TORQUED PER MANUFACTURE SPECIFICATIONS. PROVIDE PERMANENT TORQUE MARKS ON HARDWARE WITH PAINT PEN FOR INSPECTION.

ACCESSIBILITY

ALL BUILDINGS IN CALIFORNIA ARE REQUIRED TO MEET THE ACCESSIBILITY REQUIREMENTS OF THE CALIFORNIA BUILDING CODE. THE CITY OF FRESNO DOES NOT ENFORCE FEDERAL LAW AND DOES NOT REVIEW PLANS FOR COMPLIANCE WITH THE ADA. IT IS DESIGNER'S RESPONSIBILITY TO ENSURE THAT THE PLANS ARE IN CONFORMANCE WITH FEDERAL LAW (ADA). COMPLIANCE WITH THE CALIFORNIA BUILDING CODE DOES NOT NECESSARILY MEAN THAT THE DESIGN ALSO AUTOMATICALLY COMPLIES WITH FEDERAL ADA REQUIREMENTS.

ELECTRICAL NOTES

WIRING:

1. ALL WIRING METHODS AND INSTALLATION PRACTICES SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC).
2. PV SOLAR PANEL WIRING SHALL BE USE-2, RHW-2, OR PV WIRE THAT IS UV RESISTANT. ALL WIRING SHALL BE KEPT UNEXPOSED TO DIRECT SUNLIGHT. MODULE LEADS SHALL BE SECURED WITH UV RESISTANT MEANS.
3. FLEXIBLE METAL CONDUIT IS GENERALLY SUITABLE FOR INSTALLATION IN DRY LOCATIONS. SHOULD IT BE UTILIZED, SUPPORTS WILL BE NO MORE THAN 12 INCHES FROM BOXES (ARRAY COMBINER BOX, CABINETS OR CONDUIT FITTING) AND NO MORE THAN 54 INCHES APART (NEC ARTICLE 348). ALUMINUM FLEXIBLE CONDUIT IS NOT ACCEPTABLE.
4. LIQUID TIGHT FLEXIBLE METAL CONDUIT IS GENERALLY SUITABLE FOR INSTALLATION IN WET AND DRY LOCATIONS. SHOULD IT BE UTILIZED, SUPPORTS WILL BE NO MORE 12 INCHES FROM BOXES (ARRAY COMBINER BOX, CABINETS, OR CONDUIT FITTING) AND NO MORE THAN 54 INCHES APART (NEC ARTICLE 350).
5. LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT MUST BE SUITABLE FOR APPLICATION AND MAY BE INSTALLED IN WET AND DRY LOCATIONS, SHOULD IT BE UTILIZED, SUPPORTS WILL BE NO MORE THAN 12 INCHES FROM BOXES (ARRAY COMBINER BOX, CABINETS, OR CONDUIT FITTING) AND NO MORE THAN 36 INCHES APART (NEC ARTICLE 356).
6. FUSES AND WIRES SUBJECT TO TRANSFORMER INRUSH CURRENT SHALL BE SIZED ACCORDING TO MANUFACTURER.
7. THE PHOTOVOLTAIC SOURCE CIRCUITS AND PHOTOVOLTAIC OUTPUT CIRCUITS OF THIS PROPOSED SOLAR SYSTEM SHALL NOT BE CONTAINED IN THE SAME RACEWAY CABLE TRAY, CABLE, OUTLET BOX, JUNCTION BOX, OR SIMILAR FITTING AS FEEDERS OR BRANCH CIRCUITS OF OTHER SYSTEMS UNLESS THE CONDUCTORS OF THE DIFFERENT SYSTEMS ARE SEPARATED BY A PARTITION.
8. SPLICES/CONNECTORS SHALL BE INSULATED WITH APPROVED MEANS. UL LISTED ELECTRICAL TAPE ALONE IS NOT SUITABLE AS THE ONLY INSULATION MEANS. FOLLOW MANUFACTURERS INSTRUCTIONS FOR APPLICATION OF INSULATING PRODUCT.
9. VOLTAGE DROP TO BE LIMITED TO 2.0% AC AND 3.5% TOTAL.

GROUNDING:

1. EQUIPMENT GROUNDING CONDUCTORS AND SYSTEM GROUNDING CONDUCTORS WILL HAVE AS SHORT A DISTANCE TO GROUND AS POSSIBLE AND A MINIMUM NUMBER OF TURNS.
2. NON-CURRENT CARRYING METAL PARTS SHALL BE CHECKED FOR PROPER GROUNDING; NOTING THAT TERMINAL LUGS BOLTED ON AN ENCLOSURE'S FINISHED SURFACE MAY BE INSULATED BECAUSE OF PAINT/FINISH. AS NEEDED, REMOVE PAINT/FINISH TO ENSURE PROPER GROUNDING.
3. MODULES SHALL BE BONDED TO THE FACILITY GROUNDING ELECTRODE THROUGH THE COMBINED USE OF DIRECT BURY, AL/CU RATED LAY-IN TYPE LUGS ATTACHED TO THE MODULE FRAMES, EQUIPMENT GROUNDING CONDUCTORS COMPLIANT WITH NEC SECTION 250.122 AND THE BUILDING STEEL COMPLIANT WITH NEC SECTION 250.136.
4. THE CONNECTION TO THE MODULE OR PANEL OF THIS PROPOSED SOLAR ELECTRIC SYSTEM SHALL BE SO ARRANGED THAT REMOVAL OF A MODULE OR A PANEL FROM THE PHOTOVOLTAIC SOURCE CIRCUIT DOES NOT INTERRUPT A GROUNDED PATH TO ANOTHER PHOTOVOLTAIC SOURCE CIRCUIT.
5. GROUNDING SYSTEM COMPONENTS SHALL BE LISTED FOR THEIR PURPOSE, INCLUDING BUT NOT LIMITED TO GROUND RODS, GROUNDING LUGS, GROUNDING CLAMPS, ETC. GROUNDING DEVICES EXPOSED TO THE ELEMENTS SHALL BE RATED FOR DIRECT BURIAL.

DISCONNECTING MEANS:

1. MEANS SHALL BE PROVIDED TO DISCONNECT ALL CURRENT CARRYING CONDUCTORS OF THE PHOTOVOLTAIC POWER SOURCE FROM ALL OTHER CONDUCTORS IN THE BUILDING.
2. THE GROUNDED CONDUCTOR MAY HAVE A BOLTED OR TERMINAL DISCONNECTING MEANS TO ALLOW MAINTENANCE OR TROUBLESHOOTING BY QUALIFIED PERSONNEL.
3. THE DISCONNECTING MEANS SHALL NOT BE REQUIRED TO BE SUITABLE AS SERVICE EQUIPMENT AND SHALL BE RATED IN ACCORDANCE WITH NEC SECTION 690.17.
4. EQUIPMENT SUCH AS PHOTOVOLTAIC SOURCE CIRCUITS, OVER CURRENT DEVICES, AND BLOCKING DIODES SHALL BE PERMITTED ON THE PHOTOVOLTAIC SIDE OF THE PHOTOVOLTAIC DISCONNECTING MEANS.
5. MEANS SHALL BE PROVIDED TO DISCONNECT EQUIPMENT SUCH AS INVERTERS FROM ALL UNGROUNDED CONDUCTORS OF ALL SOURCES. IF THE EQUIPMENT IS ENERGIZED FROM MORE THAN ONE SOURCE, THE DISCONNECTING MEANS SHALL BE GROUPED AND/OR IDENTIFIED.
6. DEAD FRONT MECHANICAL MEANS SHALL BE PROVIDED TO DISCONNECT A FUSE FROM ALL SOURCES OF SUPPLY IF THE FUSE IS ENERGIZED FROM BOTH DIRECTIONS AND IS ACCESSIBLE TO OTHER THAN QUALIFIED PERSONS. SUCH A FUSE IN A PHOTOVOLTAIC SOURCE CIRCUIT SHALL BE CAPABLE OF BEING DISCONNECTED INDEPENDENTLY OF FUSES IN OTHER PHOTOVOLTAIC SOURCE CIRCUITS.

ELECTRICAL CONTRACTOR

TURNKEY ENERGY

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ENGINEER OF RECORD

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ELECTRONICALLY SIGNED: 4/28/2021

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DATE	4/28/2021
PROJECT NUMBER	21TK-KERN290
DESIGNER	JPL
CHECKED BY	GK

PERMIT SET

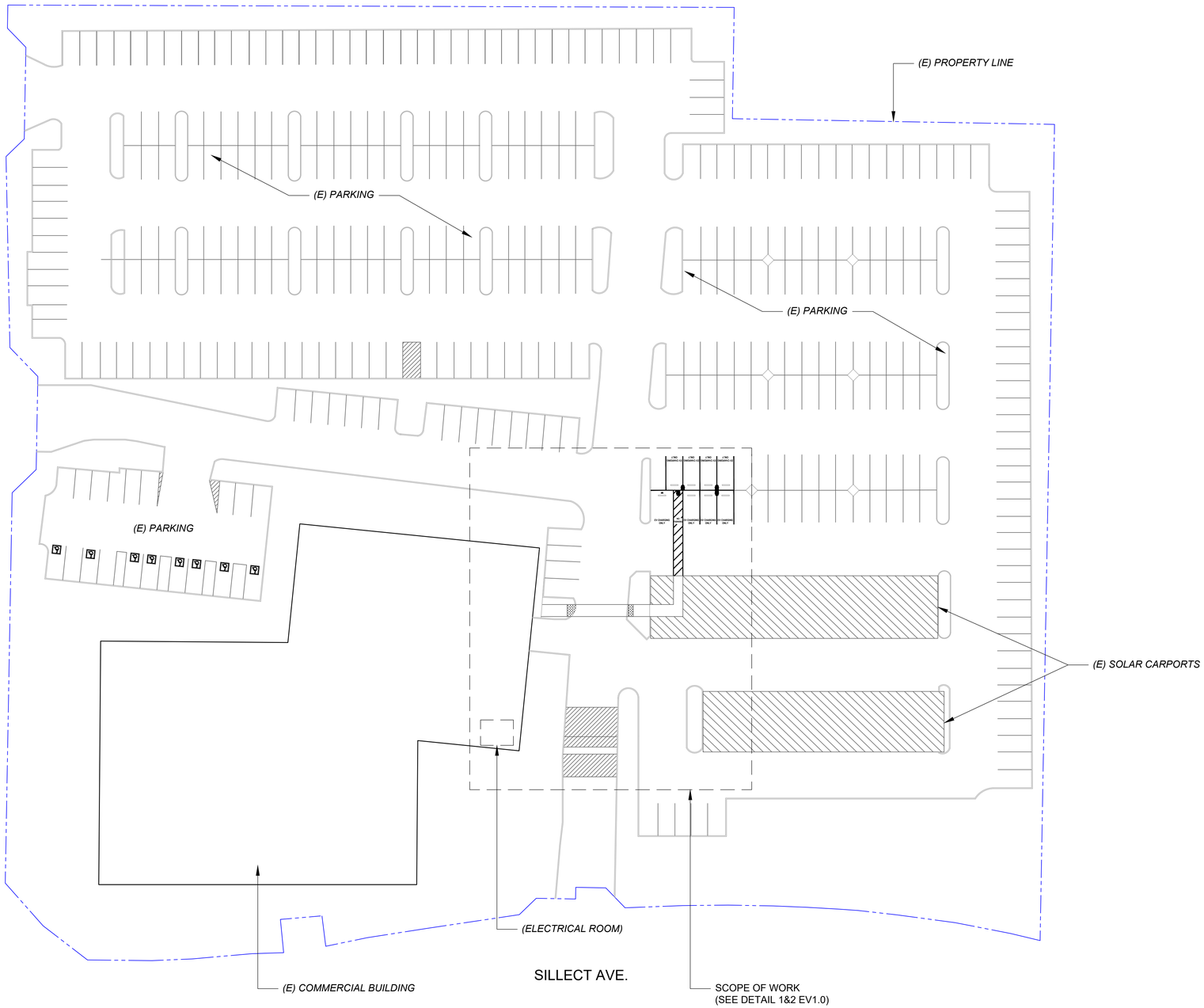
SHEET TITLE

GENERAL NOTES

SHEET NUMBER

G.2

APN 332-580-32-00-2



BUCK OWENS BLVD,

NOTE:
THE PROPERTY LINES AND EXISTING ITEMS SHOWN HEREON ARE APPROXIMATE ONLY.

N

PROJECT SITE PLAN

1"=30"

ELECTRICAL CONTRACTOR

TURNKEY ENERGY

TURNKEY ENERGY
7257 N MAPLE AVE #108
FRESNO, CA 93720
PH (888) 994-1663
TURNKEYENERGY.COM

ENGINEER OF RECORD

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DATE	4/28/2021
PROJECT NUMBER	21TK-KERN290
DESIGNER	JPL
CHECKED BY	GK

PERMIT SET

SHEET TITLE

PROJECT SITE PLAN

SHEET NUMBER

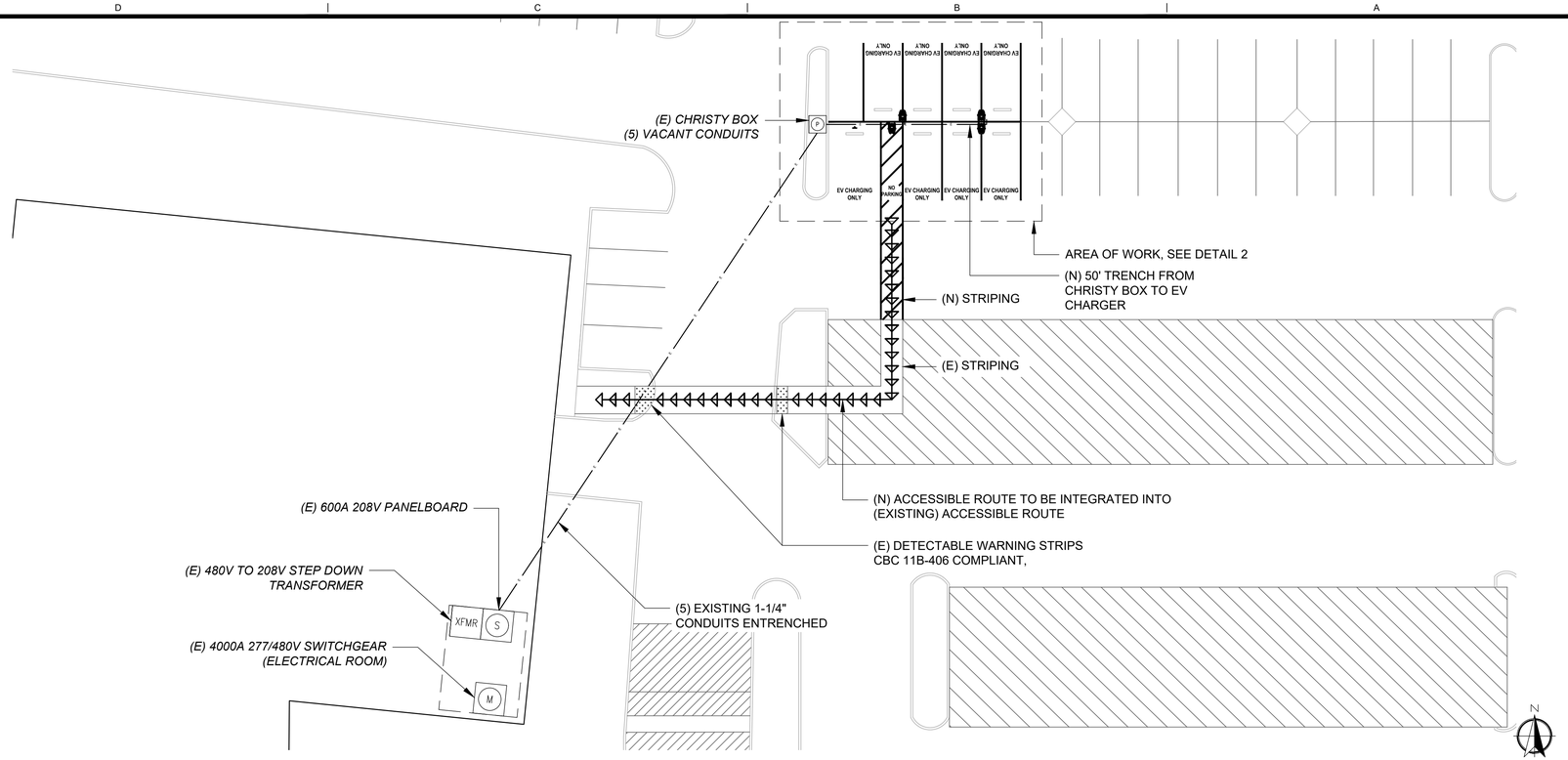
G.3

SHEET NOTES:

1. CONDUIT SHOWN IS DIAGRAMMATIC AND INDICATES DESIGN INTENT ONLY
2. NO MORE THAN FOUR 90° BENDS ARE PERMITTED IN A CONDUIT RUN. CONTRACTOR SHALL INSTALL JUNCTION BOXES OR PULL BOXES AS NECESSARY.
3. ANY SURVEY MONUMENTS WITHIN THE AREA OF CONSTRUCTION SHALL BE PRESERVED OR RESET BY A PERSON LICENSED TO PRACTICE LAND SURVEYING IN THE STATE OF CALIFORNIA.
4. REPAIR ALL DAMAGED AND/OR OFF-GRADE CONCRETE STREET IMPROVEMENTS AS DETERMINED BY THE CONSTRUCTION MANAGEMENT ENGINEER PRIOR TO OCCUPANCY.
5. TWO (2) WORKING DAYS BEFORE COMMENCING EXCAVATION OPERATIONS WITHIN THE STREET RIGHT OF WAY AND/OR UTILITY EASEMENTS, ALL EXISTING UNDERGROUND FACILITIES SHALL HAVE BEEN LOCATED BY UNDERGROUND SERVICES ALERT (USA) CALL 1-800-642-20444

SITE PLAN LEGEND

- M — SERVICE ENTRANCE AND 4000A MAIN PANEL
- INV — INVERTER
- LC — PV COMBINER LOAD CENTER
- XFMR — TRANSFORMER
- J — JUNCTION BOX
- P — PULLBOX
- DC DISC — DC DISCONNECT
- ROOFDC DISC — ROOFTOP DC DISCONNECT
- AC DISC — AC DISCONNECT
- S — FACILITY SUBPANEL



1 SITE PLAN DETAIL

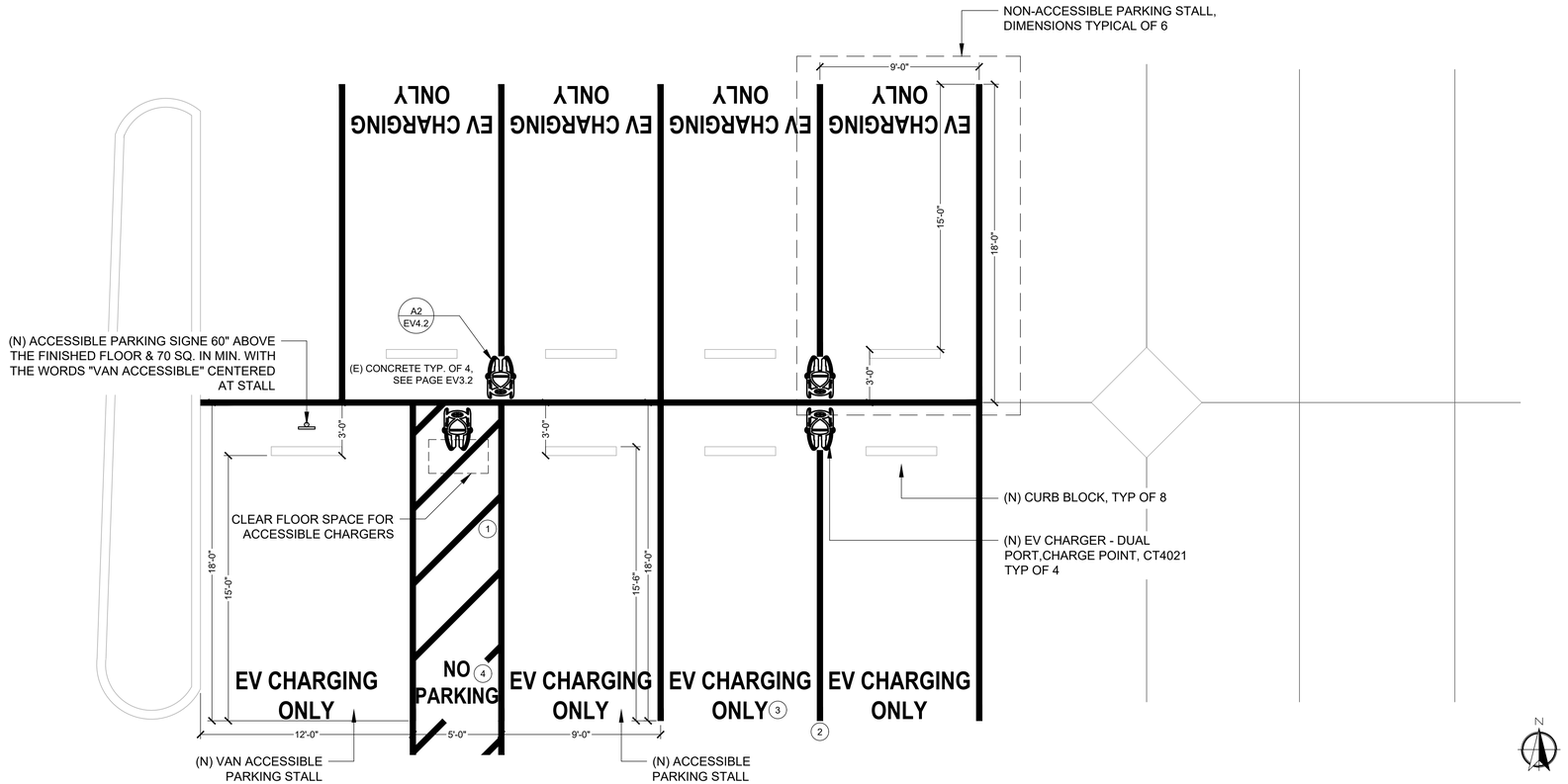
1/16" = 1'-0"

SHEET NOTES:

1. PROPOSED ACCESSIBLE STALLS AND ACCESS AISLE SHALL BE 1.48% MAX SLOPE IN ALL DIRECTIONS.
2. LOWER SIDE OF MARKING SHOULD BE ALIGNED WITH THE END OF THE PARKING SPACE
3. DIAGONAL STRIPING IN ACCESS AISLE AND ACCESSIBLE ROUTE SHALL BE SEPARATED BY 36" MAX ON CENTER.
4. PROPOSED PARKING STRIPES SHALL BE PAINTED WHITE.
5. MAXIMUM SLOPE 5% AND CROSS SLOPE 3% FOR REQUIRED ACCESSIBLE ROUTE TO EV CHARGING STALL.

KEYED NOTES

1. ACCESS AISLE TO BE MARKED WITH A PAINTED BORDER PERIMETER, AND SHALL BE PAINTED WITH WHITE PAINT, HATCHED LINES SHALL BE 36" ON CENTER.
2. ALL PARKING STRIPING SHALL BE PAINTED WITH CONTRASTING WHITE PAINT, TYP UNO.
3. THE WORDS "EV CHARGING ONLY" SHALL BE PAINTED AT THE LOWER END OF EACH EV SPACE IN 12" LETTERING. ℄OF THE TEXT SHALL BE 6" MAXIMUM FROM THE ℄ OF THE VEHICLE SPACE.
4. THE WORDS "NO PARKING" SHALL BE PAINTED W/IN EACH ACCESS AISLE IN 12" LETTERING AND LOCATED TO BE VISIBLE FROM THE ADJACENT VEHICULAR WAY.



2 AREA OF WORK DETAIL

1/4" = 1'-0"

ELECTRICAL CONTRACTOR

TURNKEY ENERGY

7257 N MAPLE AVE #108
FRESNO, CA 93720
PH (888) 994-1663
TURNKEYENERGY.COM

ENGINEER OF RECORD

REGISTERED PROFESSIONAL ENGINEER
GEOFFREY T. KRAMER
No. E21305
ELECTRICAL
STATE OF CALIFORNIA

ELECTRONICALLY SIGNED: 4/28/2021

OWNER

ALONSO HURTADO
2900 BUCK OWENS BLVD.
(661)-664-5541

PROJECT

KERN HEALTH SYSTEM EV CHARGING SYSTEM
2900 BUCK OWENS BLVD,
BAKERSFIELD CA 93308

REV	DATE	DESCRIPTION
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-		
-	DATE	PERMIT

DATE	4/28/2021
PROJECT NUMBER	21TK-KERN290
DESIGNER	JPL
CHECKED BY	GK

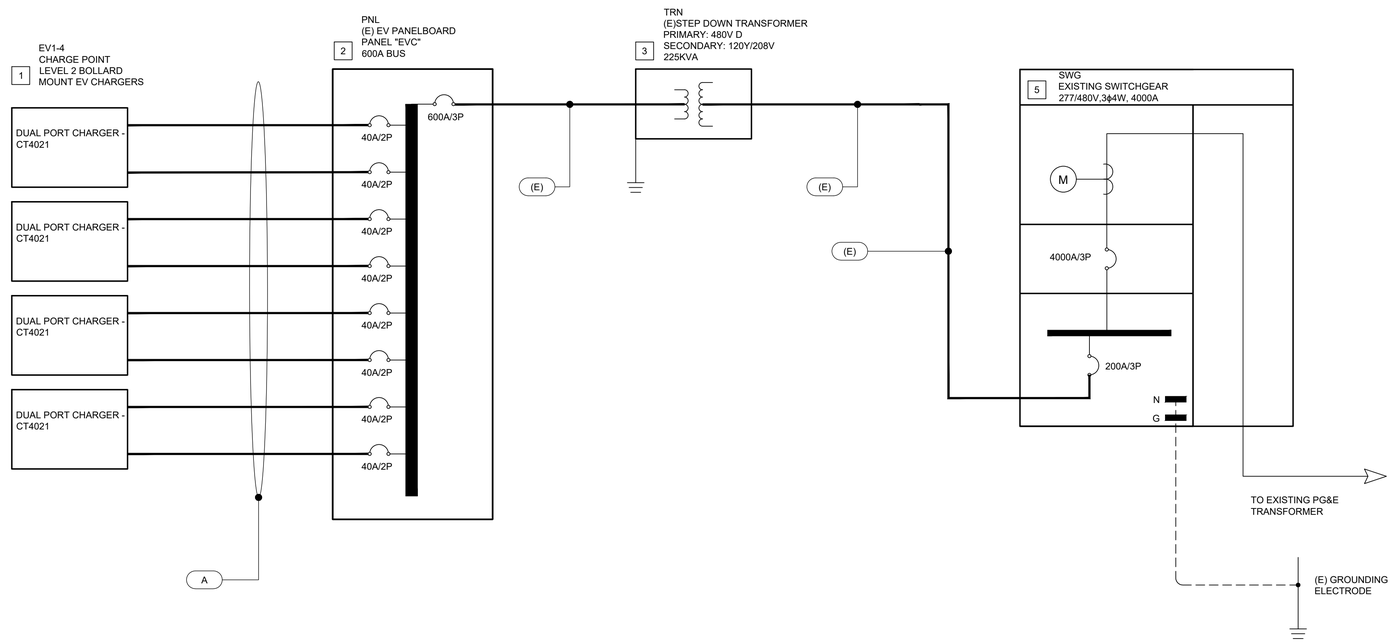
PERMIT SET

SHEET TITLE

PROJECT SITE PLAN

SHEET NUMBER

EV1.0



EQUIPMENT

TAG	DESCRIPTION
1	EV1 THRU EV4 CHARGE POINT CT4021 LEVEL 2 COMMERCIAL CHARGING STATION DUAL PORT, BOLLARD MOUNT
2	PNL (E) EV PANELBOARD SIEMENS 600 BUS, 600A MAIN BREAKER 120/208V 3ϕ4W
3	TRN (E) TRANSFORMER H225KVA, 480D:120/208GRDY
5	SWG (E) SWITCHGEAR 4000A, 480V, 3ϕ4W

AC WIRE & CONDUIT SCHEDULE

ID	CIRCUIT DESCRIPTION	ORIGIN	DESTINATION	CONDUIT QTY	CONDUIT TYPE	CONDUIT SIZE	WIRE LENGTH (FT)	QTY CONDUCTOR PER CONDUIT	CONDUCTOR SIZE	CONDUCTOR MATERIAL	CONDUCTOR INSULATION	QTY GROUND	GROUND SIZE	EQUP GROUND MATERIAL	EQUP GROUND INSULATION	CONDUIT FILL
A	EV CHARGERS CIRCUITS	PNL EV	EV1-4	2	PVC40	1-1/4"	180	8	#6	Cu	THWN-2	1	#10	Cu	THWN-2	29.37%

AC AMPACITY CALCULATIONS

VOLTAGE	MAX CIRCUIT CURRENT (AMPS)	MIN CONDUCTOR AMPACITY (AMPS)	CONDUCTOR AMPACITY	OCPD RATING (AMPS)	AMBIENT TEMP (C)	DIST ABOVE ROOF	AMBIENT TEMP CORRECTION FACTOR	# COND. ADJUSTMENT FACTOR	DERATED AMPACITY	VOLTAGE DROP
208	30.00	37.50	65	40	39	N/A	0.88	0.7	40.04	1.82%

SINGLE LINE DIAGRAM

NTS

ORIGINAL AS BUILD EVC PANEL SCHEDULE

NTS

Panel: EVC

LOCATION: MAIN ELECTRICAL... VOLTS: 208Y/120V Wye 3P 4W A.I.C. RATING: 25,000
MOUNTING: SURFACE BUS AMPS: 600A MAIN BKR: MCB
FED FROM: T-EVC NEUTRAL: 100% LUGS: STANDARD
NOTE:

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	EV CHARGER #1	50 A	2	3.50	3.50		2	50 A	EV CHARGER #8	2
3	--	--	--				--	--	--	4
5	EV CHARGER #2	50 A	2			3.50	3.50	50 A	EV CHARGER #9	6
7	--	--	--	3.50	3.50		--	--	--	8
9	EV CHARGER #3	50 A	2		3.50	3.50	2	50 A	EV CHARGER #10	10
11	--	--	--				--	--	--	12
13	EV CHARGER #4	50 A	2	3.50	3.50		2	50 A	EV CHARGER #11	14
15	--	--	--		3.50	3.50	--	--	--	16
17	EV CHARGER #5	50 A	2			3.50	2	50 A	EV CHARGER #12	18
19	--	--	--	3.50	3.50		--	--	--	20
21	EV CHARGER #6	50 A	2		3.50	3.50	2	50 A	EV CHARGER #13	22
23	--	--	--			3.50	--	--	--	24
25	EV CHARGER #7	50 A	2	3.50	3.50		2	50 A	EV CHARGER #14	26
27					3.50	3.50				28
29										30
31										32
33										34
35										36
37										38
39										40
41										42
		Total Load:		35.0 kVA	35.0 kVA	28.0 kVA				

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals
Continuous	98000 VA	125.00%	122500 VA	
				Total Conn. Load: 98.0 kVA
				Total Est. Demand: 122.5 kVA
				Total Conn.: 272 A
				Total Est. Demand: 340 A

Notes:

FIELD EVC PANEL SCHEDULE

NTS

(E) PANEL EVC

BUS RATING: 120/208V, 3PH 4W
MAIN: 500A MAIN LUG ONLY
SPACES: 42 FULL SIZE BOLT-ON CB SPACES
AIC RATING: 42 KAIC PANEL

_____ MOUNT: NEMA ___
LOCATION:
WITH EQUIPMENT GND BUS

CONNECTED VA

CKT %WD	DIST (FT)	NOTES	LOAD TYPE	CKT	DESCRIPTION	TRIP	POLES	COND SIZE	PHASE A	PHASE B	PHASE C	COND SIZE	POLES	TRIP	DESCRIPTION	CKT	LOAD TYPE	NOTES	DIST (FT)	CKT %WD
				1												2				
				3												4				
				5												6				
2.21%	180	*	C	7	EV*-1	40	2	6	3120							8				
2.21%	180	*	C	9	EV*-1	40	2	6		3120		6	2	40	EV3-1	10	C	1	180	2.21%
2.21%	180	*	C	11	EV*-2	40	2	6		3120		6	2	40	EV3-1	12	C	1	180	2.21%
2.21%	180	*	C	13	EV*-2	40	2	6	3120			6	2	40	EV3-2	14	C	1	180	2.21%
2.21%	180	*	C	15	EV2-1	40	2	6		3120		6	2	40	EV3-2	16	C	1	180	2.21%
2.21%	180	*	C	17	EV2-1	40	2	6			3120	5	2	40	EV4-1	18	C	1	180	2.21%
2.21%	180	*	C	19	EV2-2	40	2	6	3120			5	2	40	EV4-1	20	C	1	180	2.21%
2.21%	180	*	C	21	EV2-2	40	2	6		3120		5	2	40	EV4-2	22	C	1	180	2.21%
				23							3120	5	2	40	EV4-2	24	C	1	180	2.21%
				25												25				
				27												28				
				29												30				
				31												32				
				33												34				
				35												36				
				37												38				
				39												40				
				41												42				

	CON:	15600	16722	* 8723
	25%:	3900	4680	3900
	SUB:	0	0	0
	TOT:	19500	23402	22623
	AMPS:	163	195	189

PANEL NOTES:
1. CONTRACTOR TO BALANCE LOADS ON PHASES AS SHOWN

LOAD (VA)	LOAD TYPE	LEGEND
0	R	RECEPTACLE
0	L	LIGHTING (*25% OF CONNECTED LOAD CEC 215.2)
0	M	MECHANICAL
0	K	KITCHEN APPLIANCE
0	N	NON-CONTINUOUS MISC.
49920	C	CONTINUOUS MISC. (125% OF CONNECTED LOAD CEC 215.2)

MANUFACTURER	CHARGE POINT
PRODUCT	CT4021 LEVEL 2 COMMERCIAL CHARGING STATIONS
MODEL	CT4021
DESCRIPTION	BOLLARDMOUNT, DUAL PORT
QUANTITY	4
VOLTAGE	208V

PANEL SCHEDULES

NTS

ELECTRICAL CONTRACTOR

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PROJECT

KERN HEALTH SYSTEM EV CHARGING SYSTEM
2900 BUCK OWENS BLVD,
BAKERSFIELD CA 93308

REV	DATE	DESCRIPTION
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-	DATE	PERMIT

DATE	4/28/2021
PROJECT NUMBER	21TK-KERN290
DESIGNER	JPL
CHECKED BY	GK

PERMIT SET

SHEET TITLE
SINGLE LINE DIAGRAM

SHEET NUMBER
EV2.0

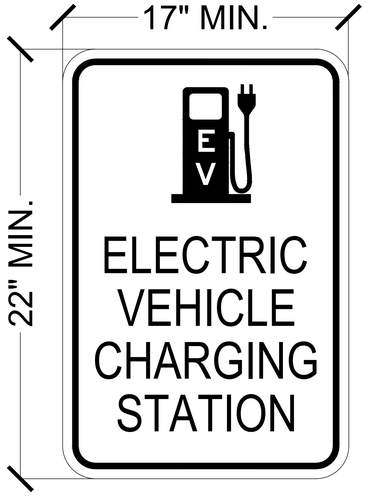
PARKING FOR
EV CHARGING ONLY

THIS SPACE DESIGNED
FOR DISABLED ACCESS

USE LAST

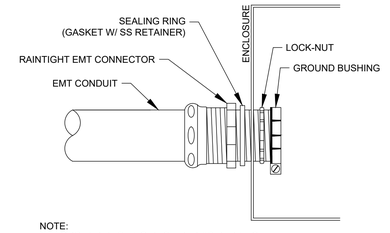
NOTE: THIS SIGN TO BE POSTED AT THE ADA COMPLIANT EV CHARGING STATION

A



NOTE: THIS SIGN TO BE POSTED AT EACH ADDITIONAL EV CHARGING STATION

B



NOTE:
1. GROUND BUSHING REQUIRED AS PER NEC.
2. SEALING RING IS ONLY REQUIRED ON BOTTOM ENTRY WHEN NEEDING TO MAINTAIN A NEMA 4 OR 4X REQUIREMENT FOR WATER SPLASH OR CORROSION PROTECTION OF INTERNAL PARTS.

C **EMT ENTRY - EXTERIOR**
CONDUIT NTS

ELECTRICAL CONTRACTOR

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REV	DATE	DESCRIPTION
DATE		4/28/2021
PROJECT NUMBER		21TK-KERN290
DESIGNER		JPL
CHECKED BY		GK

PERMIT SET

SHEET TITLE
SIGNAGE AND DETAILS

SHEET NUMBER
EV3.0

Ordering Information

The order codes below represent specific product configurations. Other product options are available. Please contact ChargePoint Sales for information and order codes.

Specify model number followed by the applicable code(s).
The order code sequence is: **Model-Options**. **Software**, **Services** and **Misc** are ordered as separate line items.

Hardware

Description		Order Code
Model	1830 mm (6 ft) Single Port Bollard Mount	CT4011-GW1
	1830 mm (6 ft) Dual Port Bollard Mount	CT4021-GW1
	1830 mm (6 ft) Single Port Wall Mount	CT4013-GW1
	1830 mm (6 ft) Dual Port Wall Mount	CT4023-GW1
	2440 mm (8 ft) Dual Port Bollard Mount	CT4025-GW1
	2440 mm (8 ft) Dual Port Wall Mount	CT4027-GW1
Included	Integral Modem – North America	-GW1
Misc	Power Management Kit Bollard Concrete Mounting Kit	CT4000-PMGMT
	Bollard Concrete Mounting Kit	CT4001-CCM

*Note: ALLL CT4000 stations include Integral Modem -GW1.

Software & Services

Description	Order Code
ChargePoint Commercial Service Plan	CPCLD-COMMERCIAL-*n**
ChargePoint Enterprise Plan	CPCLD-ENTERPRISE-*n**
ChargePoint Assure	CT4000-ASSURE*n**
Station Activation and Configuration	CPSUPPORT-ACTIVE
ChargePoint Station Installation and Validation	CT4000-INSTALLVALID

Note: All CT4000 stations require a network service plan per port.

*Substitute *n* for desired years (1, 2, 3, 4 or 5 years)

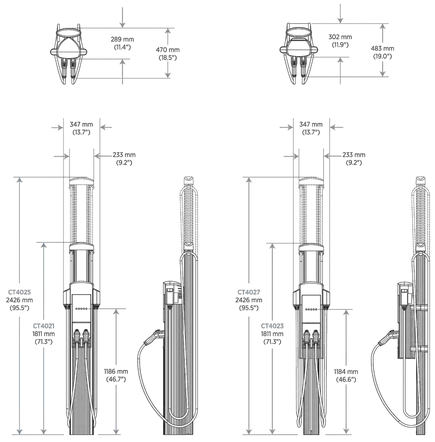
Order Code Examples

If ordering this…	…the order code is
1830 mm (6 ft) Dual Port Bollard Networked Station with Concrete Mounting Kit	CT4021-GW1 CT4001-CCM
ChargePoint Commercial Service Plan, 3 Year Subscription	CPCLD-COMMERCIAL-3
ChargePoint Station Installation and Validation	CT4000-INSTALLVALID
3 Years of Assure Coverage	CT4000-ASSURE3
1830 mm (6 ft) Single Port Wall Mount Networked Station	CT4013-GW1
ChargePoint Commercial Service Plan, 5 Year Subscription	CPCLD-COMMERCIAL-5
5 Years of Assure Coverage	CT4000-ASSURE5
Station Activation and Configuration	CPSUPPORT-ACTIVE

Architectural Drawings (Dimensions)

CT4021 1830 mm (6')
CT4025 2440 mm (8')
Bollard

CT4023 1830 mm (6')
CT4027 2440 mm (8')
Wall Mount



General Specifications

Electrical Input

Electrical Input	Single Port (AC Voltage 208 / 240V AC)			Dual Port (AC Voltage 208 / 240V AC)		
	Input Current	Input Power Connection	Required Service Panel Breaker	Input Current	Input Power Connection	Required Service Panel Breaker
Standard	30A	One 40A branch circuit	40A dual pole (non-GFCI type)	30A x 2	Two independent 40A branch circuits	40A dual pole (non-GFCI type) x 2
Standard Power Share	n/a	n/a	n/a	32A	One 40A branch circuit	40A dual pole (non-GFCI type)
Power Select 24A	24A	One 30A branch circuit	30A dual pole (non-GFCI type)	24A x 2	Two independent 30A branch circuits	30A dual pole (non-GFCI type) x 2
Power Select 24A Power Share	n/a	n/a	n/a	24A	One 30A branch circuit	30A dual pole (non-GFCI type)
Power Select 16A	16A	One 20A branch circuit	20A dual pole (non-GFCI type)	16A x 2	Two independent 20A branch circuits	20A dual pole (non-GFCI type)
Power Select 16A Power Share	n/a	n/a	n/a	16A	One 20A branch circuit	20A 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 Share	n/a			3-wire (L1, L2, Earth)		
Station Power	8 W typical (standby), 15 W maximum (operation)					

Electrical Output

Electrical Output	Single Port (AC Voltage 208 / 240V AC)	Dual Port (AC Voltage 208 / 240V AC)
Standard	7.2 kW (240V AC @ 30A)	7.2 kW (240V AC @ 30A) x 2
Standard Power Share	n/a	7.2 kW (240V AC @ 30A) x 1 or 3.8 kW (240V AC @ 16A) x 2

Power Select 24A	5.8 kW (240V AC @ 24A)	5.8 kW (240V AC @ 24A) x 2
Power Select 24A Power Share	n/a	5.8 kW (240V AC @ 24A) x 1 Or 2.9 kW (240V AC @ 12A) x 2
Power Select 16A	3.8 kW (240V AC @ 16A)	3.8 kW (240V AC @ 16A) x 2
Power Select 16A Power Share	n/a	3.8 kW (240V AC @ 16A) x 1 Or 1.9 kW (240V AC @ 8A) x 2

Functional Interfaces

	Single Port (AC Voltage 208 / 240V AC)	Dual Port (AC Voltage 208 / 240V AC)
Connector Types	SAE J1772™	SAE J1772™ x 2
Cable Length — 1.8 m (6 ft) Cable Management	5.5 m (18 ft)	5.5 m (18 ft) x 2
Cable Length — 2.4 m (8 ft) Cable Management	n/a	7 m (23 ft)
Overhead Cable Management System	Yes	
LCD Display	145 mm (5.7 in) full color, 640 x 480, 30 fps full motion video, active matrix, UV protected	
Card Reader	ISO 15693, ISO 14443, NFC	
Locking Holster	Yes	Yes x 2

Safety and Connectivity Features

Ground Fault Detection	20 mA 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 (30A)
Power Report/Store Interval	15 minute, aligned to hour. Vehicle to grid connected and responsive to TOU signals
Local Area Network	2.4 GHz WiFi (802.11 b/g/n)
Wide Area Network	LTE Category 4

Safety and Operational Ratings

Station Enclosure Rating	Type 3R per UL 50E
Safety and Compliance	UL and cUL listed; complies with UL 2594, UL 2231-1, UL 2231-2, and NEC Article 625
Station Surge Protection	6 kV @ 3,000A. 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	-40°C to 50°C (-40°F to 122°F)
Non-Operating Temperature	-40°C to 80°C (-40°F to 140°F)
Terminal Block Temperature Rating	105°C (221°F)
Operating Humidity	Up to 85% @ 50°C (122°F) non-condensing
Non-Operating Humidity	Up to 95% @ 50°C (122°F) non-condensing
Network	All stations include integral LTE modem and will be automatically configured to operate as gateway or non-gateway as needed

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

chargepoint

ChargePoint, Inc.
240 East Hacienda Avenue
Campbell, CA 95008-6617 USA

+1.408.841.4500 or
+1.877.370.3802 US and Canada toll-free

chargepoint.com

Contact Us

Visit chargepoint.com

Call +1.408.705.1992

Email sales@chargepoint.com

Listed by Underwriters Laboratories Inc.

ELECTRICAL CONTRACTOR

TURNKEY ENERGY

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7257 N MAPLE AVE #108
FRESNO, CA 93720
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DESIGNER	JPL
CHECKED BY	GK

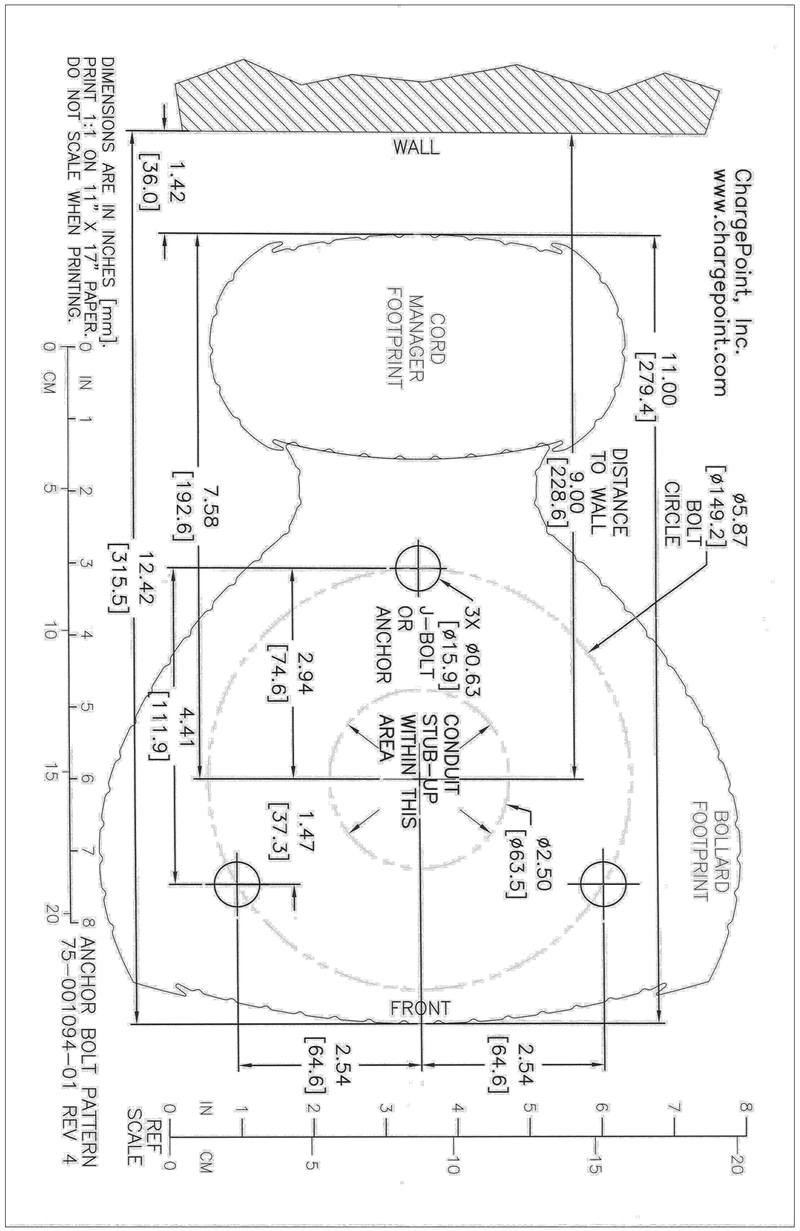
PERMIT SET

SHEET TITLE

EQUIPMENT SPECIFICATIONS

SHEET NUMBER

EV4.1



Follow These Steps

1. Install two nuts with two washers captured between them. Lock them together so the lower end of the nut is located 6" from the bottom of the bolt. This sets the length of the exposed threads.
2. Use the Plastic Concrete Bolt Installation Template to mark the hole locations.
3. Remove the template and drill three ¾" diameter holes 6" deep into the concrete. When locating the template, consider the charging station's total footprint. For reference, a template for the CT4000 charging station with CMK is included in this kit.

   NOTE:
   - It is important that the bolts are parallel after installation. Therefore, ensure the drill holes are plumb by using a bubble level to check the angle of the drill after drilling 1 to 1 ½"..
   - If installing over existing buried conduit, position the center of the template around the conduit stub-up.
   - You may need two drill bits - one for the concrete (with the pilot) and another for the rebar (without the pilot). Always start the hole using the standard drill bit, then switch to the rebar drill bit only if drilling through rebar.
4. Remove all dust from inside the drilled holes using compressed air, or a vacuum and/or a brush.
5. If the concrete slab is only 6" deep, insert a plug (McMaster Product #9753K56) in each hole to keep the epoxy in place until it hardens. Place the plug over the long end of a bolt and then use the bolt to push the plug to the bottom of the hole.
6. Fill each hole with epoxy to about 2 ½" to 3" below the top. Continue immediately to the next step because the epoxy sets within about eight minutes.

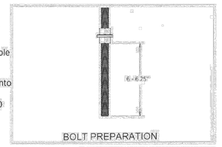
   NOTE: Inserting the threaded bolts displaces the epoxy, causing it to fill the holes to grade level. If the epoxy is below grade level, you can add more after the next step.
7. Place the Plastic Concrete Bolt Installation Template over the holes. This ensures the relative position of the bolts and that the flange of the pole fits over the bolts.
8. Insert the bolts through the template, into the holes. Rotate the bolts as you insert them to draw epoxy into the threads.

   IMPORTANT: The epoxy is very thick. Therefore, it is important to rotate the bolts as you insert them. This allows the epoxy to fully coat the threads of the bolts, reducing the amount of trapped air.

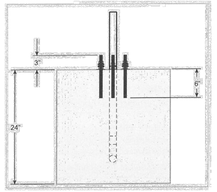
   NOTE: The installation template can be left in place.
9. If needed, top up the holes with epoxy to grade level.
10. Allow the epoxy to cure for at least 15 minutes* before removing the top nuts and washers.
11. Allow the epoxy to cure for 45 minutes* before applying torque to the nuts.

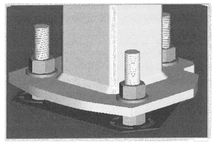
**Epoxy cure times assume you are using epoxy ordered from McMaster (Product # 7505A55). If using a different type of epoxy, you may need to adjust these times. Refer to the cure times provided with the epoxy.*

You are now ready to install the CT4000's bollard mount. Refer to the CT4000 Installation Guide.



BOLT PREPARATION





Installing on Existing Concrete

If installing on existing concrete, perform the following tasks:

- Review the site for suitability to install a CT4000. The CT4000's Clean Cord Technology requires space behind the power stub-up for the Cord Management Kit (CMK). To ensure adequate space, reference the CT4000 Installation Template (75-001094-01) included in this installation kit.
- Review the dimensions of the existing concrete slab. To safely mount a CT4000 charging station, the concrete must be at least 6" thick. At this thickness, all of the CT4000's mounting bolts must be positioned at least 15" from the front edge, at least 12" from the side edges, and at least 6" from the rear edge of the concrete slab.
- If an existing charging station is already in place at the installation site, turn off all power to the station and disassemble according to the original manufacturer's instructions. Cut away any existing bolts or non-power conduit stub-up to ground level. You may need to plug cut-away conduits at the slab end, and disconnect wiring at the other end.

IMPORTANT: Always check local codes to ensure compliance. You may need to adjust these instructions to comply with codes that apply at your installation location.

Kit Components Needed

The CT4000 Concrete Mount Kit contains 12 Heavy Galvanized Hex Nuts and 9 Galvanized Washers. You will need only 6 of each.

Tools Required

Electric drill or Hammer drill (½" chuck may be required depending on drill bits used) (1)

Consumables Required

These consumables can be ordered online directly from McMaster by clicking this pre-populated order link: **McMaster Order.** Delete any items you already have, and change quantities to accommodate the number of stations you are installing.

NOTE: The consumption rate of these products will vary depending on conditions at the installation site.

Quantity	McMaster Product #	Description	Purpose
1*	7505A55	Epoxy Adhesive for Concrete, 9.3 Ounce Cartridge (includes two mixing nozzles)	Filling drilled holes.
1*	7505A56	Mixing Nozzles for 9.3 Ounce Epoxy Adhesive for Concrete	Filling drilled holes. NOTE: You may need extra mixing nozzles to accommodate delays of over three minutes when applying epoxy.
1	7622T23	Ratchet Rod Caulk Gun with Half-Barrel Frame for 10-13 Ounce Cartridge, 6:1 Thrust	Filling drilled holes. NOTE: Any standard caulk gun will work.
1	7437K35	Electrical Cleaning and Maintenance Aerosol, Any Angle Spray Duster, 8 Ounce Net Weight	Cleaning drilled holes.
1	2960A22	Slow Spiral Round-Shank Masonry Drill Bit, ¾" diameter, ½" Shank, 10" Drill Depth, 12" Length Overall	Drilling ¾" holes in concrete. NOTE: The holes must be at least 6" deep.
1	28655A25	Drill Bit for Concrete Embedded Rebar, Round, ¾" bit size, ½" Shank diameter, 12" Length Overall	Drilling ¾" hole through rebar.
1	7221T13	Nylon Loop-Handle Brush, ¾" Brush Diameter, 3" Length Brush, 8 ½" Length Overall	Cleaning drilled holes.
1	9753K47	Push-on Round Cap, fits ⅝" - 11/16" OD, ½" Inside Height, Packs of 100	Keeping the epoxy inside the drilled holes in situations where the slab is only 6" deep.

** Quantity based on installation of one charging station.*

A2 EXISTING CONCRERE DETAIL

ELECTRICAL CONTRACTOR

TURNKEY ENERGY
7257 N MAPLE AVE #108
FRESNO, CA 93720
PH (888) 994-1663
TURNKEYENERGY.COM

ENGINEER OF RECORD

REGISTERED PROFESSIONAL ENGINEER
GEOFFREY T. KRAMER
No. E21305
ELECTRICAL
STATE OF CALIFORNIA

ELECTRONICALLY SIGNED: 4/28/2021

OWNER

ALONSO HURTADO
2900 BUCK OWENS BLVD.
(661)-664-5541

PROJECT

KERN HEALTH SYSTEM EV CHARGING SYSTEM
2900 BUCK OWENS BLVD,
BAKERSFIELD CA 93308

REV	DATE	DESCRIPTION
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-	DATE	PERMIT

DATE	4/28/2021
PROJECT NUMBER	21TK-KERN290
DESIGNER	JPL
CHECKED BY	GK

PERMIT SET

SHEET TITLE
EQUIPMENT SPECIFICATIONS

SHEET NUMBER
EV4.2