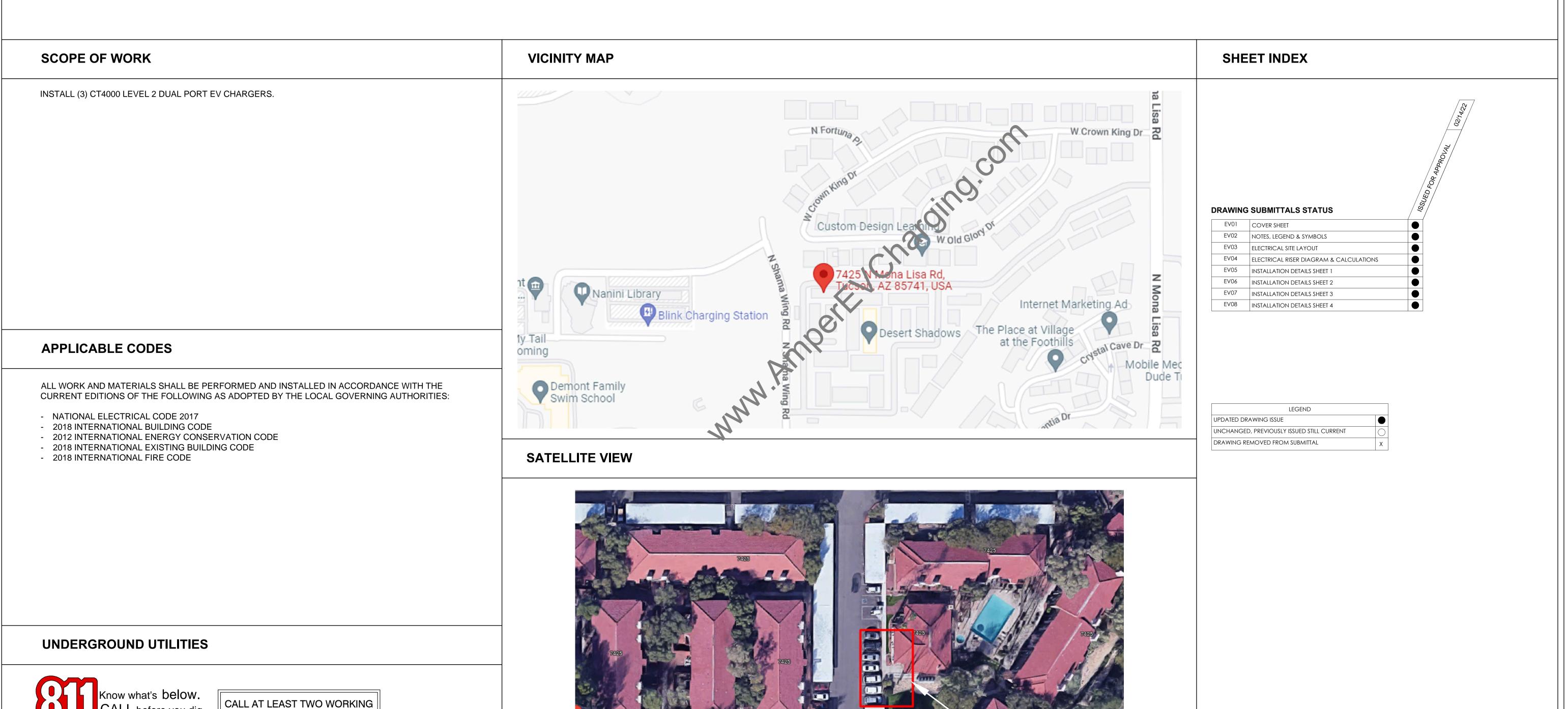
## DESERT SHADOWS - TUCSON EV CHARGING STATION INSTALLATION

7425 N MONA LISA RD., TUCSON, AZ 85741



SITE LOCATION

CALL before you dig.

AT 811, NO LESS TWO DAYS PRIOR TO ANY EXCAVATION.

EXISTING UNDERGROUND FACILITIES ARE SHOWN ON THESE PLANS FROM RECORD INFORMATION AND ARE 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

PROFESSIONAL ENGINEERING:

DURAK EVRIM ERCAN P

ENGINEERING | CONSULTING | ESTIMATING

201-920-2899 ☑ info@AmperEngineering.cor

SEAL & SIGNATURE:

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ENGINEER OF RECORD.

THIS DESIGN IS NOT TO BE USED FOR CONSTRUCTION UNLESS P.E. STAMPED, SIGNED, DATED AND ONE OF THE REVISION STATES "ISSUED FOR CONSTRUCTION", "IFC" OR "IFC UPDATED".

0 08/25/2022 ISSUED FOR APPROVAL
REV. DATE DESCRIPTION

RESOUND ENERGY SERVICES

DESERT SHADOWS
EVCS
INSTALLATION

ADDRESS: 7425 N MONA LISA RD. TUCSON, AZ 85741

AMPER PROJECT NUMBER:

1551

SHEET SIZE: DRAWN BY:

24X36 IB

DESIGNED BY: CHECKED BY:

DEE

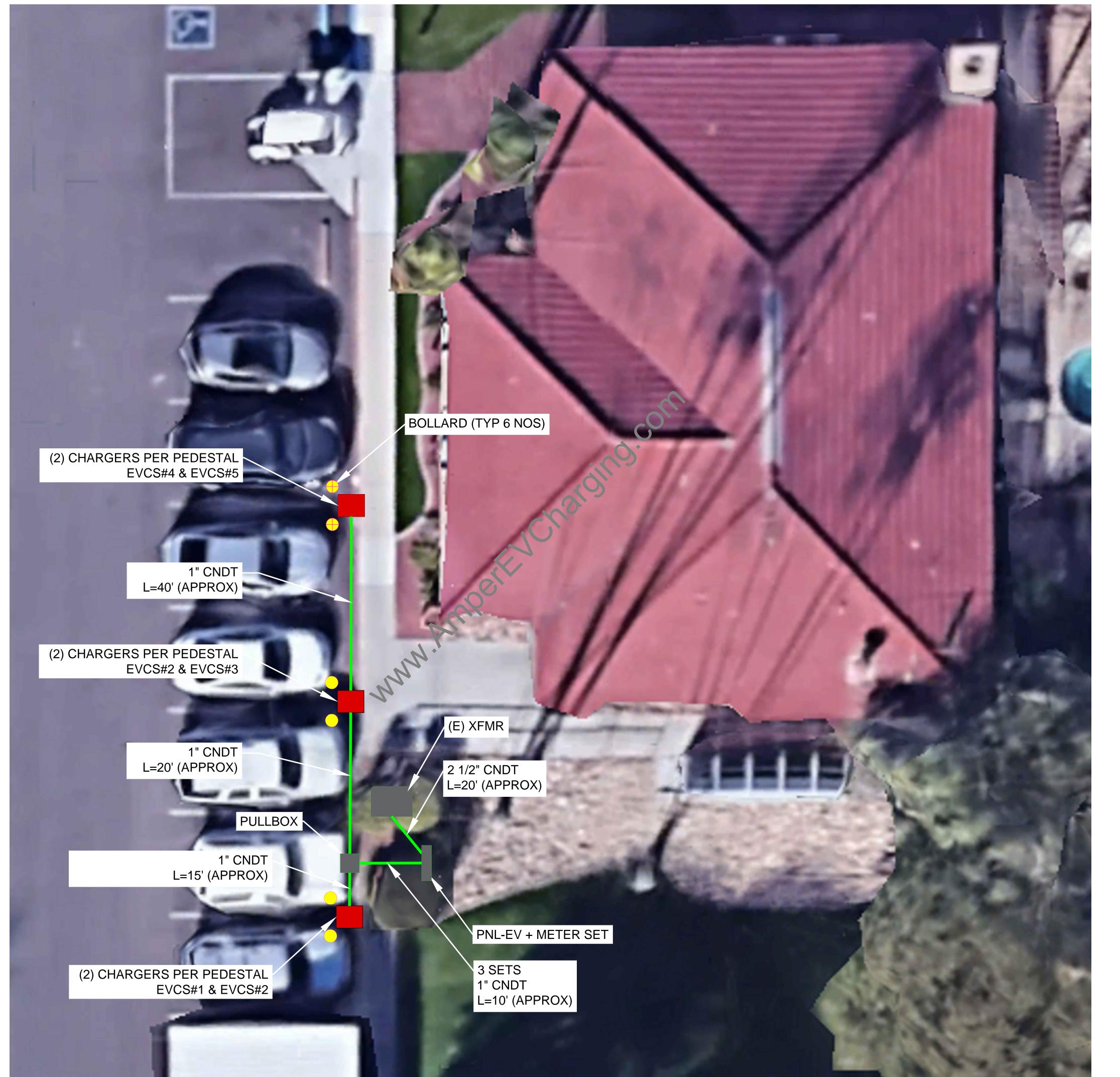
SHEET TITLE:
COVER SHEET

SHEET NO:

**EV01** 



CALL AT LEAST TWO WORKING DAYS BEFORE YOU DIG





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DURAK EVRIM ERCAN P.E. ENGINEERING   CONSULTING   ESTIMATING
€201-920-2899 info@AmperEngineering.com

SEAL & SIGNATURE:

DURAK EVRIM ERCAN , 08/31/2022 .

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08/25/2022	ISSUED FOR APPROVAL

REV. DATE DESCRIPTION

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PROJECT: DESERT SHADOWS **EVCS** INSTALLATION

ADDRESS: 7425 N MONA LISA RD., TUCSON, AZ 85741

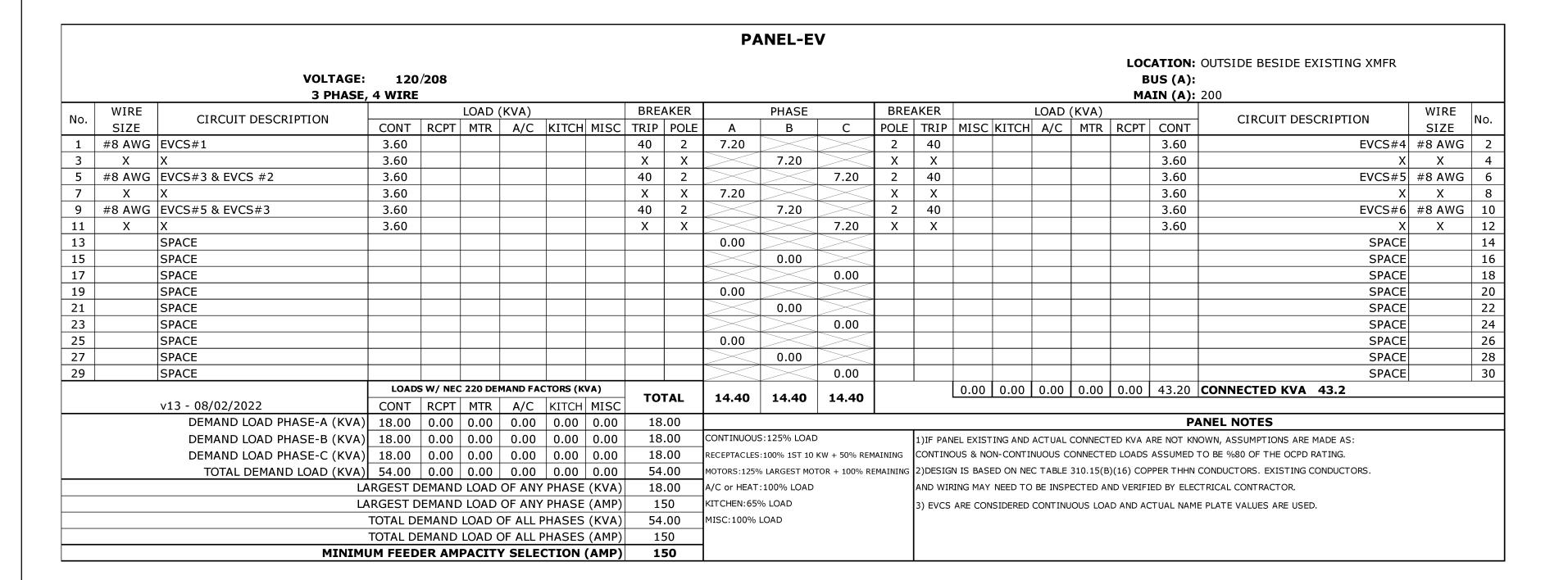
AMPER PROJECT NUMBER: 1551

SHEET SIZE:	DRAWN BY:
24X36	IB
DESIGNED BY:	CHECKED BY:
AC	DEE

SHEET TITLE:
SITE LAYOUT

**EV03** 

SITE LAYOUT SCALE: NTS



CONDUIT FILL CALCULATOR  Select wire type THHN	VOLTAGE DROP CALCULATIONS           STATION         CONDUIT         LENGTH (FT)         VOLTAGE         CURRENT         WIRE SIZE         V.D %         V.D (V)           EVCS#1         1"         25         208         30         8         0.5         1.0           EVCS#2         1"         25         208         30         8         0.5         1.0           EVCS#3         1"         30         208         30         8         0.6         1.2	COLU	CONTRACTOR IS RESPONSIBLE TO VERIFY DESIGN, ENGINEERING ASS AND EXISTING FIELD CONDITIONS. REPORT ANY INSUFFICIENCIES TO E OF RECORD PRIOR TO ANY WORK BEING PERFORMED.  GROUNDING INSTALLATION AS PER NEC ART. 250.	
Enter number of Conduit Trough and of trough Current total	EVCS#4         1"         30         208         30         8         0.6         1.2           EVCS#5         1"         50         208         30         8         1.0         2.0		THE KAIC OF NEW PANEL-EV SHALL BE HIGHER THAN THE EXISTING SHOR SHOR SHOR SHOR SHOR SHALL BE HIGHER THAN THE EXISTING SHOR SHOR SHALL BE HIGHER THAN THE EXISTING SHOR SHOR SHOR SHOR SHOR SHOR SHOR SHOR	ORT CIRCUI
conductors   Total Area   Trade   Conduit ID   Total area in   40% Fill   Area sq.   Current fill   Wire Size   for each size   sq-inch   Size   Sizes   square inches   of Conduit   inches   percent	EVCS#6 1" 50 208 30 8 1.0 2.0		(16) VERIFY EXISTING XFMR PHASE ANGLES AND XFMR PRIMARY VOLTAGE.	
18         TROUGH         4.000         16.000         3.200         0.1675         1.05%           16         6.000         36.000         7.200         0.1675         0.47%           14         0.0000         8.000         64.000         12.800         0.1675         0.26%           12         0.0000         PVC         Select type of conduit		Mulbertington	PANE-EV KAIC RATING:  XFMR-EV 30KVA, IF XFMR-EV %Z>0.83 THEN 10KAIC. IF XFMR-EV<0.83 TH  XFMR-EV 45KVA, IF XFMR-EV %Z>1.3 THEN 10KAIC. IF XFMR-EV<1.3 THEN  XFMR-EV 75KVA, IF XFMR-EV %Z>2 THEN 10KAIC. IF XFMR-EV<2 THEN 22  XFMR-EV 112.5KVA, IF XFMR-EV %Z>3.13 THEN 10KAIC. IF XFMR-EV<3.13  XFMR-EV 150KVA, IF XFMR-EV %Z>4.17 THEN 10KAIC. IF XFMR-EV<4.17 TI	N 22KAIC. 2KAIC. 3 THEN 22KAI
(E) XFMR  V-208V/120V  DELTA-WYE (G)  H  VIILITY SOURCE  (E) UTILITY SERVICE	MAIN D/S  PANEL EV 3PH-4W 208V/120V  MCB 200A  3" NIPPLE	DUAL PORT  BOLLARD (TYP 6 NOS)  1" CNDT (4) #8 AWG (1) #10 EGC L = 15' (APPROX)  PULLBOX	DUAL PORT  EVCS#4  EVCS#4  EVCS#6  1" CNDT  (4) #8 AWG (1) #10 EGC L = 20' (APPROX)  L = 40' (APPROX)	
GROUNDING SYSTEM  AS PER NEC ART. 250  2 1/2" CNDT  (4) #3/0 AWG  (1) #4 GND  L= 20' (APPROX)		3 SETS 1" CNDT 4 - #8 AWG 1 - #10 EGC L = 10' (APPROX)		

**KEY NOTES:** 

- ALL ELECTRICAL WORK AND RELATED ACTIVITIES PERFORMED ON-SITE SHALL BE DONE IN ACCORDANCE WITH NATIONAL ELECTRIC CODE (NEC) STANDARDS BEING ENFORCED BY ALL APPLICABLE JURISDICTIONAL REQUIREMENTS AT THE TIME OF CONSTRUCTION.
- (2) UTILITY EQUIPMENT INSTALLATIONS AND PREP WORK SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY ENGINEER AT TIME OF PRECONSTRUCTION MEETING TO ENSURE ACCURACY OF INSTALLATIONS.
- (3) CONDUIT PATHS ARE REPRESENTATIVE ONLY. EXACT CONDUIT PLACEMENT TO BE DETERMINED ON SITE BASED ON FIELD CONDITIONS.
- (4) A NATIONALLY RECOGNIZED TESTING LABORATORY SHALL LIST ALL EQUIPMENT IN COMPLIANCE WITH NEC ARTICLE 110.3
- (5) ALL EXTERIOR EQUIPMENT SHALL BE RAIN TIGHT AND APPROVED FOR USE IN WET CONDITIONS.
- (6) ALL CONDUCTORS TO BE THHN COPPER
- (7) ALL CONDUCTORS AND CABLES SHALL BE PROVIDED WITH STRAIN RELIEF UPON ENTRY INTO ENCLOSURES
- (8) EACH UNGROUNDED CONDUCTOR SHALL BE IDENTIFIED BY PHASE AND SYSTEM PER NEC 210.5
- (9) ALL METALLIC COMPONENTS SHALL BE GROUNDED VIA ELECTRIC GROUNDING CONDUCTORS.
- (10) ALL UNDERGROUND CONDUIT TO BE UL RATED, MINIMUM 24" DEEP.
- (11) WIRING FOR ELECTRICAL VEHICLE CHARGING STATIONS TO BE INSTALLED PER MANUFACTURER'S DIRECTIONS AND SPECIFICATIONS.
- (12) CONTRACTOR TO ENSURE THAT ALL FEEDERS, CONDUITS, CONDUCTORS, OCPD, TRANSFORMERS, ELECTRICAL PANELS AND OTHER ELECTRICAL EQUIPMENT IS SIZED TO COMPLY WITH CURRENT NEC AND LOCAL AHJ CODES.
- RCUIT

PROFESSIONAL ENGINEERING DURAK EVRIM ERCAN P.E. 

SEAL & SIGNATURE:

69583 DURAK EVRIM ERCAN 08/31/2022

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	00/07/0000	received the Laboratory				
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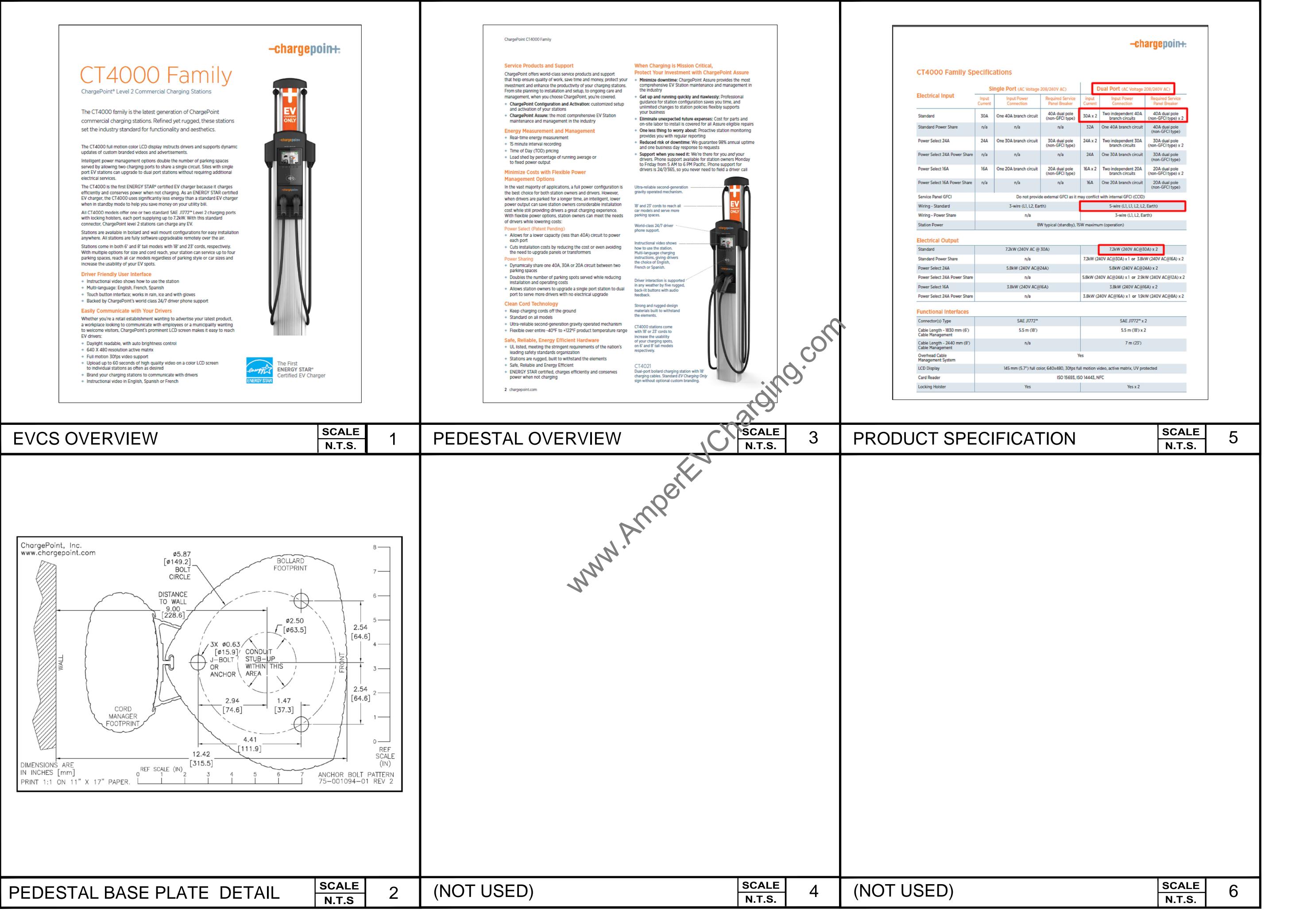
PROJECT: DESERT SHADOWS **EVCS** INSTALLATION

7425 N MONA LISA RD. TUCSON, AZ 85741

DRAWN BY: SHEET SIZE: 24X36 DESIGNED BY: CHECKED BY:

ELECTRICAL RISER DIAGRAM & CALCULATIONS

**EV04** 



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	PROFESSIONAL ENGINEERING:  DURAK EVRIM ERCAN P.E.
	ENGINEERING   CONSULTING   ESTIMATING  201-920-2899 ☑info@AmperEngineering.com
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AMPER PROJECT NUMBER:

DRAWN BY:

CHECKED BY:

DEE

INSTALLATION DETAILS

SHEET SIZE:

DESIGNED BY:

24X36

SHEET 3

**EV07**