P78149
INSTALLATION OF ELECTRIC VEHICLES CHARGING EQUIPMENT
PILOT TRAVEL CENTER 324
13712 NORTHWESTERN AVENUE
FRANKSVILLE, WI 53126

SITE INFORMATION

EV SITE ADDRESS:
13712 NORTHWESTERN AVENUE
FRANKSVILLE, WI 53126

PROPERTY OWNER:
PILOT TRAVEL CENTERS LLC
P.O. BOX 54470
LEXINGTON, KY 40555

APN:
104042230022001, 8.63 ACRES

COUNTY:
RACINE

LATITUDE (NAD83):
42° 46' 43.0"N

LONGITUDE (NAD83):
-87° 57' 04.3"W

POWER COMPANY:
WE ENERGIES

CONTACT ENGINEER:
PHILLIP J. JAMINET
OWL SERVICES
868 W BIG BEAVER RD, #200,
TROY, MI, 48084
owlservices.com
(800) 233-0294
Phill.Jaminet@owlservices.com

APPLICABLE CODES

ALL WORK SHALL COMPLY WITH THE FOLLOWING APPLICABLE CODES:

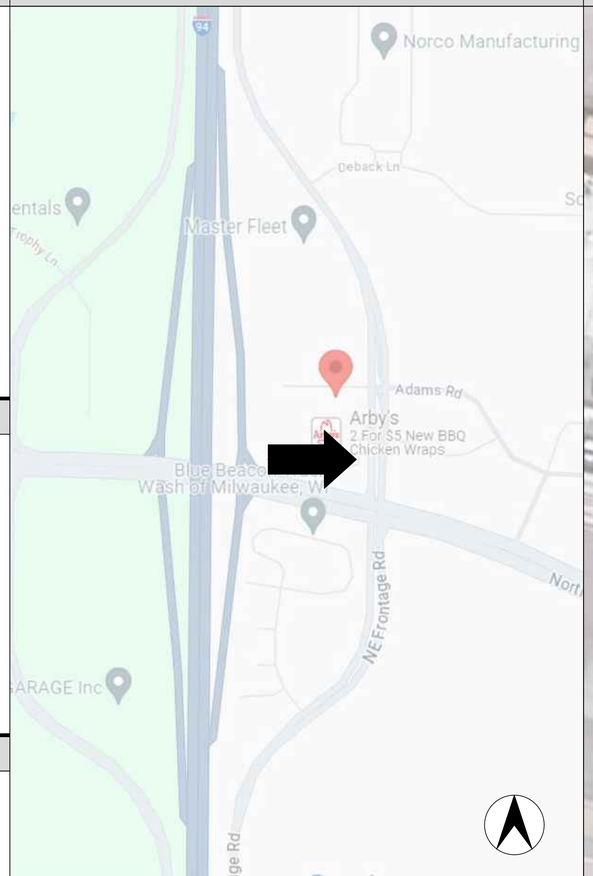
2015 INTERNATIONAL BUILDING CODE
2017 NATIONAL ELECTRICAL CODE
2013 WISCONSIN ACCESSIBILITY CODE
2009 NATIONAL FIRE CODE

IN THE EVENT OF CONFLICT, THE MOST RESTRICTIVE CODE SHALL PREVAIL

ZONING INFORMATION

PERMITTING JURISDICTION:	VILLAGE OF CALEDONIA
ZONING CLASS:	B-3 - COMMERCIAL SERVICE DISTRICT
FLOOD ZONE HAZARD:	ZONE X, AREA OF MINIMAL FLOOD RISK

VICINITY MAP



AERIAL MAP

PROJECT DESCRIPTION

- INSTALL (1) SWITCHBOARD ASSEMBLY
- INSTALL (1) CT CABINET
- INSTALL (1) 350KW DELTA DISPENSER
- INSTALL (1) 350KW DELTA POWER CABINET

DRAWING INDEX

SHEET NO.	SHEET TITLE
CS	COVER SHEET
C-101	OVERALL SITE PLAN
C-102	DEMOLITION SITE PLAN
C-103	ENLARGED SITE PLAN
C-104	ADA / GRADING SITE PLAN
C-105	EROSION AND SEDIMENT CONTROL PLAN
D-501	DETAILS
D-502	DETAILS
D-503	DETAILS
D-504	BUILDING CODES AND STANDARDS
E-1	ELECTRICAL ENLARGED SITE PLAN
E-2	ELECTRICAL SINGLE LINE DIAGRAM
E-3	ELECTRICAL CONDUIT DETAILS
E-4	ELECTRICAL SPECIFICATIONS
E-5	ELECTRICAL SYMBOLS, ABBREVIATIONS AND GENERAL NOTES
E-6	ELECTRICAL CUTSHEETS
G-1	ELECTRICAL GROUNDING DETAILS
GN-1	ELECTRICAL GENERAL CONSTRUCTION NOTES
SW-1	SWITCHBOARD CUT SHEETS
	PROPERTY SURVEY (FOR REFERENCE ONLY)

CONTRACTOR NOTE

CONTRACTOR SHALL COMPLETE INSTALL PER THE SIGNED AND THE SEALED SET OF DRAWINGS. ANY NECESSARY DEVIATIONS FROM THE DRAWINGS MUST BE SUBMITTED THROUGH AN RFI REQUEST PROCESS WITH ENGINEERING FOR AN APPROVAL PRIOR TO CONTRACTOR PROCEEDING WITH A DEVIATION OF THE SIGNED AND SEALED SET OF DRAWINGS.

CALL BEFORE YOU DIG

811 Know what's below. Call before you dig.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON DESIGN DRAWINGS, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. CORESTATES, INC. DOES NOT GUARANTEE THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

ENGINEER OF RECORD

PHILLIP J. JAMINET
PE# E-48131
OWL eMOBILITY

EVgo FAST CHARGING

OWL eMobility

WISCONSIN
PHILLIP J JAMINET
E-48131
YOUNGSTOWN
PROFESSIONAL ENGINEER

P78149 - PILOT TRAVEL CENTER 324
ELECTRIC VEHICLE CHARGING
13712 NORTHWESTERN AVENUE
FRANKSVILLE, WI 53126

NO.	DATE	REVISION DESCRIPTION
0	09/05/25	FOR REVIEW

DATE
09/05/25

SHEET TITLE
COVER SHEET

SHEET NUMBER
CS

OVERALL SITE PLAN
SCALE: 1" = 50'

EVgo FAST CHARGING

OWL eMobility

WISCONSIN
PHILLIP J JAMINET
E-48131
YOUNGSTOWN
PROFESSIONAL ENGINEER

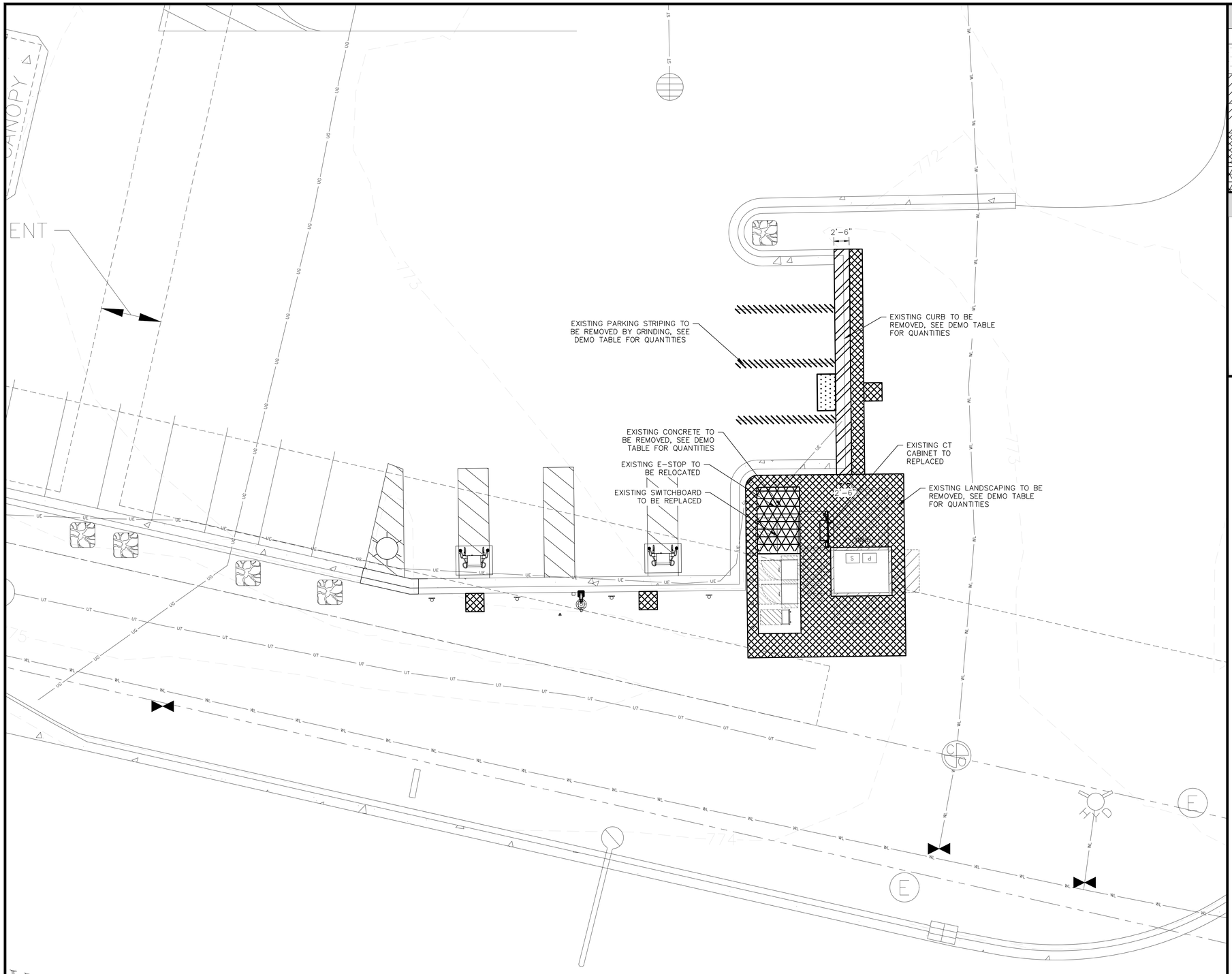
P78149 - PILOT TRAVEL CENTER 324
ELECTRIC VEHICLE CHARGING
13712 NORTHWESTERN AVENUE
FRANKSVILLE, WI 53126

NO.	DATE	REVISION DESCRIPTION
0	09/05/25	FOR REVIEW

DATE: 09/05/25

SHEET TITLE: OVERALL SITE PLAN

SHEET NUMBER: C-101



DEMO QUANTITIES TABLE

LEGEND	MATERIAL	AMOUNT	UNITS
	ASPHALT	18	SQ FT
	PARKING LINES	49	LIN FT
	CONCRETE CURB	42	LIN FT
	LANDSCAPING	634	SQ FT
	CONCRETE	50	SQ FT

NOTES

1. THE CONTRACTOR SHALL HAVE ALL UTILITIES LOCATED PRIOR TO BEGINNING WORK
2. THE 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.
3. ALL QUANTITIES LISTED IN THE DEMOLITION QUANTITIES TABLE ARE ONLY APPROXIMATIONS. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES BEFORE DEMOLITION.
4. ALL EXCAVATED MATERIALS ARE TO BE DISPOSED/STOCKPILED IN A LEGAL MANNER.
5. DUST CONTROL TO BE USED AS NEEDED.
6. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO WORK BEGINNING.

EVgo FAST CHARGING

OWL eMobility

WISCONSIN PROFESSIONAL ENGINEER
PHILLIP J JAMINET
E-48131
DUNGSTOWN
09/05/25

P78149 - PILOT TRAVEL CENTER 324
ELECTRIC VEHICLE CHARGING
13712 NORTHWESTERN AVENUE
FRANKSVILLE, WI 53126

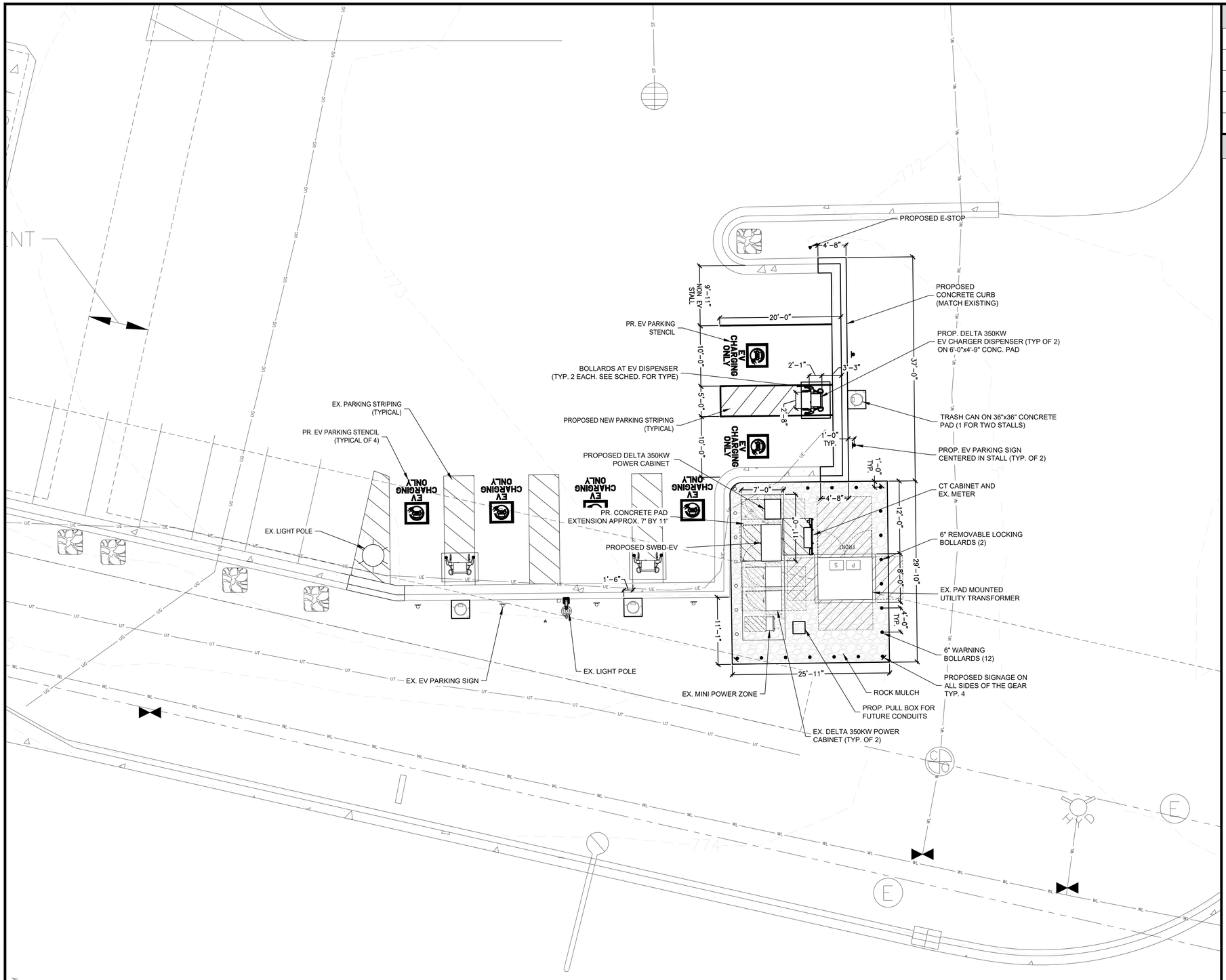
NO.	DATE	REVISION DESCRIPTION
0	09/05/25	FOR REVIEW

DATE 09/05/25

SHEET TITLE
DEMOLITION SITE PLAN

SHEET NUMBER
C-102

N
DEMOLITION SITE PLAN
SCALE: 1/8" = 1'-0"



ENLARGED SITE PLAN
SCALE: 1/8" = 1'-0"

PARKING STALL SCHEDULE

EXISTING STALLS	54
PROPOSED EV STANDARD STALLS	2
PROPOSED EV VAN ACCESSIBLE ADA STALLS	0
PROPOSED EV STANDARD ADA STALLS	0
NET STALL COUNT	-1

NOTES

1. CONTRACTOR SHALL PROVIDE SEAL COAT TO ALL ASPHALT IN AREA OF NEW CONSTRUCTION 2 FEET BEYOND ANY DISTURBANCE. ANY CRACKS TO BE SEALED BEFORE SEAL COATING TAKES PLACE
2. CONTRACTOR SHALL MATCH EXISTING SITE CURBING AS REQUIRED
3. THIS SITE PLAN IS FOR REFERENCE AND DOES NOT GUARANTEE FINAL APPROVAL AND COMPLIANCE WITH ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL ALL CONDITIONS ON-SITE BEFORE CONSTRUCTION
5. ALL WORK SHALL COMPLY WITH APPLICABLE CODES, ORDINANCES, AND REGULATORY REQUIREMENTS. ANY DISCREPENCIES MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING.
6. FINAL DIMENSIONS, GRADES, AND UTILITIES MUST BE FIELD VERIFIED BEFORE CONSTRUCTION
7. THE CONTRACTOR IS RESPONSIBLE FOR ALL LOCATES OF UTILITIES. UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND BASED ON AVAILABLE RECORDS.
8. THE CONTRACTOR MUST HAVE A 811 UTILITY LOCATE BEFORE CONTRUCTION.
9. ADA-COMPLIANT PARKING, RAMPS, AND SIGNAGE MUST BE INSTALLED PER THE LATEST ADA STANDARDS OR LOCAL REUIREMENTS.
10. ALL SIGNAGE, STRIPING, AND MARKIGNS MUST BE INSTALLED PER THE LATEST MUTCD STANDARDS.
11. CONTRACTOR IS RESPONSIBLE FOR OBTAINIGN ALL NECISSARY PERMITS BEFORE CONSTRUCTION
12. ANY DEVIATIONS FROM THE APPROVED PLAN MUST BE SUBMITTED IN WRITING FOR REVIEW AND APPROVAL

EVgo FAST CHARGING

OWL eMobility

WISCONSIN PROFESSIONAL ENGINEER
PHILLIP J JAMINET
E-48131
YOUNGSTOWN
DEVON ENGINEERING

P78149 - PILOT TRAVEL CENTER 324
ELECTRIC VEHICLE CHARGING
13712 NORTHWESTERN AVENUE
FRANKSVILLE, WI 53126

NO.	DATE	REVISION DESCRIPTION
0	09/05/25	FOR REVIEW

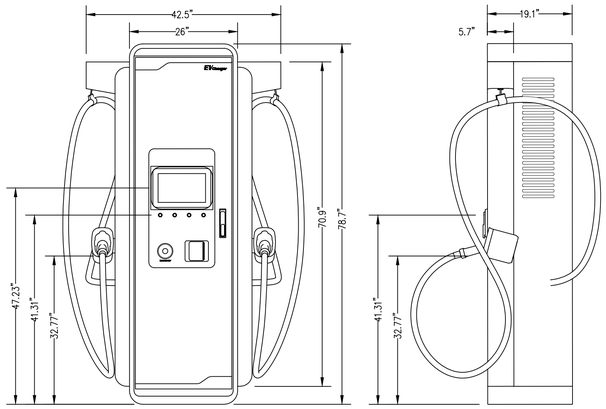
DATE
09/05/25

SHEET TITLE
ENLARGED SITE PLAN

SHEET NUMBER
C-103

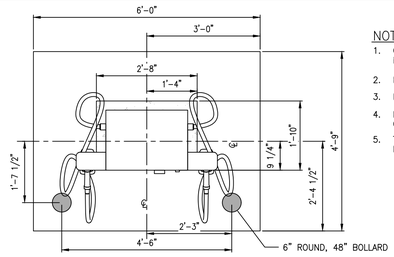
NOTES:

1. MINIMUM CONCRETE EDGE DISTANCE FOR PROPOSED ANCHORS SHALL BE 6"
2. CONTRACTOR TO FIELD VERIFY THE ANCHOR SPACING PER MANUFACTURER'S INSTALLATION MANUAL.
3. CONTRACTOR TO REFER TO THE INSTALLATION MANUAL FOR ANCHORAGE AND CONDUIT ENTRY DETAILS.



EV DISPENSER DETAIL (350KW)

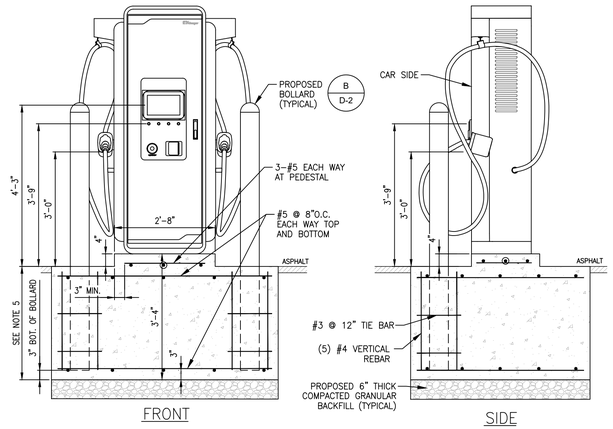
NO SCALE



PLAN

NOTES:

1. OPERABLE PARTS OF DISPENSER SHALL NOT EXCEED 48" ABOVE PARKING SURFACE.
2. BOLLARDS ARE FOR WARNING PURPOSE ONLY.
3. DISPENSER IS CENTERED ON PAD.
4. ENSURE A 3-INCH MINIMUM CONCRETE COVERAGE FROM EXPOSURE AROUND ALL REBAR.
5. THIS DIMENSION NEEDS TO BE AT THE FROST LINE FOR THE APPROPRIATE JURISDICTION.

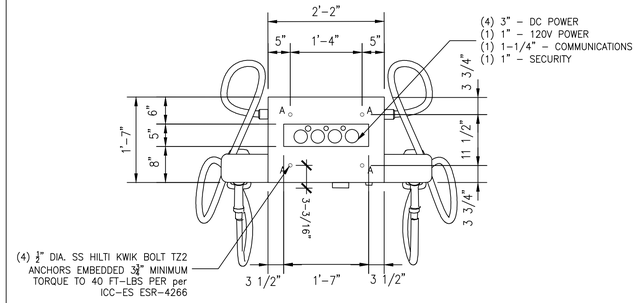


EV DISPENSER FOOTING DETAIL (350KW)

NO SCALE

NOTES

1. CONTRACTOR TO DRILL FOUR HOLES FOR INSTALLING THE CHARGER. CUT A RECTANGLE WITH A WIDTH OF 457.2 MM (18.00") AND A DEPTH OF 127 MM (5.00") FOR HOLDING THE POWER CABLES AND THE ETHERNET CABLE.
2. CONTRACTOR TO DRILL 4 HOLES INTO THE CEMENT BASE AT THE INDICATED POSITIONS (A).
3. CONTRACTOR TO MAKE SURE THAT THE CABLES EMERGE FROM THE FLOOR THROUGH THE RECTANGLE.
4. CONTRACTOR TO MAKE SURE THAT A CABLE LENGTH OF 0.6M IS AVAILABLE ABOVE THE FLOOR FOR INTERNAL ROUTING IN THE CABINET.

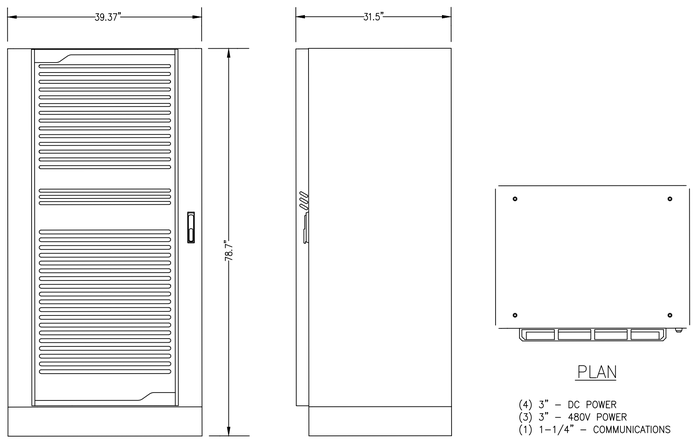


EV DISPENSER CABINET ANCHORAGE AND CONDUIT ENTRY DETAIL (350KW)

NO SCALE

NOTES:

1. MINIMUM CONCRETE EDGE DISTANCE FOR PROPOSED ANCHORS SHALL BE 6"
2. CONTRACTOR TO FIELD VERIFY THE ANCHOR SPACING PER MANUFACTURER'S INSTALLATION MANUAL.
3. CONTRACTOR TO REFER TO THE INSTALLATION MANUAL FOR ANCHORAGE AND CONDUIT ENTRY DETAILS.



PLAN

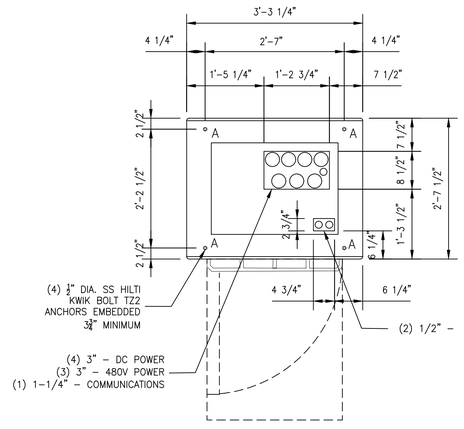
(4) 3" – DC POWER
(3) 3" – 480V POWER
(1) 1-1/4" – COMMUNICATIONS

POWER CABINET DETAIL (350KW)

NO SCALE

NOTES

1. CONTRACTOR TO DRILL FOUR HOLES FOR INSTALLING THE CHARGER. CUT A RECTANGLE WITH A WIDTH OF 368.3 MM (14.75") AND A DEPTH OF 370.459 MM (8.50") FOR HOLDING THE POWER CABLES AND THE ETHERNET CABLE.
2. CONTRACTOR TO DRILL 4 HOLES INTO THE CEMENT BASE AT THE INDICATED POSITIONS (A).
3. CONTRACTOR TO MAKE SURE THAT THE CABLES EMERGE FROM THE FLOOR THROUGH THE RECTANGLE.
4. CONTRACTOR TO MAKE SURE THAT A CABLE LENGTH OF 0.6M IS AVAILABLE ABOVE THE FLOOR FOR INTERNAL ROUTING IN THE CABINET.

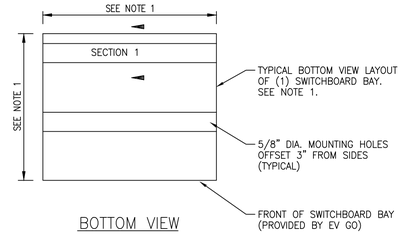


POWER CABINET ANCHORAGE AND CONDUIT ENTRY DETAIL (350KW)

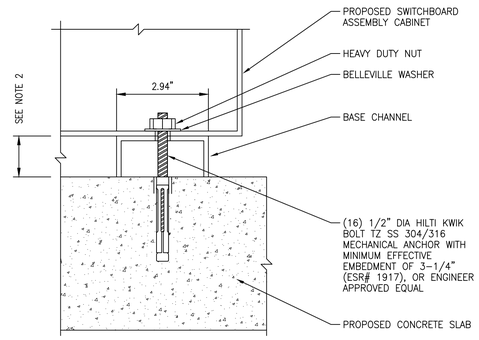
NO SCALE

NOTES:

1. SEE FLOOR PLAN IN REFERENCED SWITCHBOARD ASSEMBLY DRAWINGS FOR MOUNTING HOLE LOCATION AND SWITCHBOARD BAY DIMENSIONS.
2. SEE ELEVATION IN REFERENCED SWITCHBOARD ASSEMBLY DRAWINGS FOR BASE CHANNEL DIMENSION.
3. 3. MINIMUM 10-1/2" CONCRETE EDGE DISTANCE REQUIRED FOR PROPOSED ANCHORAGE.



BOTTOM VIEW



SECTION 1

SWITCHBOARD MOUNTING DETAIL

NO SCALE

EVgo FAST CHARGING

OWL eMobility

WISCONSIN PROFESSIONAL ENGINEER
PHILLIP J JAMINET
E-48131
YOUNGSTOWN
OH

P78149 - PILOT TRAVEL CENTER 324
ELECTRIC VEHICLE CHARGING
13712 NORTHWESTERN AVENUE
FRANKSVILLE, WI 53126

NO.	DATE	REVISION DESCRIPTION
0	09/05/25	FOR REVIEW

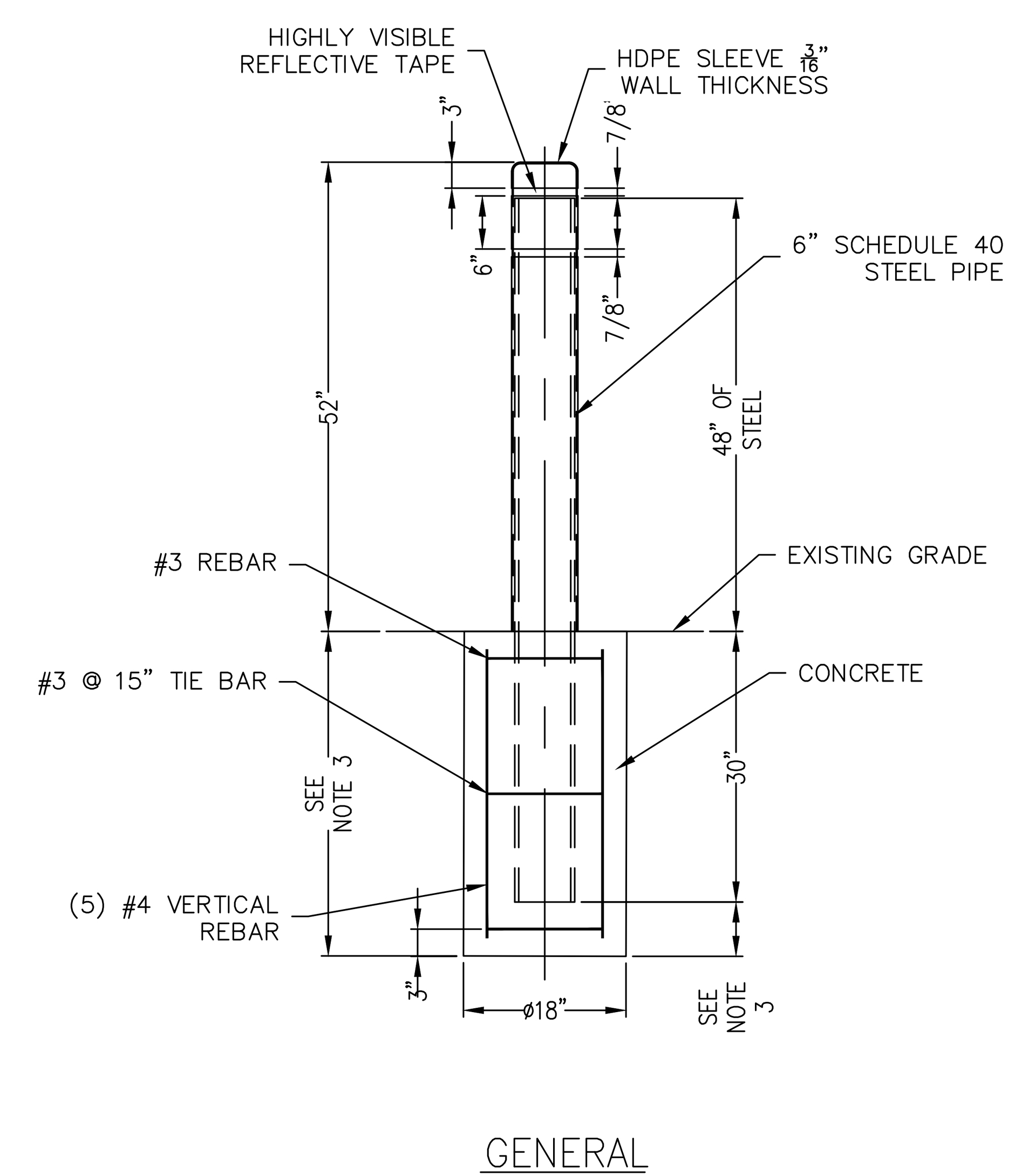
DATE
09/05/25

SHEET TITLE
DETAILS

SHEET NUMBER
D-501

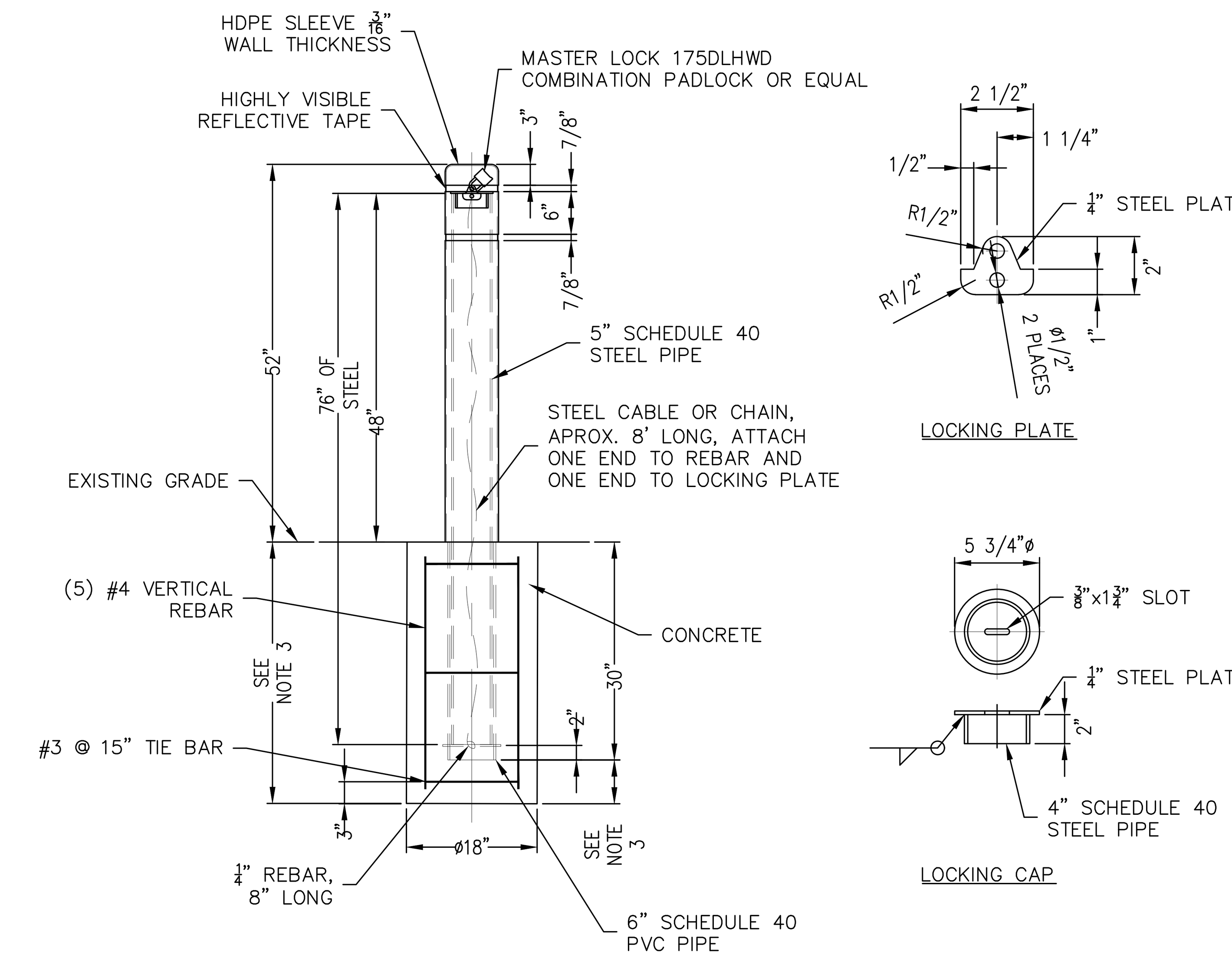
NOT USED
NO SCALE

NOTES:
1. BOLLARD IS FOR WARNING PURPOSES ONLY.
2. BOLLARD DETAIL FOR BOLLARDS AROUND EV EQUIPMENT.
3. THIS DIMENSION NEEDS TO BE AT THE FROST LINE OF THE APPROPRIATE JURISDICTION.

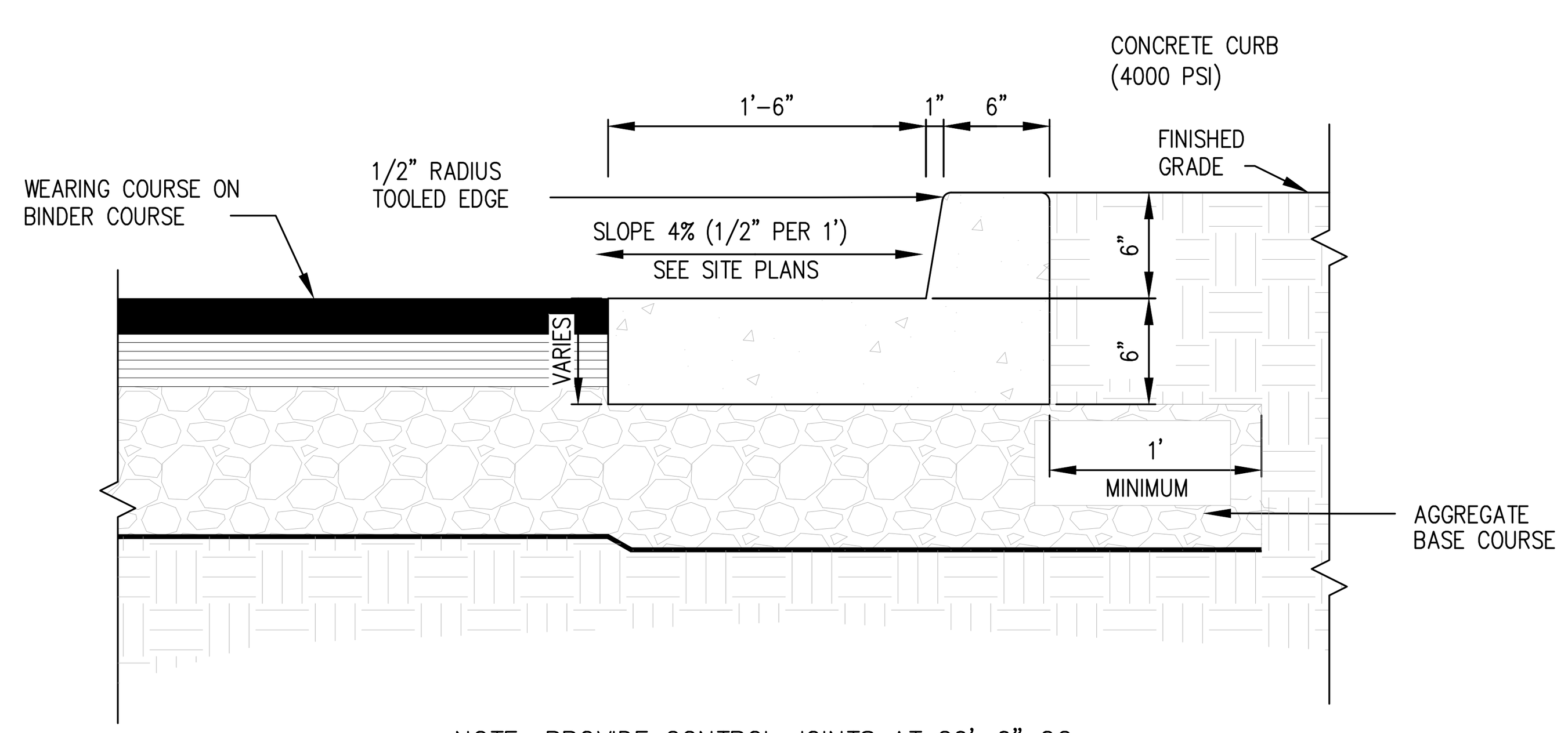


6" WARNING BOLLARD DETAIL
NO SCALE

NOTES:
1. BOLLARD DETAIL FOR SPECIFIED BOLLARDS AROUND PAD MOUNTED TRANSFORMER.
2. THIS DIMENSION NEEDS TO BE AT THE FROST LINE OF THE APPROPRIATE JURISDICTION.



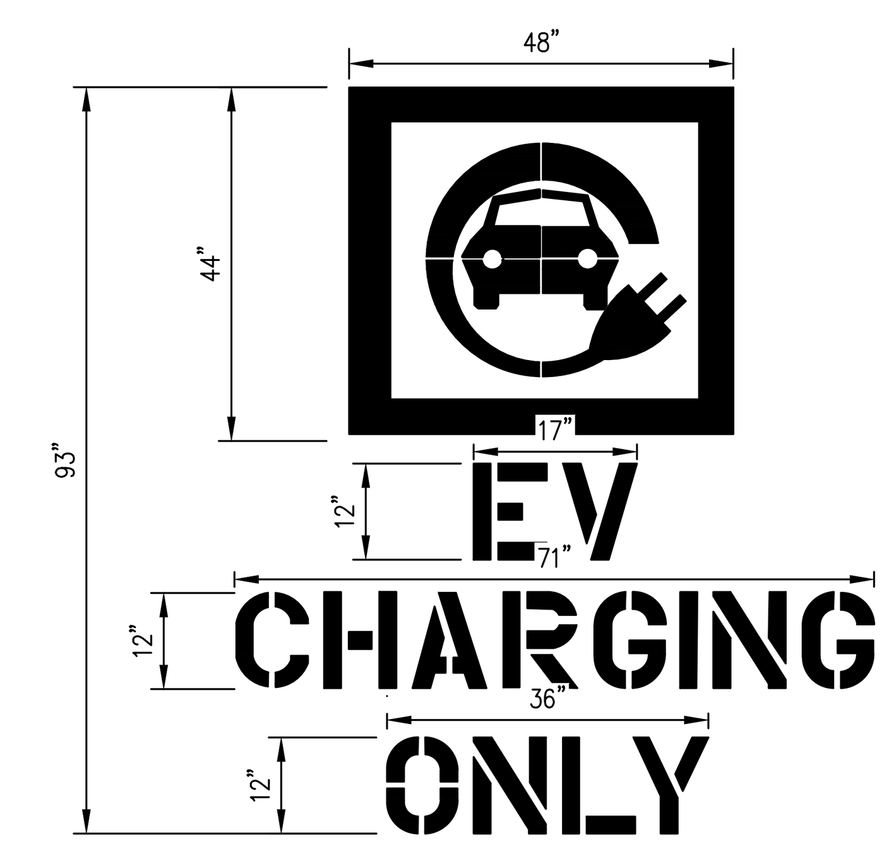
6" REMOVABLE LOCKING BOLLARD DETAIL
NO SCALE



NOTE: PROVIDE CONTROL JOINTS AT 20'-0" OC
PROVIDE EXPANSION JOINTS AT 60'-0" OC

CONCRETE CURB DETAIL
NO SCALE

NOT USED
NO SCALE



NOTE:
1. PROVIDE 4.5" SPACING BETWEEN STENCILS
2. LOCATION: CENTER AT FOOT OF PARKING STALL
3. FONT: STANDARD GOTHIC
4. COLOR: WHITE ON EXISTING SURFACE (NO FILL INSIDE STENCIL)

STANDARD EV STALL STENCIL DETAIL
NO SCALE

EVgo FAST CHARGING

OWL eMobility

PHILLIP J JAMINET E-48131 YOUNGSTOWN OH — WISCONSIN PROFESSIONAL ENGINEER

P78149 - PILOT TRAVEL CENTER 324
ELECTRIC VEHICLE CHARGING
13712 NORTHWESTERN AVENUE
FRANKSVILLE, WI 53126

NO.	DATE	REVISION DESCRIPTION
0	09/05/25	FOR REVIEW

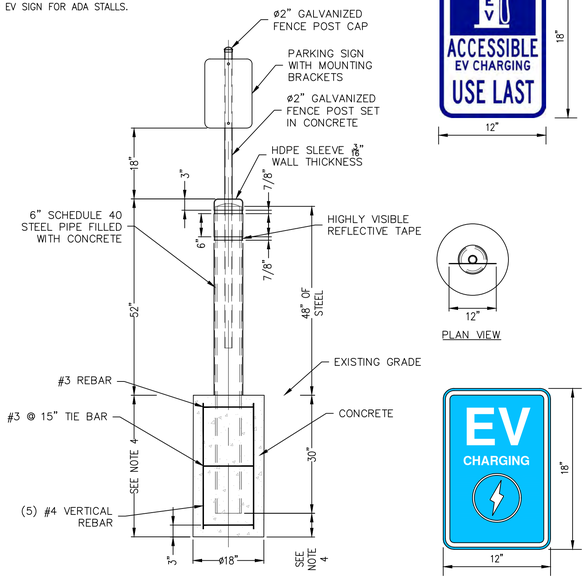
DATE 09/05/25

SHEET TITLE: DETAILS

SHEET NUMBER: D-502

NOTES:

1. BOLLARD IS FOR WARNING PURPOSES ONLY.
2. CONTRACTOR TO CUT HOLE IN TOP OF PROVIDED BOLLARD COVER AND SMOOTH EDGES TO PREVENT CUT HAZARD
3. CONTRACTOR TO PROVIDE (2) 6' LONG, 1/2" THICK FOAM STRIPS CROSSED OVER TOP OF STEEL PIPE TO STABILIZE SLIP COVER
4. THIS DIMENSION NEEDS TO BE AT THE FROST LINE OF THE APPROPRIATE JURISDICTION.
5. ADA SIGN BELOW EV SIGN FOR ADA STALLS.



6" WARNING BOLLARD WITH SIGN DETAIL

NO SCALE

WHITE LETTERING ON RED SIGN

MAIN BREAKER FUNCTION AS EMERGENCY DISCONNECT FOR POWER TO CHARGING STATIONS

3'-8 1/4" × 5"

NOTES:

1. TO BE PLACED BY THE MAIN BREAKER INSIDE SWITCHBOARD.

WHITE LETTERING ON RED SIGN

EMERGENCY DISCONNECT/ MAIN BREAKER LOCATED INSIDE

8" × 10"

NOTES:

1. TO BE PLACED ON OUTSIDE OF SWITCHBOARD SECTION HOUSING THE MAIN BREAKER.

EMERGENCY DISCONNECT SIGN DETAILS

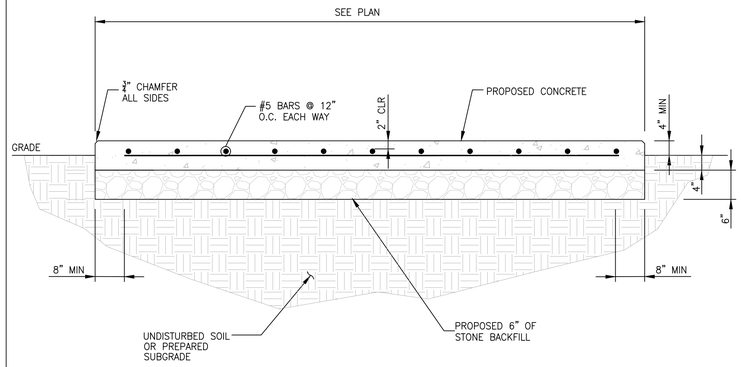
NO SCALE

NOTES:

1. TO BE PLACED AT E-STOP LOCATION.

EMERGENCY DISCONNECT SIGN DETAILS

NO SCALE



CONCRETE PAD DETAIL

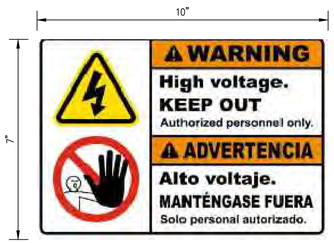
NO SCALE

NOT USED

NO SCALE

NOT USED

NO SCALE



HIGH VOLTAGE WARNING SIGN DETAIL

NO SCALE

EVgo FAST CHARGING

OWL eMobility

WISCONSIN PROFESSIONAL ENGINEER
PHILLIP J JAMINET
E-48131
YOUNGSTOWN
BROWN ENGINEERING

P78149 - PILOT TRAVEL CENTER 324
ELECTRIC VEHICLE CHARGING
13712 NORTHWESTERN AVENUE
FRANKSVILLE, WI 53126

NO.	DATE	REVISION DESCRIPTION
0	09/05/25	FOR REVIEW

DATE 09/05/25

SHEET TITLE

DETAILS

SHEET NUMBER

D-503

BUILDING CODES AND STANDARDS

A. BUILDING CODE 2015 OF WISCONSIN

B. INTERNATIONAL BUILDING CODE (IBC), 2015 EDITION AS ADOPTED AND MODIFIED BY THE BUILDING CODE OF WISCONSIN

C. AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)–MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES (ASCE 7)

D. FOR ALL OTHER REFERENCED STANDARDS, USE THE LATEST EFFECTIVE VERSION.

DESIGN CRITERIA AND LOADS

A. RISK CATEGORY II

B. DEAD LOADS
1. DISPENSER ..... 706 LB
2. POWER CABINET ..... 1184 LB

C. SNOW LOADS
1. GROUND SNOW LOAD (P_g) ..... 15 PSF
2. SNOW LOAD IMPORTANCE FACTOR (I_s) 1.0

D. WIND LOADS
1. BASIC WIND SPEED (V ULT) ..... 107 MPH
2. BASIC WIND SPEED (V ASD) ..... 83 MPH
3. WIND EXPOSURE C

E. EARTHQUAKE DESIGN DATA
1. SEISMIC OCCUPANCY CATEGORY II
2. SEISMIC IMPORTANCE FACTOR (I_e) 1.0
3. S_S 0.162
4. S_1 ..... 0.094
5. SITE CLASS ..... D (ASSUMED)
6. SPECTRAL RESPONSE COEFFICIENTS
   a. S_{DS} 0.173
   b. S_{D1} 0.150
7. SEISMIC DESIGN CATEGORY C

GENERAL REQUIREMENTS

A. VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING WORK OR FABRICATING MATERIALS. NOTIFY STRUCTURAL ENGINEER OF RECORD (SEOR) OF ANY DISCREPANCIES BEFORE PROCEEDING WITH ANY PHASE OF WORK

B. DO NOT SCALE DRAWINGS FOR THE PURPOSE OF ESTABLISHING DIMENSIONS.

C. CIVIL/STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND ALL OTHER DRAWINGS INCLUDING BUT NOT LIMITED TO ELECTRICAL AND EQUIPMENT MANUFACTURER DRAWINGS.

D. DETAILS LABELED "TYPICAL" ON DRAWINGS APPLY TO SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. SUCH DETAILS APPLY WHETHER OR NOT THE DETAILS ARE REFERENCED AT EACH LOCATION. NOTIFY EXISTING STRUCTURES AND FACILITIES WHICH ARE TO REMAIN.

E. BEFORE PROCEEDING WITH ANY WORK WITHIN THE PROJECT AREA, THE CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH EXISTING STRUCTURE AND OTHER CONDITIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL NECESSARY BRACINGS, SHORING AND OTHER SAFEGUARDS TO MAKE ALL PARTS OF EXISTING STRUCTURES AND FACILITIES IN A SAFE CONDITION DURING THE PROCESS OF DEMOLITION AND CONSTRUCTION AND TO PROTECT FROM DAMAGE THOSE PORTIONS OF EXISTING STRUCTURES AND FACILITIES WHICH ARE TO REMAIN.

F. THE CONTRACT CIVIL/STRUCTURAL DOCUMENTS REPRESENT THE FINISHED PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION. PROVIDE ALL MEASURES REQUIRED TO PROTECT THE STRUCTURE, WORKMEN, AND OTHER PERSONS DURING THE CONSTRUCTION; INCLUDING BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, SHORING FOR THE BUILDING, FORMS AND SCAFFOLDING, SHORING OF RETAINING WALLS AND OTHER TEMPORARY SUPPORTS AS REQUIRED. COMPLY WITH APPLICABLE REQUIREMENTS OF OSHA AND OTHER GOVERNING BODIES HAVING JURISDICTION AT THE SITE.

G. LOADINGS FOR ELECTRICAL EQUIPMENT ARE BASED ON THE UNITS SHOWN ON THE ELECTRICAL DRAWINGS, ANY CHANGES IN TYPE, SIZE OR NUMBER OF PIECES OF EQUIPMENT SHALL BE REPORTED TO THE SEOR FOR VERIFICATION OF THE ADEQUACY OF SUPPORTING MEMBERS PRIOR TO THE PLACEMENT OF SUCH EQUIPMENT.

FOUNDATIONS

A. GEOTECHNICAL REPORT NOT PROVIDED. FOUNDATION DESIGN IS BASED ON THE ASSUMED BEARING CAPACITY LISTED BELOW BASED ON IBC TABLE 1806.2 FOR TYPE ML AND CL MATERIAL

B. NET ALLOWABLE SOIL BEARING CAPACITY ..... 1500 PSF

C. THE CONTRACTOR SHALL PROVIDE AND OPERATE DEWATERING EQUIPMENT AND BE RESPONSIBLE FOR MAINTAINING EXCAVATIONS AND WORK AREAS IN DRY CONDITION.

D. ARRANGE FOR A QUALIFIED PERSON TO MONITOR CUT AND FILL OPERATIONS, PERFORM FIELD DENSITY TESTS, AND INSPECT BEARING AREAS FOR FOUNDATIONS PRIOR TO PLACEMENT OF ANY CONCRETE.

E. ALL BACKFILL AND TRENCHING OPERATIONS SHALL COMPLY WITH ALL CURRENT AND APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES, INCLUDING OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION.

F. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE SHORING OF THE NEW AND EXISTING CONSTRUCTION DURING CONSTRUCTION OPERATIONS IN ORDER TO PREVENT ANY DAMAGE DUE TO BACKFILLING AND TRENCHING.

G. DO NOT PLACE FOOTINGS OR SLABS AGAINST SUBGRADE CONTAINING FREE WATER, FROST OR ICE.

H. PROTECT PIPES AND CONDUITS RUNNING THROUGH WALLS AND SLABS WITH ½ INCH EXPANSION MATERIAL. AT CONFLICTS BETWEEN BURIED PIPES AND CONDUITS THROUGH FOUNDATIONS, CONTACT SEOR.

I. COORDINATE WITH ELECTRICAL CONTRACTOR AND ELECTRICAL ONE–LINE DIAGRAM FOR PROPER BONDING OF THE FOOTING REINFORCEMENT TO THE GROUNDING SYSTEM.

CAST–IN–PLACE CONCRETE

A. STANDARDS
1. ACI 117R/117R– SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS AND COMMENTARY.
2. ACI 301– SPECIFICATIONS FOR STRUCTURAL CONCRETE
3. ACI 305R– HOT WEATHER CONCRETE
4. ACI 306.1– STANDARD SPECIFICATIONS FOR COLD WEATHER CONCRETING
5. ACI 308.1 STANDARD SPECIFICATIONS FOR CONCRETE CURLING
6. ACI 318/318R– BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY
7. CONCRETE REINFORCING STEEL INSTITUTE (CRSI)– MANUAL OF STANDARD PRACTICE.

B. MATERIALS
1. CONCRETE MIXTURES SHALL BE THE NORMAL WEIGHT TYPE (145 PCF) AND DESIGNED PER ACI 318 USING THE FOLLOWING PARAMETERS, LIMIT FLY ASH AND SLAG 25% OF TOTAL CEMENT.
   - 28 DAY COMPRESSIVE STRENGTH (f'c) ..... 4,000 PSI
   - CATEGORY F CLASS ..... F3 (AIR ENTRAINMENT REQUIRED)
   - CATEGORY S CLASS S0
   - CATEGORY W CLASS W1
   - CATEGORY C CLASS C2

2. NO CALCIUM CHLORIDE OR ADMIXTURES CONTAINING CHLORIDES SHALL BE USED IN ANY CONCRETE. MIX MATERIALS SHALL COMPLY WITH THE FOLLOWING:
   - PORTLAND CEMENT ..... ASTM C150
   - FLY ASH ..... ASTM C618 CLASS C OR F
   - SLAG CEMENT ..... ASTM C969 GRADE 100 OR 120
   - NORMAL WEIGHT AGGREGATE ..... ASTM C33 CLASS 3S
   - WATER ..... ASTM C94 POTABLE
   - AIR–ENTRAINING ..... ASTM C260

3. CHEMICAL ADMIXTURES MUST BE CERTIFIED BY MANUFACTURER TO BE COMPATIBLE WITH OTHER ADMIXTURES AND THAT DO NOT CONTRIBUTE WATER–SOLUBLE CHLORINE IONS EXCEEDING THOSE ALLOWED IN HARDENED CONCRETE.

4. STEEL REINFORCEMENT:
   i. DEFORMED BARS, ASTM A615 GRADE 60.
   ii. DEFORMED BARS, ASTM A706, GRADE 60 WELDABLE.
   iii. CHAIRS SHALL BE GALVANIZED STEEL OR PLASTIC.

5. ACCESSORIES
   iv. DOWELS AND ANCHOR GROUT: SIKADUR 32 HI MOD OR APPROVED EQUAL.
   v. CONTRACTION OR CONSTRUCTION JOINT SEALANT: SIKADUR 51 SL OR APPROVED EQUAL.
   vi. ISOLATION JOINT SEALANT: SIKAFLEX–1a OR APPROVED EQUAL.
   vii. PREMOLDED EXPANSION JOINT FILLER(PMF): HOMEX 300 OR APPROVED EQUAL.

C. EXECUTION
a. UNLESS NOTED OTHERWISE MAINTAIN THE FOLLOWING CONCRETE COVER FOR REINFORCEMENT.
   - CONCRETE CAST AGAINST EARTH ..... 3 INCHES
   - CONCRETE EXPOSED TO THE WEATHER:
     . #5 AND SMALLER BARS ..... 1 ½ INCHES
     –#6 AND LARGER BARS ..... 2 INCHES

b. STEEL REINFORCING SHALL BE FABRICATED ACCORDING TO CRSI.

c. ALL REINFORCEMENT SHALL BE SUPPORTED AND HELD IN PLACE BY MANUFACTURED STEEL WIRE OR PLASTIC BAR SUPPORTS IN ACCORDANCE WITH CRSI. USE OF ANY OTHER MATERIALS WITHOUT WRITTEN AUTHORIZATION BY THE SEOR IS PROHIBITED.

d. PROVIDE STANDARD 90 DEGREE HOOKS IN ACCORDANCE WITH ACI 318 UNLESS NOTED OTHERWISE.

e. RESHAPING OF BARS AFTER INITIAL BENDING IS NOT PERMITTED.

f. PROVIDE CLASS "B" REINFORCEMENT SPLICES FOR CONTINUOUS REINFORCEMENT, REINFORCEMENT SPLICES AND DEVELOPMENT LENGTHS SHALL BE ACCORDANCE WITH ACI318.

g. WHERE REQUIRED AND UNLESS NOTED OTHERWISE, PROVIDE DOWELS TO MATCH SIZE AND SPACING OF MAIN REINFORCEMENT.

h. DO NOT WELD REINFORCEMENT IN THE FIELD UNLESS SPECIFIED ON THE DRAWINGS OR APPROVED BY SEOR.

i. FORMWORK MAY BE OMITTED FOR FOUNDATIONS PROVIDED EARTH IS FIRM AND STABLE AND CONCRETE SURFACES WILL NOT BE EXPOSED TO PUBLIC VIEW. EXCAVATIONS SHALL BE CUT NEAT AND ACCURATE TO SIZE. LOOSE AND UNSTABLE MATERIALS SHALL BE COMPACTED OR REMOVED.

j. COORDINATE PLACEMENT OF CAST–IN–PLACE EMBEDMENTS AND ANCHOR RODS WITH A TEMPLATE, SECURELY ATTACH EMBEDMENT ITEMS TO FORMWORK OR REINFORCING.

k. PLACE CONCRETE IN ONE LAYER OR IN HORIZONTAL LAYERS OF SUCH THICKNESS SO THAT NO NEW CONCRETE WILL BE PLACED ON CONCRETE THAT HAS HARDENED ENOUGH TO CAUSE SEAMS OR PLACES OF WEAKNESS (COLD JOINTS)

l. PROVIDE CONSTRUCTION, CONTRACTION AND ISOLATION JOINTS AS INDICATED ON DRAWINGS. HORIZONTAL CONSTRUCTION JOINTS ARE NOT ALLOWED UNLESS SPECIFICALLY NOTED OR APPROVED BY SEOR.

m. SURFACE OF CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND LAITANCE REMOVED. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.

n. UNLESS NOTED OTHERWISE, CHAMFER ALL EXPOSED EDGES OF CONCRETE 3/4 INCH.

o. BEGIN CURING PROCEDURES IMMEDIATELY AFTER COMPLETING PLACEMENT AND CONTINUE FOR AT LEAST SEVEN (7) ACCEPTABLE DAYS. CONCRETE SHALL BE PROTECTED FROM PREMATURE DRYING, EXCESSIVELY HOT OR COLD TEMPERATURES AND MECHANICAL INJURY.

p. UNCOATED ALUMINUM MATERIALS ARE NOT PERMITTED TO BE EMBEDDED IN CONCRETE.

q. NO ADDITIONAL WATER SHALL BE ADDED TO THE CONCRETE MIXTURE ON SITE UNLESS WATER IS WITHHELD AT THE PLANT AND NOTED AS SUCH ON THE BATCH TICKET, ONLY THE AMOUNT WITHHELD MAY BE ADDED ON SITE.

r. ALL CONCRETE SHALL BE VIBRATED BY MECHANICAL VIBRATORS.

FUEL CANOPY

A. THE DESIGN OF THE FUELING STRUCTURE AND FOUNDATIONS SHALL BE BY THE MANUFACTURER AS A DELEGATED ENGINEERING SUBMITTAL SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT.

EVgo FAST CHARGING

OWL eMobility

PROFESSIONAL ENGINEER WISCONSIN PHILLIP J JAMINET E-48131 YOUNGSTOWN OHIO

P78149 - PILOT TRAVEL CENTER 324
ELECTRIC VEHICLE CHARGING
13712 NORTHWESTERN AVENUE
FRANKSVILLE, WI 53126

NO.	DATE	REVISION DESCRIPTION
0	09/05/25	FOR REVIEW

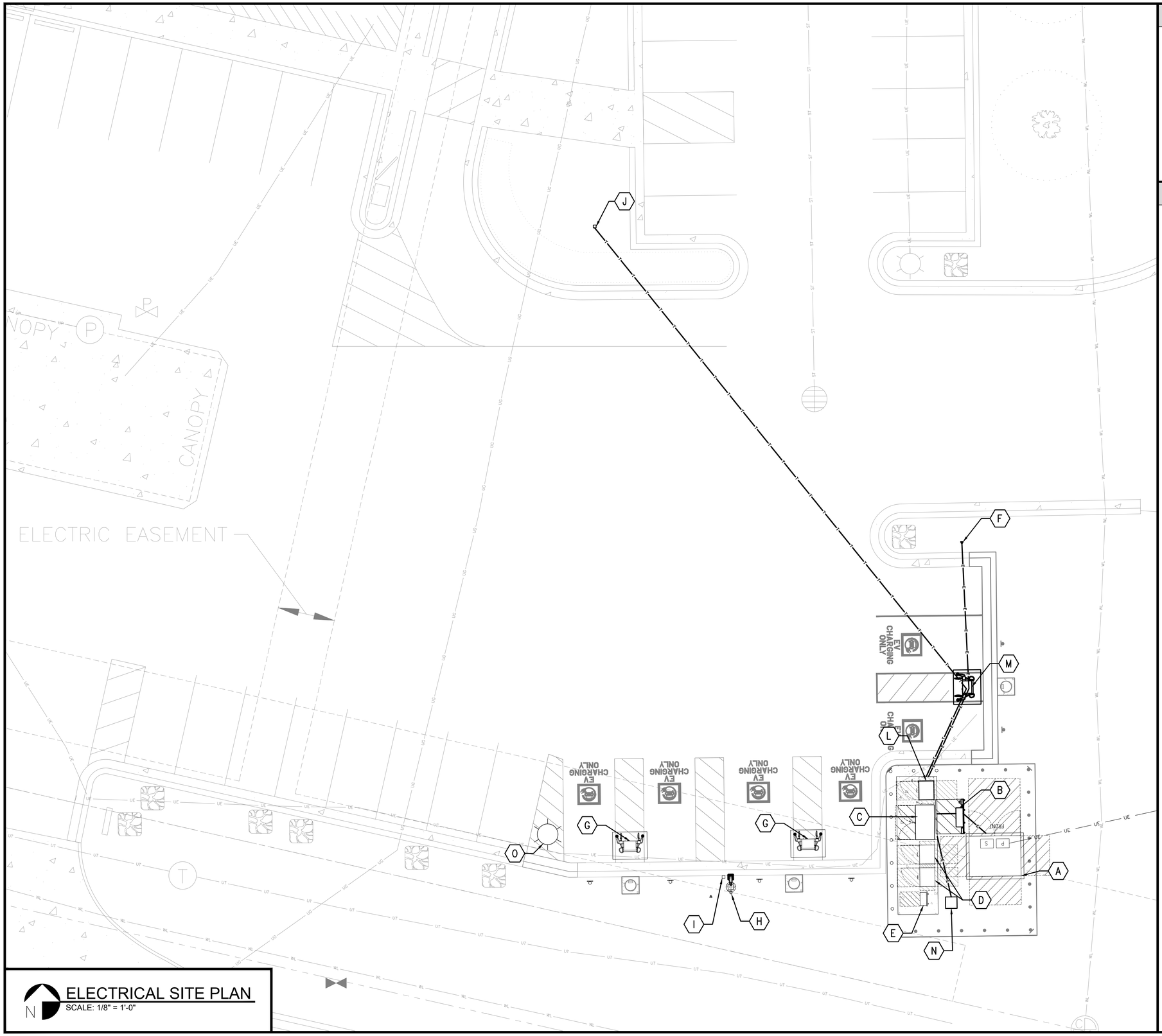
DATE 09/05/25

SHEET TITLE

BUILDING CODES AND STANDARDS

SHEET NUMBER

D-504



ELECTRICAL SITE PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. CONDUIT ROUTING IS DIAGRAMMATICALLY SHOWN ON PLANS AND ARE ONLY APPROXIMATIONS. THE EXACT LOCATION AND ROUTING PATHS SHALL BE FIELD VERIFIED AND INSTALLED PER JURISDICTIONAL REQUIREMENTS PRIOR TO DIGGING TRENCHING.
2. ALL ELECTRICAL WORK AND RELATED ACTIVITIES PERFORMED ONSITE SHALL BE DONE IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE (NEC), LOCAL CODES AND APPLICABLE STANDARDS.
3. UTILITY EQUIPMENT INSTALLATIONS AND PREP WORK SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY ENGINEER TO ENSURE ACCURACY OF INSTALLATIONS.

KEYNOTES

A. UTILITY TRANSFORMER
B. METER & NEW CT CABINET
C. NEW SWITCHGEAR ASSEMBLY (OWNER FURNISHED-CONTRACTOR-INSTALLED)
D. EXISTING DELTA POWER CABINET
E. EXISTING TRANSFORMER/PANEL LP1
F. E-STOP BUTTON (MAIN BREAKER)
G. EXISTING DELTA CHARGER
H. EXISTING LIGHTING & WEATHERPROOF RECEPTACLE
I. EXISTING POS/SECURITY PULL BOX
J. BUILDING PULL BOX (FIELD VERIFY LOCATION WITH OWNER PRIOR TO INSTALLATION IN GREEN, GRAVEL OR MULCH SPACE WHERE APPLICABLE)
K. EXISTING LIGHTING CONTACTOR PANEL LC1 (CANOPY SITES ONLY)
L. NEW DELTA POWER CABINET
M. NEW DELTA CHARGER
N. POWER PULL BOX
O. EXISTING LIGHT POLE

CONDUIT LEGEND

—P— PRIMARY LINE
—T— COMMS ROUTING
—E— ELECTRICAL ROUTING
—UE— EXISTING ELECTRICAL ROUTING

EVgo FAST CHARGING

OWL eMobility

WISCONSIN PROFESSIONAL ENGINEER
PHILLIP J JAMINET
E-48131
YOUNGSTOWN
BROOKLYN, OHIO

P78149 - PILOT TRAVEL CENTER 324
ELECTRIC VEHICLE CHARGING
13712 NORTHWESTERN AVENUE
FRANKSVILLE, WI 53126

NO.	DATE	REVISION DESCRIPTION
0	09/05/25	FOR REVIEW

DATE
09/05/25

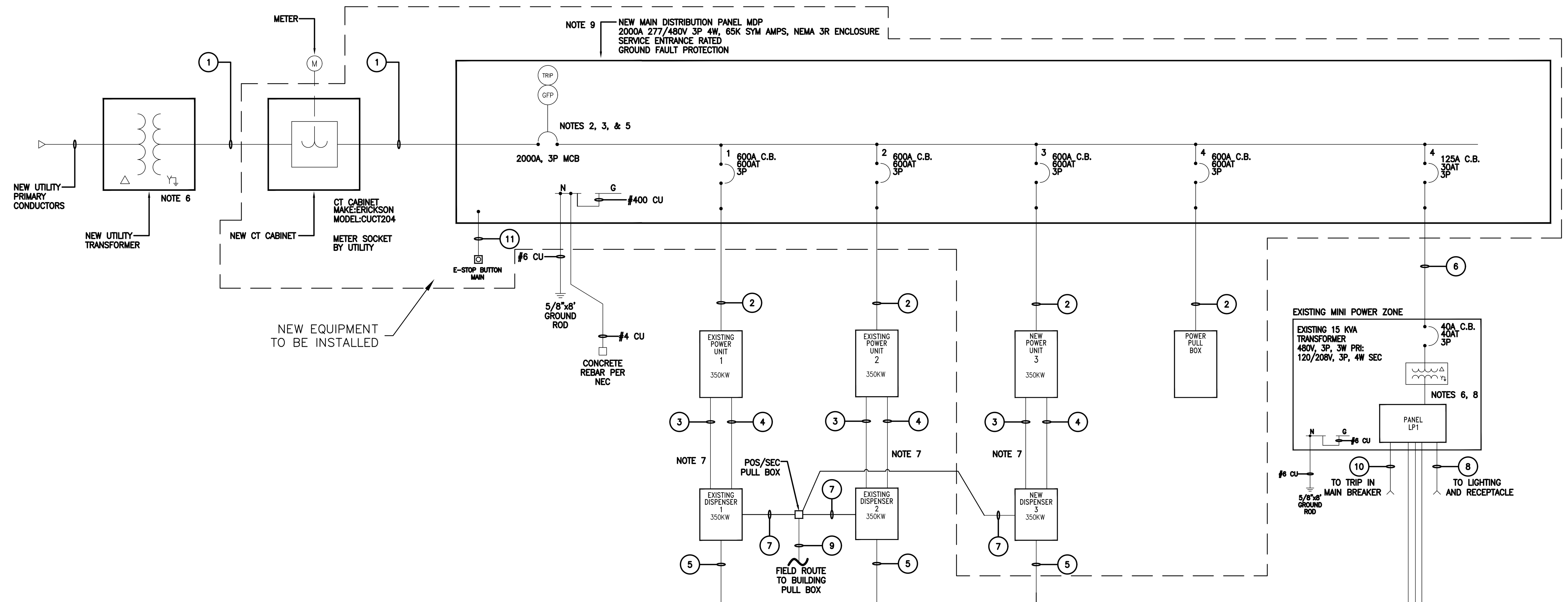
SHEET TITLE
ELECTRICAL ENLARGED SITE PLAN

SHEET NUMBER
E-1

CONDUIT AND WIRING SCHEDULE

NOTE 12

	FROM	KEY NOTE E-1	TO	KEY NOTE E-1	CONFIGURATION
1	UTILITY TRANSFORMER (BY OTHERS)	A	SWITCHBOARD	C	(4) 600 KCMIL CU (THWN-2) IN EACH OF (5) 4" SCH 40 PVC CONDUIT UPDATE QTY TO MATCH NEW SERVICE SIZE
2	SWITCHBOARD	C	DELTA POWER UNIT	D	(3) 350 KCMIL CU (THWN-2) + (1) #1 AWG CU (THWN-2) EGC IN EACH OF (2) 3" SCH 40 PVC CONDUIT
3	DELTA POWER UNIT	D	DELTA CHARGER (DC POWER)	G	(2) 350 KCMIL CU (XHHW-2) 1KV + (1) #1 AWG CU (XHHW-2) EGC IN EACH OF (4) 3" SCH 40 PVC CONDUIT
4	DELTA POWER UNIT	D	DELTA CHARGER (COMMUNICATION)	G	(1) OWNER PROVIDED COMM CABLE IN (1) 1-1/4" SCH 40 PVC CONDUIT
5	TRANSFORMER/PANEL LP1	E	DELTA CHARGER (AUXILIARY POWER)	G	(2) #10 AWG CU (THWN-2) + (1) #10 AWG CU (THWN-2) EGC IN (1) 1" SCH 40 PVC CONDUIT
6	SWITCHBOARD	C	TRANSFORMER/PANEL LP1	E	(3) #10 AWG CU (THWN-2) + (1) #10 AWG CU (THWN-2) EGC IN (1) 1" SCH 40 PVC CONDUIT
7	DELTA CHARGER (COMMUNICATION)	G	POS/SECURITY PULL BOX	I	(1) 1" SCH 40 PVC CONDUIT WITH PULL WIRE
8	TRANSFORMER/PANEL LP1	E	LIGHTING AND RECEPTACLE	H	LIGHTING (2) #12 AWG CU (THWN-2) + (1) #12 AWG CU (THWN-2) EGC RECEPTACLE (2) #12 AWG CU (THWN-2) + (1) #12 AWG CU (THWN-2) EGC BOTH IN (1) 1.5" SCH 40 PVC CONDUIT
9	POS/SECURITY PULL BOX	I	BUILDING PULL BOX (FIELD ROUTE)	J	(2) 1" SCH 40 PVC CONDUIT WITH PULL WIRES
10	TRANSFORMER/PANEL LP1	E	SWITCHGEAR (MAIN BKR. CONTROLS)	C	(2) #14 AWG CU (THWN-2) + (1) #14 AWG CU (THWN-2) EGC IN EACH OF (1) 1" SCH 40 PVC CONDUIT
11	SWITCHGEAR (MAIN BKR. SECTION SHUNT MODULE & CONTROLS)	C	E-STOP BUTTON FOR MAIN BREAKER	F	(2) #14 AWG CU (THWN-2) + (1) #14 AWG CU (THWN-2) EGC IN EACH OF (1) 1" SCH 40 PVC CONDUIT



ELECTRICAL RISER DIAGRAM

NO SCALE

FAULT CURRENT SCHEDULE

FAULT #	LOCATION	FAULT CURRENT (A)
F1	UTILITY XFMR SECONDARY	48,105 A
F2	UTILITY XFMR TO SWITCHBOARD	46,596 A
F3	SWBRD TO EV CHGR/PWR UNIT	16,437 A
F4	SWITCHBOARD TO MPZ	15,254 A
F5	MPZ SECONDARY (LP1 208V PANEL)	1,653 A

MAIN DISTRIBUTION PANEL SCHEDULE MDP

MAIN: 2000A | VOLTAGE: 480V/277V | PH: 3 | WIRE: 4
MTG: FLOOR | AIC: 65K

CKT #	FRAME	TRIP	POLE	DESCRIPTION	LTG	REC	MTR	MISC	PHASE
1	600	600	3	350KW DELTA POWER UNIT				125.4	A
								125.4	B
								125.4	C
2	600	600	3	350KW DELTA POWER UNIT				125.4	A
								125.4	B
								125.4	C
3	600	600	3	350KW DELTA POWER UNIT				125.4	A
								125.4	B
								125.4	C
4	125	30	3	MINI POWER ZONE				1.3	A
								1.5	B
								1.3	C
					0	0	0	1132.52	

CONNECTED LOAD (KVA):	1132.5		AMPS	KVA
DEMAND LOAD (KVA):	1132.5	PHASE A	1362.6	377.4
		PHASE B	1363.3	377.6
CONNECTED LOAD (AMPS):	1362.2	PHASE C	1362.6	377.4
DEMAND LOAD (AMPS):	1362.2	NOTES:		
		0		
AMPACITY REQUIRED	1362.2			

UPDATED MPZ BREAKERS TO MATCH PANEL SCHEDULE

PANELBOARD SCHEDULE

LP1 | BUS RATING (AMPS): 100A | MAIN SIZE & TYPE: 60A THERMAL MAGNETIC | VOLTAGE: 208Y/120V | PHASE: 3 | WIRE: 4 | ENCLOSURE: NEMA 3R | MOUNTING: SURFACE | FEED THRU LUGS: NO | ISOLATED GND: NO | AIC RATING: 18KAIC

CKT #	TYPE	NOTE	TRIP	POLE	DESCRIPTION	LTG	REC	MTR	MISC	PHASE
1	-	-	20	1	DISPENSER #1 (AUX PWR)				1.1	A
3	-	-	20	1	DISPENSER #2 (AUX PWR)				1.1	B
5	-	-	20	1	DISPENSER #3 (AUX PWR)				1.1	C
7	-	-	20	1	SPARE					A
9	-	*GFCI-TYPE	20	1	RECEPTACLE		0.2			B
11	-	SQ D QO110	10	1	TRIP CONTROLS (MAIN)				0.2	C
13	-	-	20	1	SPARE					A
15	-	-	-	-	SPACE					B
17	-	-	-	-	SPACE					C
						-	0.2	-	3.5	

PHASE	LTG	REC	MTR	MISC	DESCRIPTION	TRIP	POLE	NOTE	TYPE	CKT #
A					MAIN BREAKER	60	3	-	-	2
B								-	-	4
C								-	-	6
A	0.2				LIGHT POLE(S)	20	2	-	-	8
B	0.2							-	-	10
C					SPARE	20	2	-	-	12
A								-		14
B					SPARE	20	1			16
C					SPACE	-	-	-	-	18
	0.5	-	-	-						

TYPES		NOTES	
ST:	SHUNT TRIP	EX:	EXISTING
GF:	GND FAULT	ME:	MATCH EX.
AF:	ARC FLASH	SR:	SEE RISER
KK:	KIRK KEY	ES:	SEE EQUIP. CONN. SCH.
LO:	LOCKABLE		

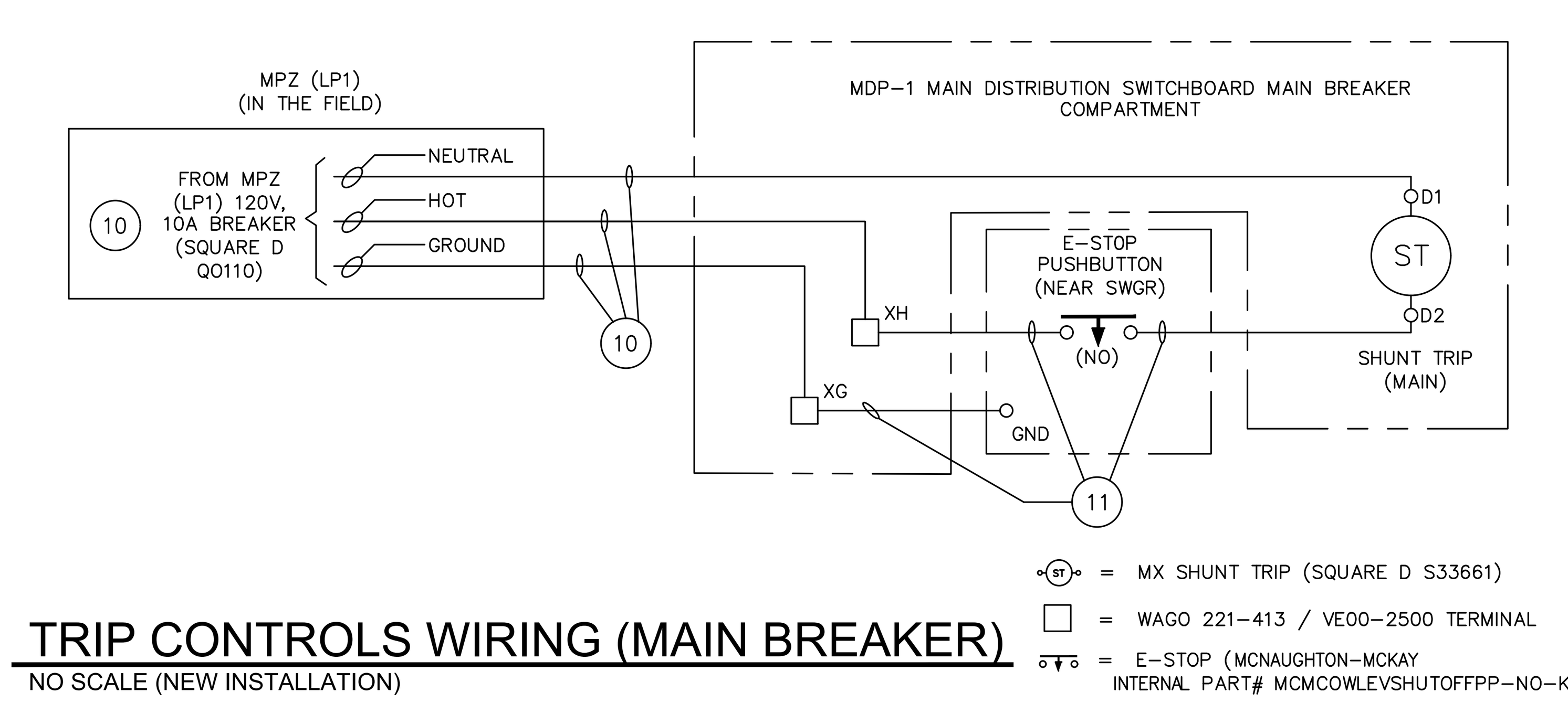
LOAD PER PHASE	KVA	AMPS
PHASE A	1.3	10.8
PHASE B	1.5	12.5
PHASE C	1.3	10.8
TOTAL CONNECTED LOAD	4.1	11.4

NOTES:

TOTAL PER CATEGORY	KVA
LIGHTING	0.5
RECEPTACLES	0.2
MOTORS	-
MISCELLANEOUS	3.5

NOTES

1. METER PLACEMENT, CT CABINET AND FINAL SWITCHGEAR/DISTRIBUTION DESIGN TO BE COORDINATED ACCORDING TO UTILITY REQUIREMENTS. CONTRACTOR TO PROVIDE METER SOCKET (METER ENCLOSURE) PER LISTED ON LOCAL UTILITY'S APPROVED METER ENCLOSURE LIST.
2. THE MAIN CIRCUIT BREAKER IN THIS SWITCHGEAR SHALL BE 100% RATED.
3. PROVIDE GROUND FAULT PROTECTION (GFP) FOR EQUIPMENT PER NEC ARTICLE 230.95.
4. SEE UTILITY POWER MANUAL FOR ADDITIONAL INFORMATION.
5. THIS SWITCHGEAR IS INSTALLED WITH AN ENERGY REDUCTION MAINTENANCE SWITCH (ERMS) AT THE MAIN BREAKER FOR ARC FLASH MITIGATION PER NEC ARTICLE 240.87.
6. PER NEC TABLE 250.66 AND NEC ARTICLES 250.66 (A) AND (C), THE UTILITY TRANSFORMER GROUNDING ELECTRODE CONDUCTOR (GEC) SHALL BE 3/0 AWG COPPER (THWN-2) AND THE MINI POWER ZONE GROUNDING ELECTRODE CONDUCTOR (GEC) SHALL BE #6 AWG COPPER (THWN-2).
7. THE DELTA 350KW DISPENSERS AND POWER CABINETS ARE CERTIFIED AS A SYSTEM. REGARDLESS OF WHAT TYPE OF PROTECTION IT IS, NO ADDITIONAL PROTECTION OR MEANS OF DISCONNECT WILL BE INSTALLED BETWEEN THE TWO UNITS.
8. THE MINI POWER ZONE AND ITS INTEGRAL COMPONENTS (TRANSFORMER, INTERCONNECTING CABLES, AND LIGHTING PANEL) ARE CERTIFIED AS A SYSTEM. THE 208 OR 240 VOLT AMPERE INTERRUPTING CAPACITY (AIC) RATING IS SHOWN TO PORTRAY THE EQUIVALENT FAULT CURRENT ON THE LIGHTING PANEL. THE INTERRUPTING RATING OF 18KAIC IS FOR THE INTEGRAL LIGHTING PANEL ITSELF.
9. THE SERVICE EQUIPMENT SHALL BE FIELD MARKED IN COMPLIANCE WITH ALL REQUIREMENTS STATED IN NEC ARTICLES 110.24(A) AND 230.70(B).
10. NORMALLY, INSTALL ONLY A CONDUIT WITH A PULL STRING TERMINATING AT A PULL-BOX ALTERNATIVELY INCLUDE DISPENSER E-STOP BUTTON FOR SITES THAT DON'T HAVE AN INTEGRATED E-STOP WITHIN THE DISPENSER OR FOR NEVI SITES
11. IF CANOPY SITE, INSTALL (1) 1" CONDUIT FROM POS/SECURITY BOX TO NEARBY CANOPY COLUMN UP TO CEILING OF CANOPY TERMINATE IN JUNCTION BOX.
12. UNLESS DRIVEN BY AN AHJ OR JURISDICTIONAL REQUIREMENTS CABLE COLORING SHALL FOLLOW THESE STANDARDS: AC L1-BROWN, AC L2-ORANGE, AC L3-YELLOW, AC EG-GREEN, (DCA+)-RED, (DCA-)-BLACK, (DCB+)-BLUE, (DCB-)-PINK (IF NOT READILY AVAILABLE USE ORANGE WITH BLACK SHRINK WRAP TAPE ON BOTH ENDS), DC EG-GREEN.



TRIP CONTROLS WIRING (MAIN BREAKER)

NO SCALE (NEW INSTALLATION)

EVgo FAST CHARGING

OWL eMobility

WISCONSIN PHILLIP J. JAMINET E-48131 YOUNGSTOWN OH PROFESSIONAL ENGINEER

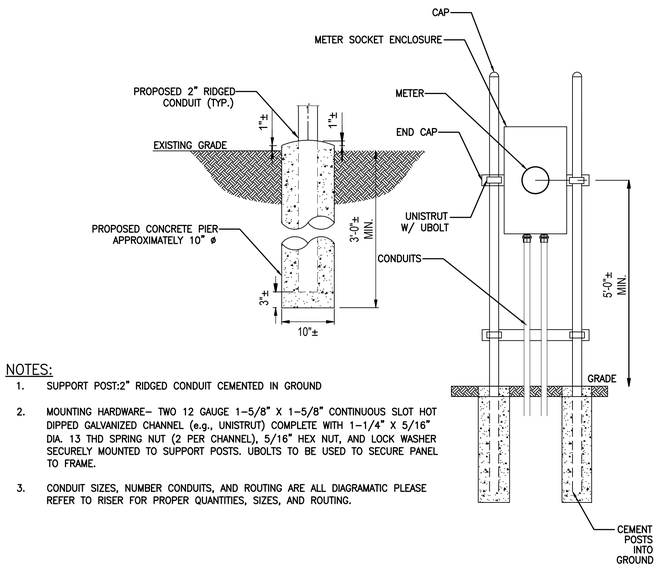
P78149 - PILOT TRAVEL CENTER 324
ELECTRIC VEHICLE CHARGING
13712 NORTHWESTERN AVENUE
FRANKSVILLE, WI 53126

NO.	DATE	REVISION DESCRIPTION
0	09/05/25	FOR REVIEW

DATE: 09/05/25

SHEET TITLE: ELECTRICAL SINGLE LINE DIAGRAM

SHEET NUMBER: E-2

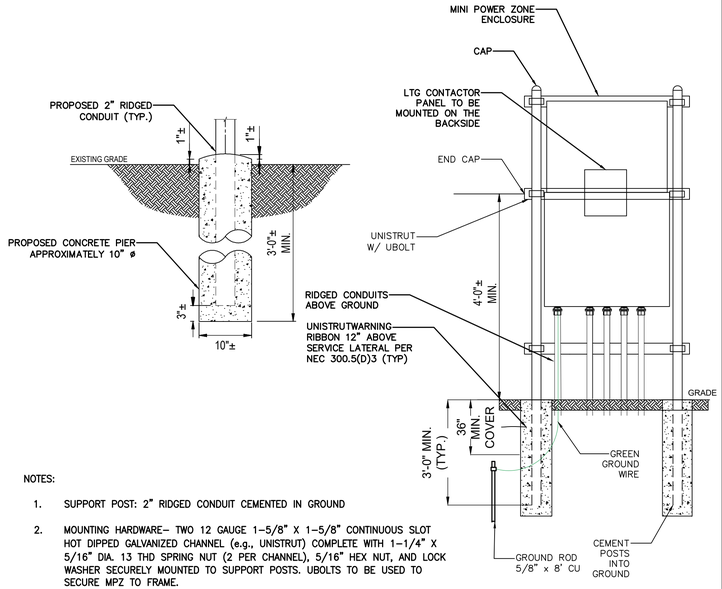


NOTES:

1. SUPPORT POST:2" RIDGED CONDUIT CEMENTED IN GROUND
2. MOUNTING HARDWARE– TWO 12 GAUGE 1–5/8" X 1–5/8" CONTINUOUS SLOT HOT DIPPED GALVANIZED CHANNEL (e.g., UNISTRUT) COMPLETE WITH 1–1/4" X 5/16" DIA. 13 THD SPRING NUT (2 PER CHANNEL), 5/16" HEX NUT, AND LOCK WASHER SECURELY MOUNTED TO SUPPORT POSTS. UBOLTS TO BE USED TO SECURE PANEL TO FRAME.
3. CONDUIT SIZES, NUMBER CONDUITS, AND ROUTING ARE ALL DIAGRAMATIC PLEASE REFER TO RISER FOR PROPER QUANTITIES, SIZES, AND ROUTING.

METER SOCKET H-FRAME DETAIL

NO SCALE

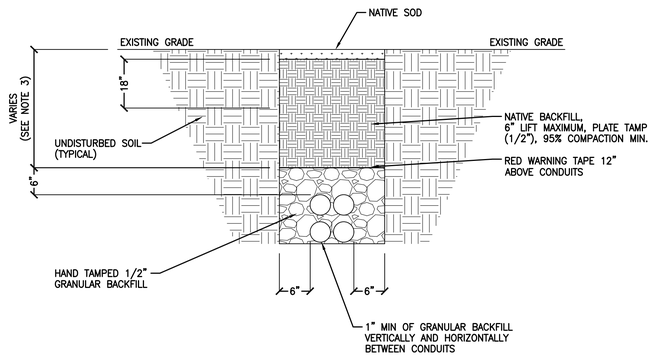


NOTES:

1. SUPPORT POST: 2" RIDGED CONDUIT CEMENTED IN GROUND
2. MOUNTING HARDWARE– TWO 12 GAUGE 1–5/8" X 1–5/8" CONTINUOUS SLOT HOT DIPPED GALVANIZED CHANNEL (e.g., UNISTRUT) COMPLETE WITH 1–1/4" X 5/16" DIA. 13 THD SPRING NUT (2 PER CHANNEL), 5/16" HEX NUT, AND LOCK WASHER SECURELY MOUNTED TO SUPPORT POSTS. UBOLTS TO BE USED TO SECURE MPZ TO FRAME.
3. CONDUIT SIZES, NUMBER CONDUITS, AND ROUTING ARE ALL DIAGRAMATIC PLEASE REFER TO E–3 FOR PROPER QUANTITIES, SIZES, AND ROUTING.

MINI POWER ZONE H-FRAME DETAIL

NO SCALE

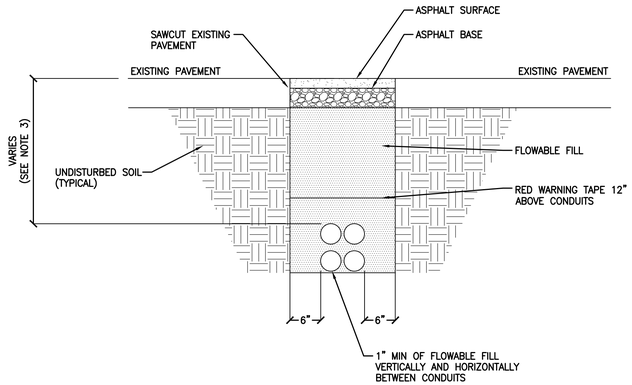


NOTES:

1. ANY EXCAVATION LEFT OPEN NEEDS TO BE FENCED, BARRICADED, OR TRENCH PLATED TO INSURE THE SAFETY OF THE GENERAL PUBLIC.
2. ANY PAVEMENT DAMAGE DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR TO PRE CONSTRUCTION CONDITIONS OR BETTER.
3. TRENCH DEPTHS ARE REQUIRED TO BE 2'–0" MIN. OR 6" BELOW FROST LINE PER LOCAL JURISDICTION REQUIREMENTS.
4. EXACT NUMBER OF CONDUITS SHALL BE DETERMINED BY SHEET E–2, EXACT CONDUIT PLACEMENT IN TRENCH SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD BASED ON PHYSICAL MEASUREMENTS AND JURISDICTIONAL REQUIREMENTS.
5. WHERE CONDUITS WHERE CONDUITS TURN UP, INSURE CONDUITS ARE SUPPORTED BY AN H–FRAME STRUCTURE AND C–CLAMPS FOR UNDERGROUND STRUCTURAL INTEGRITY

TYPICAL NON-UTILITY CONDUIT UNDER SOIL TRENCH

NO SCALE



NOTES:

1. ASPHALT SHALL COMPLY WITH STANDARD DOT OR LOCAL JURISDICTION SPEC. FOR HMA SURFACE COURSE.
2. ANY EXCAVATION LEFT OPEN NEEDS TO BE FENCED, BARRICADED, OR TRENCH PLATED TO INSURE THE SAFETY OF THE GENERAL PUBLIC.
3. TRENCH DEPTHS ARE REQUIRED TO BE 2'–0" MIN. OR 6" BELOW FROST LINE PER LOCAL JURISDICTION REQUIREMENTS.
4. ANY PAVEMENT DAMAGE DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR TO PRE CONSTRUCTION CONDITIONS OR BETTER.
5. EXACT NUMBER OF CONDUITS SHALL BE DETERMINED BY SHEET E–2, EXACT CONDUIT PLACEMENT IN TRENCH SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD BASED ON PHYSICAL MEASUREMENTS AND JURISDICTIONAL REQUIREMENTS.
6. WHERE CONDUITS WHERE CONDUITS TURN UP, INSURE CONDUITS ARE SUPPORTED BY AN H–FRAME STRUCTURE AND C–CLAMPS FOR UNDERGROUND STRUCTURAL INTEGRITY

TYPICAL NON-UTILITY CONDUIT UNDER ASPHALT TRENCH

NO SCALE

EVgo FAST CHARGING

OWL eMobility

WISCONSIN PROFESSIONAL ENGINEER
PHILLIP J JAMINET
E-48131
YOUNGSTOWN
DO NOT COPY

P78149 - PILOT TRAVEL CENTER 324
ELECTRIC VEHICLE CHARGING
13712 NORTHWESTERN AVENUE
FRANKSVILLE, WI 53126

NO.	DATE	REVISION DESCRIPTION
0	09/05/25	FOR REVIEW

DATE 09/05/25

SHEET TITLE

ELECTRICAL CONDUIT DETAILS

SHEET NUMBER

E-3

ELECTRICAL SPECIFICATIONS

260500 – GENERAL REQUIREMENTS

A. ALL WORK SHALL COMPLY WITH REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, LOCAL BUILDING CODE AND BUILDING MANAGEMENT RULES AND REGULATIONS. CONTRACTOR IS TO INFORM ENGINEER OF ANY EXISTING WORK OR MATERIALS THAT VIOLATE ANY OF THE ABOVE LAWS AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATION SHALL BE CORRECTED AT CONTRACTOR'S EXPENSE BY THIS CONTRACTOR AND AT NO EXPENSE TO THE OWNER.

B. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE EXISTING BUILDING CONSTRUCTION STANDARDS.

C. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF WORK AND APPROXIMATE LOCATION OF EQUIPMENT. IF A CONFLICT OCCURS IN THE SPECIFICATIONS AND/OR ON THE DRAWINGS, THE MORE STRINGENT SITUATION SHALL APPLY.

D. ANY EQUIPMENT, PARTS, MATERIALS, ACCESSORIES, OR LABOR THAT IS NECESSARY FOR PROPER PERFORMANCE OF THE ELECTRICAL WORK, ALTHOUGH NOT SPECIFICALLY MENTIONED HEREIN, OR SHOWN ON THE DRAWINGS, SHALL BE FURNISHED AND INSTALLED AS IF CALLED FOR IN DETAIL WITHOUT ADDITIONAL COST.

E. ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OF THIS WORK. FINAL ACCEPTANCE SHALL BE DEFINED AS THE TIME THAT THE ELECTRICAL WORK IS TAKEN OVER AND ACCEPTED BY THE OWNER, AND IS UNDER CARE, CUSTODY, AND CONTROL OF THE OWNER. ENGAGE THE SERVICES OF VARIOUS MANUFACTURERS SUPPLYING THE EQUIPMENT FOR THE PROPER STARTUP AND OPERATION AND SERVICING OF THE EQUIPMENT.

F. ALL MATERIALS SHALL BE NEW AND SHALL CONFORM TO THE STANDARDS OF THE UNDERWRITERS' LABORATORIES INC. MATERIALS SHALL BE FABRICATED IN ACCORDANCE WITH THE SPECIFICATIONS AND APPROVED RULES AND REGULATIONS OF NEMA AND SHALL BEAR THE UL INSPECTION LABEL. MATERIAL AND APPARATUS FOR LIKE SHALL BE BY THE SAME MANUFACTURER.

G. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND CONTRACTOR'S SERVICES NECESSARY FOR COMPLETE, SAFE INSTALLATION OF ALL ELECTRICAL WORK. THE SCOPE OF WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

1. PROVIDING OF LIGHT FIXTURES AND LAMPS INCLUDING EXIT AND EMERGENCY LIGHTING AND ALL ASSOCIATED COMPONENTS AND BRANCH CIRCUITING.
2. PROVIDING OF NEW RACEWAY AND CONDUCTORS FOR LIGHTING AND POWER.
3. CUTTING, CHANNELING AND CHASING REQUIRED TO ACCOMMODATE THE ELECTRICAL INSTALLATION AND ROUGH PATCHING.
4. PROVIDING OF CONDUIT, JUNCTION BOXES, PULL BOXES, ETC., REQUIRED FOR THE AFOREMENTIONED EQUIPMENT.
5. GROUNDING OF ALL EQUIPMENT AS REQUIRED BY NATIONAL ELECTRICAL CODE AND AS SHOWN ON THE DRAWINGS.
6. PROVIDING RECEPTACLES, LIGHT SWITCHES, DISCONNECT SWITCHES, OUTLET BOXES, CONTACTORS AND OTHER WIRING DEVICES INCLUDING RELATED BRANCH CIRCUIT WIRING.
7. PROVIDING ENGRAVED LAMICOID NAMEPLATES FOR NEW PANELBOARDS, SWITCHES, CABINETS, MOTOR STARTERS, ETC.

J. FOLLOW THE GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION AIA DOCUMENT A201 LATEST EDITION, OR AS REQUIRED BY THE ARCHITECTS DOCUMENTS AND/OR ENGINEERS DOCUMENTS.

K. SUBMIT SHOP DRAWINGS CERTIFIED BY ALL TRADES THAT COORDINATION HAS BEEN ESTABLISHED. SUBMIT ALL CERTIFIED EQUIPMENT CUTS WITH CONSTRUCTION WIRING DIAGRAMS. PROVIDE A MINIMUM OF SIX (6) COPIES OF 8-1/2"X11" SUBMISSIONS AND ONE (1) REPRODUCIBLE AND ONE (1) PRINT OF ALL DRAWINGS.

L. CONTRACTOR SHALL REVISE DRAWINGS TO CONFORM TO RECORD DRAWINGS AND SUBMIT AS-BUILT CONDITION (DEVICES, EQUIPMENT, CIRCUITRY, ETC.), DRAWINGS UPON COMPLETION OF THE PROJECT.

M. SUBSTITUTE MATERIAL OR MANUFACTURER OF EQUIPMENT SHALL NOT BE PERMITTED WITHOUT A FORMAL WRITTEN SUBMITTAL TO THE ENGINEER THAT INCLUDES ALL DIMENSIONAL, PERFORMANCE AND MATERIAL SPECIFICATIONS. ANY CHANGES IN LAYOUT, ELECTRICAL CHARACTERISTICS, STRUCTURAL REQUIREMENTS, OR DESIGN DUE TO THE USE OF A SUBSTITUTION SHALL BE SUBMITTED TO THE ENGINEER.

N. DEFINITIONS:

1. "ELECTRICAL CONTRACTOR", "THIS CONTRACTOR" – THE PARTY OR PARTIES HAVE BEEN DULY AWARDED THE CONTRACT FOR AND ARE THEREBY MADE RESPONSIBLE FOR THE ELECTRICAL WORK AS DESCRIBED HEREIN.
2. "ARCHITECT", "ENGINEER", "OWNER'S REPRESENTATIVE" – THE PARTY OR PARTIES RESPONSIBLE FOR INTERPRETING, ACCEPTING AND OTHERWISE RULING ON THE PERFORMANCE UNDER THIS CONTRACT.
3. "FURNISH" – PURCHASE AND DELIVER TO THE PROJECT SITE COMPLETE WITH EVERY NECESSARY APPURTENANCE AND SUPPORT, ALL AS PART OF THE ELECTRICAL WORK.
4. "INSTALL" – UNLOAD AT THE DELIVERY POINT AT THE SITE AND PERFORM EVERY OPERATION NECESSARY TO ESTABLISH SECURE MOUNTING INSTALLATION AND CORRECT OPERATION AT THE PROPER LOCATION IN THE PROJECT, ALL AS PART OF THE ELECTRICAL WORK.
5. "PROVIDE" – "FURNISH" AND "INSTALL"
6. "RELOCATE" – MOVE EXISTING EQUIPMENT/DEVICES/FIXTURE AND ALL ACCESSORIES AS REQUIRED, INCLUDING THE EXTENSION OF EXISTING OR PROVIDING NEW CIRCUIT/CONDUCTORS/WIRING AS REQUIRED.
7. "REMOVE" – DISMANTLE AND CART AWAY FROM SITE INCLUDING ALL RELATED ACCESSORIES. ALL OTHER EQUIPMENT AND OPERATIONS IN ANY WAY EFFECTED BY THE REMOVAL IS TO REMAIN IN FULL OPERATION. PROVIDE ALL NECESSARY COMPONENTS TO MAINTAIN SUCH OPERATION.

S. ACCEPTABLE MANUFACTURERS:
DISCONNECT SWITCHES: SIEMENS, GE OR SQUARE "D"
FUSES: BUSSMAN, GOULD SHAWMUTT
RACEWAY: NATIONAL WIRE PRODUCTS, TRIANGLE OR REPUBLIC
WIRE/CABLE: ROME PHELPS DODGE, GENERAL CABLE, SIMPLEX
PANELBOARDS: SIEMENS, GE OR SQUARE "D".
JUNCTION/PULL BOXES: APPLETOWN ELECTRIC, CROUSE HINDS OR O.Z./ GEDNEY CO.
FIRE STOP MATERIAL: HILTI, 3M (NOTE: MATERIAL MUST BE ACCEPTABLE TO LOCAL AHJ)
FITTINGS, COUPLINGS, BUSHINGS, CONNECTORS: OZ GEDNEY, BURNDY, NEPCO, THOMAS AND BETTS

260519 – WIRE AND CABLE

A. ALL CONDUCTORS SHALL BE COPPER, TYPE THHN/THWN-2 OR XHHW-2 INSULATED AS SPECIFIED. ALL CONDUCTORS SHALL HAVE 600 VOLT AC RATED OR 1,000 VOLT DC RATED INSULATION UNLESS SPECIFIED DIFFERENTLY. CONDUCTORS #10 AWG AND SMALLER SHALL BE SOLID WIRE. CONDUCTORS AND #8 AWG AND LARGER SHALL BE STRANDED WIRE.

B. METAL CLAD CABLE (TYPE MC) IS NOT ALLOWED.

C. BRANCH CIRCUIT WIRE SIZE: THE MINIMUM WIRE SIZE FOR BRANCH CIRCUIT SHALL BE #12 AWG EXCEPT 120 VOLT CIRCUITS OVER 80 FEET IN LENGTH SHALL BE 10# AWG. REFER TO DRAWINGS FOR FURTHER WIRE SIZING INFORMATION.

D. PROVIDE ALL BRANCH CIRCUITS WITH DEDICATED GROUND WIRES.

G. PROVIDE FLAMEPROOF IDENTIFICATION TAGS IN ALL JUNCTION BOXES, PULL BOXES AND PANELBOARDS FOR ALL FEEDERS, BRANCH CIRCUIT AND CONTROL WIRING. TAGS SHALL IDENTIFY CONDUCTOR SIZES, SOURCE AND TERMINATION POINTS.

H. INSTALL NO MORE THAN 3 BRANCH CIRCUITS IN ONE CONDUIT OR HOMERUN UNLESS OTHERWISE NOTED.

260526 – GROUNDING AND BONDING OF ELECTRICAL SYSTEMS

A. SERVICE: PROVIDE COMPLETE SYSTEM OF GROUND CONDUCTORS, ELECTRODES, AND ACCESSORIES TO EFFECTIVELY AND PERMANENTLY GROUND ELECTRIC SERVICE.

B. EQUIPMENT: GROUND NON-CURRENT CARRYING METAL PARTS OF THE ELECTRICAL SYSTEM. PROVIDE A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR WITH ALL FEEDERS AND BRANCH CIRCUITS, SIZED IN ACCORDANCE WITH THE OVER CURRENT PROTECTIVE DEVICE SERVING THAT FEEDER OR BRANCH CIRCUIT.

260533 – RACEWAY

A. CONDUIT FOR BRANCH CIRCUIT SHALL BE PVC SCH. 40 WITH COMPRESSION FITTINGS SIZED PER DRAWING, 3/4" MINIMUM. (MAXIMUM 3 CIRCUITS PER HOMERUN EXCEPT AS NOTED).

B. FLEXIBLE STEEL CONDUIT MAY BE USED ONLY FOR:

1. SHORT CONNECTIONS WHERE RIGID CONDUIT IS IMPRACTICABLE.
2. FOR FINAL CONNECTION TO MOTOR TERMINAL BOX. TRANSFORMERS AND OTHER VIBRATING EQUIPMENT: WITH POLYVINYL SHEATHING AND GROUND CONDUCTOR. MINIMUM LENGTH 18 IN (457.2mm). WITH SLACK. CONNECT GROUND CONDUCTOR TO ENCLOSURE OR RACEWAY AT EACH END.
3. FOR EXPANSION JOINT CROSSINGS, CROSS AT RIGHT ANGLES AND ANCHOR ENDS.
4. CONNECT GROUND CONDUCTOR TO ENCLOSURE OR RACEWAY AT EACH END.

C. EXPANSION FITTINGS: INSTALL AT RIGHT ANGLES WITH CLIP CENTERED IN EXPANSION JOINT. PROVIDE LENGTH OF RUNS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

D. RACEWAYS PASSING THROUGH FIRE-RATED CONSTRUCTION: SEAL OPENING WITH FIRE SEALANT AS REQUIRED TO MAINTAIN THE EXISTING FIRE RATING.

E. PROVIDE FISH OR PULL WIRE IN ALL EMPTY CONDUITS OVER 10 FEET (3048mm) LONG.

F. MAINTAIN GROUND CONTINUITY OF ALL INTERRUPTED RACEWAYS WITH GROUND CONDUCTOR.

G. ALL WIRING WITHIN ELECTRICAL CLOSET AND IN BUILDINGS CORE CEILINGS SHALL BE INSTALLED IN CONDUIT.

H. INSTALL ACCESSIBLE JUNCTION AND PULLBOXES CLEAR OF OTHER TRADES AND SUPPORTED FROM BUILDING STRUCTURE INDEPENDENT OF CONDUIT.

I. OUTDOORS: APPLY RACEWAY PRODUCTS AS SPECIFIED BELOW UNLESS OTHERWISE INDICATED:
1. EXPOSED CONDUIT: GRC, RNC-TYPE EPC-40-PVC, RNC-TYPE EPC-80-PVC.
2. CONCEALED CONDUIT, ABOVEGROUND: GRC, EMT, RNC-TYPE EPC-40-PVC.
3. UNDERGROUND CONDUIT: RNC-TYPE EPC-40-PVC/TYPE EPC-80-PVC, DIRECT BURIED, CONCRETE ENCASED.

260534 – PULL BOXES, JUNCTION BOXES AND OUTLET BOXES

J. PULLBOXES, JUNCTION BOXES AND OUTLET BOXES SHALL BE MANUFACTURED FROM GALVANIZED INDUSTRY STANDARD GAUGE SHEET STEEL.

K. PROVIDE PULL BOXES AND JUNCTION BOXES IN LONG STRAIGHT RUNS OF RACEWAY TO ASSURE THAT CABLES ARE NOT DAMAGED WHEN THEY ARE PULLED, TO FULFILL REQUIREMENTS AS TO THE NUMBER OF BENDS PERMITTED IN RACEWAY BETWEEN CABLE ACCESS POINTS, THE ACCESSIBILITY OF CABLE JOINTS AND SPLICES, AND THE APPLICATION OF CABLE SUPPORTS.

L. PULLBOXES AND JUNCTION BOXES SHALL BE SIZED SO THAT THE MINIMUM BENDING RADIUS CRITERIA SPECIFIED FOR THE WIRES AND CABLE ARE MAINTAINED.

M. ALL EQUIPMENT, DEVICE BOXES, JUNCTION BOXES, PULLBOXES AND OUTLET BOXES SHALL BE INSTALLED SO AS TO ALLOW ACCESS TO THE BOX. IF NECESSARY AND APPROVED BY ARCHITECT, PROVIDE ACCESS DOOR OR COVERPLATES IN AREAS WHERE UNOBSTRUCTED ACCESS IS NOT POSSIBLE.

N. USE WEATHERPROOF BOXES, JUNCTION BOXES AND DEVICES FOR ALL REQUIRED WEATHERPROOF INSTALLATION.

260573 – OVERCURRENT PROTECTIVE DEVICE COORDINATION STUDY

A. COMPUTER SOFTWARE DEVELOPERS. PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:

1. SKM SYSTEMS ANALYSIS, INC.
2. ESA, INC.
3. CGI CYME.
4. EDSA MICRO CORPORATION.
5. OPERATION TECHNOLOGY, INC.

B. CALCULATE THE MAXIMUM AVAILABLE SHORT-CIRCUIT CURRENT IN AMPERES RMS SYMMETRICAL AT CIRCUIT BREAKER POSITIONS OF THE ELECTRICAL POWER DISTRIBUTION SYSTEM. THE CALCULATION SHALL BE FOR A CURRENT IMMEDIATELY AFTER INITIATION AND FOR A THREE-PHASE BOLTED SHORT CIRCUIT.

C. CALCULATIONS TO VERIFY INTERRUPTING RATINGS OF OVERCURRENT PROTECTIVE DEVICES SHALL COMPLY WITH IEEE 141.

D. PERFORM COORDINATION STUDY USING APPROVED COMPUTER SOFTWARE PROGRAM. PROVIDE A WRITTEN REPORT USING RESULTS OF FAULT-CURRENT STUDY. COMPLY WITH IEEE 399.

1. CALCULATE THE MAXIMUM AND MINIMUM 1/2-CYCLE SHORT-CIRCUIT CURRENTS.
2. CALCULATE THE MAXIMUM AND MINIMUM INTERRUPTING DUTY (5 CYCLES TO 2 SECONDS) SHORT-CIRCUIT CURRENTS.
3. CALCULATE THE MAXIMUM AND MINIMUM GROUND-FAULT CURRENTS.

E. COMPLY WITH IEEE 241 RECOMMENDATIONS FOR FAULT CURRENTS AND TIME INTERVALS.

F. TRANSFORMER PRIMARY OVERCURRENT PROTECTIVE DEVICES:

1. DEVICE SHALL NOT OPERATE IN RESPONSE TO THE FOLLOWING:
   1.a. INRUSH CURRENT WHEN FIRST ENERGIZED.
   1.b. SELF-COOLED, FULL-LOAD CURRENT OR FORCE-AIR-COOLED, FULL-LOAD CURRENT, WHICHEVER IS SPECIFIED FOR THAT TRANSFORMER.
   1.c. PERMISSIBLE TRANSFORMER OVERLOADS ACCORDING TO IEEE C57.96 IF REQUIRED BY UNUSUAL LOADING OR EMERGENCY CONDITIONS.
2. DEVICE SETTINGS SHALL PROTECT TRANSFORMERS ACCORDING TO IEEE C57.12.00, FOR FAULT CURRENTS.

G. CONDUCTOR PROTECTION: PROTECT CABLES AGAINST DAMAGE FROM FAULT CURRENTS ACCORDING TO ICEA P-32-382, ICEA P-45-482, AND CONDUCTOR MELTING CURVES IN IEEE 242.

260574 – ARC-FLASH HAZARD ANALYSIS STUDY

A. THE CONTRACTOR SHALL FURNISH AN ARC FLASH HAZARD ANALYSIS STUDY PER THE REQUIREMENTS SET FORTH IN NFPA 70E – STANDARD FOR SAFETY IN THE WORKPLACE. THE ARC FLASH HAZARD ANALYSIS SHALL BE PERFORMED ACCORDING TO IEEE 1584 EQUATIONS THAT ARE PRESENTED IN NFPA70E-2004, ANNEX.

B. THE FLASH PROTECTION BOUNDARY AND THE INCIDENT ENERGY SHALL BE CALCULATED AT ALL SIGNIFICANT LOCATIONS IN THE ELECTRICAL DISTRIBUTION SYSTEM (SWITCHBOARDS, PANELBOARDS, BUSWAY AND SPLITTERS) WHERE WORK COULD BE PERFORMED ON ENERGIZED PARTS.

C. SAFE WORKING DISTANCES SHALL BE BASED UPON THE CALCULATED ARC FLASH BOUNDARY CONSIDERING AN INCIDENT ENERGY OF 1.2 CAL/CM^2.

D. ARC FLASH CALCULATIONS SHALL BE BASED ON ACTUAL OVERCURRENT PROTECTIVE DEVICE CLEARING TIME. MAXIMUM CLEARING TIME WILL BE CAPPED AT 2 SECONDS BASED ON IEEE 1584-2002 SECTION B.1.2. WHERE IT IS NOT PHYSICALLY POSSIBLE TO MOVE OUTSIDE OF THE FLASH PROTECTION BOUNDARY IN LESS THAN 2 SECONDS DURING AN ARC FLASH EVENT A MAXIMUM CLEARING TIME BASED ON THE SPECIFIC LOCATION SHALL BE UTILIZED.

E. CONTRACTOR SHALL PROVIDE A 3.5" (91MM) X 5" (129MM) THERMAL TRANSFER TYPE LABEL OF HIGH ADHESION POLYESTER FOR EACH WORK LOCATION ANALYZED.

F. ALL LABELS WILL BE BASED ON RECOMMENDED OVERCURRENT SETTINGS AND WILL BE PROVIDED AFTER THE RESULTS OF THE ANALYSIS HAVE BEEN PRESENTED TO THE OWNER AND AFTER ANY SYSTEM CHANGES, UPGRADES, OR MODIFICATIONS HAVE BEEN INCORPORATED IN THE SYSTEM.

G. THE LABEL SHALL INCLUDE THE FOLLOWING INFORMATION, AT A MINIMUM:

1. LOCATION DESIGNATION.
2. NOMINAL VOLTAGE.
3. FLASH PROTECTION BOUNDARY.
4. HAZARD RISK CATEGORY.
5. INCIDENT ENERGY.
6. WORKING DISTANCE.
7. ENGINEERING REPORT NUMBER , REVISION NUMBER AND ISSUE DATE.

H. LABELS SHALL BE MACHINE PRINTED, WITH NO FIELD MARKINGS.

1. FOR EACH SWITCHBOARD AND PANELBOARD, ONE ARC FLASH LABEL SHALL BE PROVIDED.

I. THE WORKPLACE ELECTRICAL SAFETY STANDARD SHALL BE FOLLOWED FOR THE ARC-FLASH CALCULATION, STUDIES AND ARC-FLASH LABELS AS THE MAIN STANDARD.

GENERAL NOTES (FOR NEVI SITES ONLY)

A. THIS PROJECT INCLUDES INSTALLATION OF ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE) SPECIFICALLY DC FAST CHARGERS, ENSURE CONSTRUCTION IS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED INSTALLATION DETAILS AND REQUIREMENTS OF THE P3 AGREEMENT.

B. THE NEVI DEVELOPER SHALL BE RESPONSIBLE FOR COORDINATING WITH THE ELECTRICAL UTILITY THE TRANSFORMER AND TRANSFORMER PAD VAULT DELIVERY TIMING, SIZING, AND TYPE, IN ADDITION TO ANCILLARY REQUIRED ELECTRICAL METERING AND SERVICE EQUIPMENT.

EVgo FAST CHARGING

OWL eMobility

PROFESSIONAL ENGINEER
WISCONSIN
PHILLIP J JAMINET
E-48131
YOUNGSTOWN
OHIO
NOT FOR CONSTRUCTION

P78149 - PILOT TRAVEL CENTER 324
ELECTRIC VEHICLE CHARGING
13712 NORTHWESTERN AVENUE
FRANKSVILLE, WI 53126

NO.	DATE	REVISION DESCRIPTION
0	09/05/25	FOR REVIEW

DATE 09/05/25

SHEET TITLE
ELECTRICAL SPECIFICATIONS

SHEET NUMBER
E-4

ELECTRICAL GENERAL NOTES

1. ALL WORK SHALL BE INSTALLED CONCEALED UNLESS OTHERWISE NOTED.
2. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS OF FINISHED CONSTRUCTION PRIOR TO FABRICATION AND INSTALLATION OF FIXTURES AND EQUIPMENT.
3. MOUNTING HEIGHTS OF EQUIPMENT AND DEVICES SHALL BE AS INDICATED ON THE DRAWINGS. WHERE MOUNTING HEIGHTS ARE NOT GIVEN ON THE DRAWINGS, UTILIZE THE FOLLOWING MOUNTING HEIGHTS UNLESS OTHERWISE NOTED (ALL DIMENSIONS TO CENTERLINE OF BOX):
   A. RECEPTACLES (WALL MOUNTED) – 18 A.F.F.
4. ELECTRICAL CONTRACTOR SHALL VISIT THE JOB SITE TO MAKE HIMSELF AWARE OF EXISTING CONDITIONS BEFORE SUBMITTING HIS PRICE.
5. THE MINIMUM RATING OF DISCONNECT SWITCHES SHALL BE EQUAL TO OR GREATER THAN THE RATING OF THE PROTECTIVE DEVICE ON THE SUPPLY SIDE OF THE DISCONNECT SWITCH. ALL RATINGS OF DISCONNECT SWITCHES AND OR FUSES/ OVER-CURRENT DEVICES SHALL BE SIZED IN ACCORDANCE WITH CODE FOR THE LOADS SERVED PER DESIGN DRAWINGS.
6. NO LOW VOLTAGE WIRING SHALL BE PERMITTED IN THE SAME RACEWAY AS LINE VOLTAGE POWER WIRING.
7. ALL JUNCTION OR OUTLET BOXES SHALL BE INSTALLED SO AS TO ALLOW ACCESS TO PROVIDE APPROVED ACCESS DOORS OR PLATES AS REQUIRED IN AREAS WHERE UNOBSTRUCTED ACCESS TO BOX OR OUTLET IS NOT POSSIBLE.
8. AT ALL EMPTY CONDUITS PROVIDE BUSHINGS AT ENDS AND DRAG WIRES.
9. ELECTRICAL CONTRACTOR SHALL PROVIDE AN ELECTRICAL INSPECTION APPROVAL CERTIFICATE TO OWNER UPON COMPLETION OF WORK.
10. CIRCUIT ASSIGNMENTS FOR, RECEPTACLES, WIRING DEVICES, AND ELECTRICAL EQUIPMENT ARE DESIGNATED BY THE NUMBER SHOWN ADJACENT TO THESE DEVICES / EQUIPMENT. PROVIDE CONDUITS, WIRES AND BOXES REQUIRED TO ENERGIZE THE EQUIPMENT AS SHOWN.
11. CIRCUIT NUMBERS ARE FOR REFERENCE ONLY. CIRCUIT NUMBERS ARE INTENDED TO BE USED FOR QUANTITIES AND FOR DESIGNATING WHAT OUTLETS (FIXTURES, EQUIPMENT, ETC.) WILL BE ON THE SAME CIRCUIT. CONTRACTOR SHALL REARRANGE CIRCUITS PER FIELD CONDITIONS SO THAT LOAD VALUES FOR EACH PHASE DO NOT EXCEED CODE REQUIREMENTS AND TO BALANCE THE LOADS AT THE PANELS PER SPECIFICATIONS. THE ELECTRICAL CONTRACTOR SHALL PROVIDE CIRCUITS WITH PROPER PHASE SEQUENCES FOR EVERY REQUIRED NEUTRAL WIRE THAT IS SHARED. ELECTRICAL CONTRACTOR SHALL DOCUMENT ALL AFFECTED CIRCUITS, LABEL EACH OUTLET COVER WITH ACTUAL PANEL DESIGNATION AND CIRCUIT NUMBER, AND PROVIDE AS-BUILT PANEL DIRECTORIES AND DRAWINGS PER SPECIFICATIONS.
12. ALL WORK SHALL COMPLY WITH REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, LOCAL BUILDING CODE AND BUILDING MANAGEMENT RULES AND REGULATIONS.
13. 3/4" (21MM) SHALL BE THE MINIMUM CONDUIT INSTALLED.

ABBREVIATIONS

A, AMP	AMPERE
ADA	AMERICANS WITH DISABILITIES ACT
AF	AMPERE FRAME
AFF	ABOVE FINISH FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPS INTERRUPTING CAPACITY
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BLDG	BUILDING
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CAT	CATALOG
CB	CIRCUIT BREAKER
CD	CANDELA
CFSD	COMBINATION FIRE/SMOKE DAMPER
CKT	CIRCUIT
CLG	CEILING
CO	CONDUIT ONLY
CU	COPPER
DACS	DIGITAL ALARM COMMUNICATION SYSTEM
DACT	DIGITAL ALARM COMMUNICATION TERMINAL
DGP	DATA GATHERING PANEL
DIFF	DIFFERENTIAL
DISC	DISCONNECT
DN	DOWN
DWG	DRAWING
ELEC	ELECTRICAL
EMR	ELEVATOR MACHINE ROOM
EMT	ELECTRICAL METAL TUBING
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISH BY OTHER DIVISION OF WORK
FCO	FUSE CUTOUT BOX
FCS	FIRE COMMAND STATION
FSD	FIRE SMOKE DAMPER
FU	FUSE
FL	FLOOR
FLEX	FLEXIBLE
FT	FEET OR FOOT
GA	GAUGE
G, GRD	GROUND
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT INTERRUPTER
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HVAC	HEATING, VENTILATING & AIR CONDITIONING
HZ	HERTZ
IC	INTERRUPTING CAPACITY
JB	JUNCTION BOX
LEMCS	LOCAL EMERGENCY CONTROL SYSTEM
LTG	LIGHTING
MCB	MAIN CIRCUIT BREAKER
MECH	MECHANICAL
MER	MECHANICAL EQUIPMENT ROOM
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MTD	MOUNTED
N	NEUTRAL
NC	NORMALLY CLOSED
NO	NUMBER
NTS	NOT TO SCALE
OL	OVERLOAD DEVICE
P	POLE
PNL	PANEL
Ø	PHASE
RA	RETURN AIR
RG, RAG	RETURN AIR GRILLE
SN	SOLID NEUTRAL
SPCP	STAIR PRESSURIZATION SYSTEM CONTROL PANEL
STP	STAIR PRESSURIZATION
SW	SWITCH
SWBD	SWITCHBOARD
TEL	TELEPHONE
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UL	UNDERWRITERS LABORATORIES
UV	ULTRAVIOLET
VESDA	VERY EARLY SMOKE DETECTION APPARATUS
V	VOLTAGE
VDC	DIRECT CURRENT VOLTAGE
VFD	VARIABLE FREQUENCY DRIVE
WP	WEATHER PROOF

POWER AND SIGNAL DEVICE LEGEND

SYMBOL	DESCRIPTION
	UON, 20A, 125V, 2P, 3W, GROUNDED WALL MOUNTED DUPLEX AND DOUBLE DUPLEX RECEPTACLES, NEMA 5-20R. (COLOR PER ARCHITECT). ALL OUTLETS SHALL BE LABELED WITH ITS SOURCE PANEL AND BREAKER # ID. "WP" - INDICATES WEATHERPROOF (TYP FOR WIRING DEVICES) "C" - INDICATES COUNTER HEIGHT (TYP FOR WIRING DEVICES)
	SHADING FOR DUPLEX OR DOUBLE DUPLEX PER ABOVE INDICATES DEDICATED CIRCUIT
	UON, 20A, 125V, 2P, 3W, GROUNDED WALL MOUNTED DUPLEX AND DOUBLE DUPLEX RECEPTACLES WITH GROUND FAULT CIRCUIT INTERRUPTER, NEMA 5-20R. WEATHER PROOF (COLOR PER ARCHITECT). ALL OUTLETS SHALL BE LABELED WITH ITS SOURCE PANEL AND BREAKER # ID.
J	ELECTRICAL JUNCTION BOX FOR HARDWIRED EQUIPMENT. (2) INDICATES DOUBLE-GANG BOX. (F) INDICATES FLOOR RECESSED. (CE) INDICATES CEILING RECESSED. (AFC) INDICATES ABOVE FINISHED CEILING, SURFACE MTD.
	SURFACE MOUNTED PANELBOARD - SOLID INDICATES NEW, UNSHADED/DASHED INDICATES EXISTING
T	DRY TYPE TRANSFORMER - SIZE AS INDICATED ON THE DRAWINGS
M	ELECTRICAL METER OR SUB-METER AS IDENTIFIED ON THE DRAWINGS
1 CKT PNL-(#) 2 CKT PNL-(#),(#) 3 CKT PNL-(#),(#),(#)	ONE, TWO, OR THREE HOME RUNS TO ELECTRICAL PANEL 'PNL' - INDICATED PANEL NAME '#' - INDICATES CIRCUIT NUMBER, U.O.N.
	GROUND BAR

ONE LINE/RISER DIAGRAM LEGEND

SYMBOL	DESCRIPTION
##A/#P	CIRCUIT BREAKER "##A" - INDICATES AMPERAGE RATING "#P" - INDICATES NUMBER OF POLES
##AS ##AF	FUSED DISCONNECT SWITCH "##AS" - INDICATES SWITCH SIZE "##AF" - INDICATES FUSE SIZE
#A/#P	NON-FUSED DISCONNECT SWITCH "#A" - INDICATES SWITCH SIZE "#P" - INDICATES NUMBER OF POLES
480Δ OR 600V 120Y/208V	TRANSFORMER, 480V INDICATES PRIMARY VOLTAGE, 120/208V INDICATES SECONDARY VOLTAGE
	GROUNDING CONNECTION
PANEL PP1	PANELBOARD - REFER TO PANELBOARD SCHEDULES FOR ADDITIONAL INFORMATION

EVgo FAST CHARGING

OWL eMobility

WISCONSIN PHILLIP J. JAMINET E-48131 YOUNGSTOWN OH PROFESSIONAL ENGINEER

P78149 - PILOT TRAVEL CENTER 324
ELECTRIC VEHICLE CHARGING
13712 NORTHWESTERN AVENUE
FRANKSVILLE, WI 53126

NO.	DATE	REVISION DESCRIPTION
0	09/05/25	FOR REVIEW

DATE 09/05/25

SHEET TITLE
ELECTRICAL SYMBOLS, ABBREVIATIONS AND GENERAL NOTES

SHEET NUMBER
E-5

EV Charging Solution

DC Charger / High Power Charger 350kW

- Distributed space-saving architecture
- 95% peak power efficiency for energy saving
- OCPP and network connectivity for seamless system integration

Highway Service

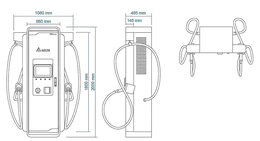
Service Station

Specifications - Dispenser

Part Number	EIDD-U
Power Input	
Input Rating	480 Vac Three phase, 60Hz
Power Output	
Output Voltage	1000Vdc max
Output Interface	DC output option: single CCS1, double CCS1 or CCS1/CHAdeMO
DC Output Current	540A max. CCS1 (Liquid cooling); 200A max. CHAdeMO
DC Output Power	350kW max
Protection	
Protection	Over current, Under voltage, Over voltage, Residual current, Surge protection, Short circuit, Over temperature, Ground fault
User Interface & Control	
Display	15 inch LCD Panel
Support Language	English (Other languages available upon request)
Push Buttons	Emergency Stop Button
User Authentication	ISO/IEC 14443A/B, NFC Payment: Integrated credit card reader
Charge option	Simultaneous charging
Communication	
Network Interface	Ethernet, Cellular
Protocol	OCPP v1.6-J, upgradable to OCPP v2.0 and ISO15118 upgradable
Environmental	
Operating Temperature	Operating at 22°F to +122°F (-30°C to +50°C)
Storage Temperature	-40°F to +185°F (-40°C to +85°C)
Humidity	< 95% relative humidity, non-condensing
Mechanical	
Ingress Protection	IP55/NEMA 3R
Enclosure Protection	IK10
Cooling	Forced air
Charging Cable Length	14.76 ft. (4.5 m)
Dimension (W x H x D)	42.5 × 78.7 × 19.1 inch (1080 × 2000× 485 mm)
Weight	706 lb (320 kg)
Regulation	
Certification	UL 2202, UL 2231
Installation	
Accessory	Cable management

Dimension and weight excluding plug and connector. Specifications are subject to change without notice.

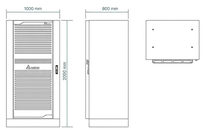
Dispenser



Specifications - Power Cabinet

Part Number	EIDN-U
Power Input	
Input Rating	480 Vac Three phase, 60Hz
Power Factor	≥0.99
Current THD	Compliant with IEEE 519
Power Output	
Output Voltage	150~950Vdc
DC Output Current	540 A max
DC output power	350kW
Efficiency	≥ 95% @400Vdc, full load; (Peak 96%)
Protection	
Protection	Over current, Under voltage, Over voltage, Residual current, Surge protection, Short circuit, Over temperature, Ground fault
Environmental	
Operating Temperature	22°F to +122°F (-30°C to +50°C) Power derating above +122°F (+50°C)
Storage Temperature	-40°F to -176°F (-40°C to +80°C)
Humidity	< 95 % relative humidity, non-condensing
Altitude	6,500 ft. (2,000 m)
EMC	FCC Part 15-b Class A
Mechanical	
Ingress Protection	IP55/NEMA Type 3R
Enclosure Protection	IK 10
Cooling	Force Air
Dimension (W x H x D)	39.3 × 78.7 × 31.4 inch (1000 × 2000 × 800 mm)
Equipment Weight	1184 lb (537 kg)
Regulation	
Certification	UL 2202, UL2231

Power Cabinet



More Information

Delta Electronics (Americas) Ltd.
46101 Fremont Boulevard Fremont, CA 94538 U.S.A.
TEL：+1 510 668.5100
E-mail：evcs@deltaww.com

evcharging.deltaww.com

Delta Electronics Inc.
16 Tungyuan Road, Chungli Industrial Zone, Taoyuan City 32063, Taiwan
TEL：+886 3 4526107

2023/05

Travel Faster with High Power Charger

Delta's High Power Charger 350kW offers the fastest charging time than any other charger. It is ideally suited in highway rest stop, traditional fuel station and fleet charging due to its high power of up to 350kW, equal load distribution and simultaneous charging features, enabling charging of 2 vehicles at once. High power efficiency and the ability to share power from power cabinet between two dispensers, enable a reduction in cost of ownership. It also offers a user friendly design with LED status light visible from a distance, and a 15 inch display. Delta High Power Charger 350kW helps EV drivers shorten the time needed to get back on the road.

Feature Highlights

Up to 95% power efficiency for optimal charging service

- Max. 950V and 540A in 350kW high power charging
- Simultaneous charging service
- Supports CHAdeMo, CCS1 charging standard

Distributed space-saving architecture

- Distributed architecture enables you to install charger without replanning parking spaces
- Adopt power module for extension flexibility
- IP55 / NEMA3R ingress protection and IK10 enclosure protection

OCPP and network connectivity for seamless system integration

- Supports OCPP 1.6J (upgradeable to OCPP 2.0)
- Built-in Ethernet, cellular (3G / 4G) network connectivity
- Integrable with commercial and management systems for improved operational efficiency

EVgo FAST CHARGING

OWL eMobility

WISCONSIN PROFESSIONAL ENGINEER
PHILLIP J JAMINET
E-48131
YOUNGSTOWN
OHIO

P78149 - PILOT TRAVEL CENTER 324
ELECTRIC VEHICLE CHARGING
13712 NORTHWESTERN AVENUE
FRANKSVILLE, WI 53126

NO.	DATE	REVISION DESCRIPTION
0	09/05/25	FOR REVIEW

DATE 09/05/25

SHEET TITLE

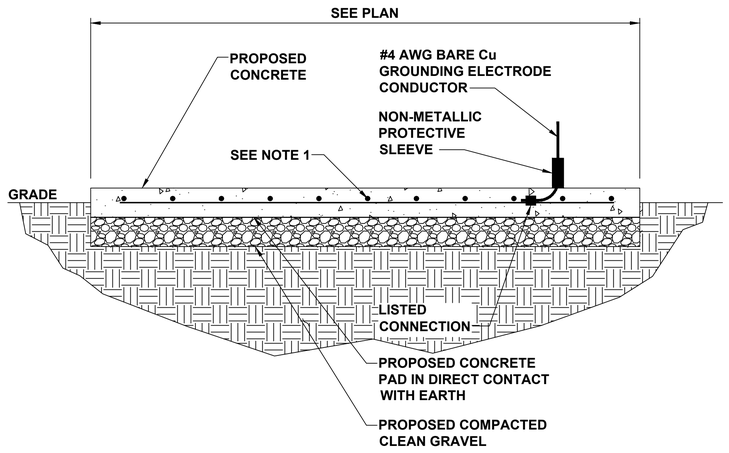
EV POWER & DISPENSER STATIONS CUTSHEETS

SHEET NUMBER

E-6

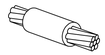
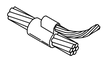
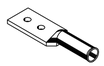
NOTE

1. REBAR BONDED TOGETHER WITH STEEL TIE WIRES, MECHANICAL CONNECTIONS (UNDERGROUND, CONCRETE RATED) OR EXOTHERMIC WELDING.



B G-1 CONCRETE ENCASED ELECTRODE DETAIL
NO SCALE

CADWELD CONNECTIONS
OR ENGINEER APPROVED EQUAL

 **CABLE TO REBAR** TEE CONNECTION HORIZONTAL CABLE TAP TO VERTICAL REBAR TYPE RJ	 **HORIZONTAL SPLICE** SPLICE OF HORIZONTAL CABLES TYPE SS	 **PARALLEL HORIZONTAL CONDUCTORS** PARALLEL THROUGH CONNECTION OF HORIZONTAL CABLES TYPE PT
BURNDY CONNECTIONS OR ENGINEER APPROVED EQUAL	 **HORIZONTAL STEEL SURFACE** TO FLAT STEEL SURFACE OR HORIZONTAL PIPE TYPE HS	 **PARALLEL HORIZONTAL CONDUCTORS** PARALLEL DEAD END TAP OR HORIZONTAL THRU CONDUCTOR TYPE PC
 **BOND JUMPER** FIELD FABRICATED GREEN STRANDED INSULATED TYPE 2-YA-2	 **VERTICAL PIPE** CABLE DOWN AT 45° TO RANGE OF VERTICAL PIPES TYPE VS	 **VERTICAL STEEL SURFACE** CABLE DOWN AT 45° TO VERTICAL STEEL SURFACE INCLUDING PIPE TYPE VS
 **COPPER LUGS** TWO HOLE - LONG BARREL LENGTH TYPE YA-2	 **HORIZONTAL TEE** TEE OF HORIZONTAL RUN AND TAP CABLES TYPE TA	 **THROUGH CABLE TO GROUND ROD** THROUGH CABLE TO TOP OF GROUND ROD TYPE GT

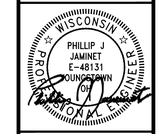
C G-1 CONCRETE ENCASED ELECTRODE DETAIL
NO SCALE

NOTES:

1. ALL HARDWARE SHALL BE STAINLESS STEEL 3/8" DIAMETER OR LARGER. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
2. FOR GROUND BOND TO STEEL ONLY: INSERT A CADMIUM FLAT WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
3. NEC 250.121 EXCEPTION: A WIRE-TYPE EQUIPMENT GROUNDING CONDUCTOR INSTALLED IN COMPLIANCE WITH 250.6(A) AND THE APPLICABLE REQUIREMENTS FOR BOTH THE EQUIPMENT GROUNDING CONDUCTOR AND THE GROUNDING ELECTRODE CONDUCTOR IN PARTS II, III, AND VI OF THIS ARTICLE SHALL BE PERMITTED TO SERVE AS BOTH AN EQUIPMENT GROUNDING CONDUCTOR AND A GROUNDING ELECTRODE CONDUCTOR.

EVgo FAST CHARGING

OWL eMobility



P78149 - PILOT TRAVEL CENTER 324
ELECTRIC VEHICLE CHARGING
13712 NORTHWESTERN AVENUE
FRANKSVILLE, WI 53126

NO.	DATE	REVISION DESCRIPTION
0	09/05/25	FOR REVIEW

DATE 09/05/25

SHEET TITLE
ELECTRICAL GROUNDING DETAILS

SHEET NUMBER
G-1

GENERAL CONSTRUCTION NOTES

FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY

1. ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS.
2. THE GENERAL CONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. GENERAL CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF WORK.
4. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS THE MINIMUM REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS, SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK AND PREPARED BY THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE ENGINEER PRIOR TO PROCEEDING.
9. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFORM TO ALL OSHA REQUIREMENTS AND THE LOCAL JURISDICTION.
10. THE GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER DISCIPLINES.
11. CONSTRUCTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMAN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE.
12. THE CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
13. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER.
14. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
15. THE GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRADES AND CONTRACTORS TO THE SITE AND/OR BUILDING.
16. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION.
17. THE GENERAL CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES.
18. THE CONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 2-A:10-B:C AND SHALL BE WITHIN 25 FEET OF TRAVEL DISTANCE TO ALL PORTIONS OF WHERE THE WORK IS BEING COMPLETED DURING CONSTRUCTION.
19. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. THE CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS SHALL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, AND D) TRENCHING & EXCAVATION.
20. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
21. THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
22. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE FEDERAL AND LOCAL JURISDICTION FOR EROSION AND SEDIMENT CONTROL.
23. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
24. THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH UNIFORM GRADE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 80 PERCENT STANDARD PROCTOR DENSITY IN OPEN SPACE. ALL TRENCHES IN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL PRE-APPROVED BY THE LOCAL JURISDICTION.
25. ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.
26. ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR AT COMPLETION OF CONSTRUCTION.

GENERAL CONSTRUCTION NOTES CONT.

27. THE CONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS-BUILT REDLINES TO THE GENERAL CONTRACTOR UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.
28. THE CONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION.
29. THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE, AND IS NOT FOR HUMAN HABITATION (NO HANDICAP ACCESS REQUIRED).
30. NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE PROPOSED.
31. THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
32. INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR DRAWINGS PROVIDED BY THE SITE OWNER. CONTRACTORS SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

ELECTRICAL NOTES

1. THE ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ANY/ALL ELECTRICAL WORK INDICATED. ANY/ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH DRAWINGS AND ANY/ALL APPLICABLE SPECIFICATIONS. IF ANY PROBLEMS ARE ENCOUNTERED BY COMPLYING WITH THESE REQUIREMENTS, CONTRACTOR SHALL NOTIFY 'CONSTRUCTION MANAGER' AS SOON AS POSSIBLE, AFTER THE DISCOVERY OF THE PROBLEMS, AND SHALL NOT PROCEED WITH THAT PORTION OF WORK, UNTIL THE 'CONSTRUCTION MANAGER' HAS DIRECTED THE CORRECTIVE ACTIONS TO BE TAKEN.
2. THE ELECTRICAL CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE THEMSELVES WITH ANY/ALL CONDITIONS AFFECTING ELECTRICAL AND COMMUNICATION INSTALLATION AND MAKE PROVISIONS AS TO THE COST THEREOF. THE CONDITION OF EXISTING ELECTRICAL EQUIP., LIGHT FIXTURES, ETC., THAT ARE PART OF THE FINAL SYSTEM, SHALL BE VERIFIED BY THE CONTRACTOR, PRIOR TO THE SUBMITTAL OF HIS BID. FAILURE TO COMPLY WITH THIS PARAGRAPH WILL IN NO WAY RELIEVE CONTRACTOR OF PERFORMING ALL WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM.
3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE NEC AND ALL CODES AND LOCAL ORDINANCES OF THE LOCAL POWER COMPANIES HAVING JURISDICTION AND SHALL INCLUDE BUT NOT BE LIMITED TO:
   - A. UL – UNDERWRITERS LABORATORIES
   - B. NEC – NATIONAL ELECTRICAL CODE
   - C. NEMA – NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
   - D. OSHA – OCCUPATIONAL SAFETY AND HEALTH ACT
   - E. SBC – STANDARD BUILDING CODE
   - F. NFPA – NATIONAL FIRE PROTECTION ASSOCIATION
4. DO NOT SCALE ELECTRICAL DRAWINGS, REFER TO SITE PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL EQUIPMENT, BUT CONFIRM WITH 'CONSTRUCTION MANAGER' ANY SIZES AND LOCATIONS WHEN NEEDED.
5. EXISTING SERVICES: THE CONTRACTOR SHALL NOT INTERRUPT EXISTING SERVICES WITHOUT WRITTEN PERMISSION OF THE OWNER.
6. THE CONTRACTOR SHALL PAY FOR ANY/ALL PERMITS, FEES, INSPECTIONS AND TESTING. THE CONTRACTOR IS TO OBTAIN PERMITS AND APPROVED SUBMITTALS PRIOR TO THE WORK BEGINNING OR ORDERING THE EQUIPMENT.
7. THE TERM "PROVIDE" USED IN CONSTRUCTION DOCUMENTS AND SPECIFICATIONS, INDICATES THAT THE CONTRACTOR SHALL FURNISH AND INSTALL.
8. THE CONTRACTOR SHALL CONFIRM WITH LOCAL UTILITY COMPANY ANY/ALL REQUIREMENTS SUCH AS THE: LUG SIZE RESTRICTIONS, CONDUIT ENTRY, SIZE OF TRANSFORMERS, SCHEDULED DOWNTIME FOR THE OWNERS' CONFIRMATION, ETC. ANY/ALL CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER, PRIOR TO BEGINNING ANY WORK.
9. CONDUCTORS: CONTRACTOR SHALL USE 98% CONDUCTIVITY COPPER OR ALUMINUM WITH TYPE (THWN-2) INSULATION, 600 VOLT, COLOR CODED UNLESS SPECIFIED DIFFERENTLY ON DRAWINGS.
10. ALL (THWN-2) WIRING INSTALLATIONS TO FOLLOW MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
11. OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, CAST ALLOY WITH THREADED HUBS IN WET/DAMP LOCATIONS AND SPECIAL ENCLOSURES FOR OTHER CLASSIFIED AREAS.
12. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF THE CONSTRUCTION. CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS FOR THE EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER. CONTRACTOR IS TO PROVIDE ALL ELECTRICAL EQUIPMENT UNLESS OTHERWISE DIRECTED.
13. ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS, WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIONAL AND SUBJECT TO REGULATORY INSPECTION AND APPROVAL BY CONSTRUCTION MANAGER.
14. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
15. CONTRACTOR SHALL GUARANTEE ANY/ALL MATERIALS AND WORK FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM DATE OF ACCEPTANCE.
16. THE CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ANY ADDITIONAL CHARGE AND SHALL INCLUDE THE REPLACEMENT OR THE REPAIR OF ANY OTHER PHASE OF THE INSTALLATION, WHICH MAY HAVE BEEN DAMAGED THEREIN.

ELECTRICAL NOTES CONT.

17. ADEQUATE AND REQUIRED LIABILITY INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LOSS AND ANY/ALL PROPERTY DAMAGE FOR THE DURATION OF WORK.
18. PROVIDE AND INSTALL CONDUIT, CONDUCTORS, PULL WIRES, BOXES, COVER PLATES AND DEVICES FOR ALL OUTLETS AS INDICATED.
19. TRENCHING AND BACKFILL: THE CONTRACTOR SHALL PROVIDE FOR ALL UNDERGROUND INSTALLED CONDUIT AND/OR CABLES INCLUDING EXCAVATION AND BACKFILLING AND COMPACTION. REFER TO GENERAL SITE WORK NOTES.
20. MATERIALS, PRODUCTS AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW AND SHALL APPEAR ON THE LIST OF U.L. APPROVED ITEMS AND SHALL MEET OR EXCEED THE REQUIREMENTS OF THE NEC, NEMA AND IEEE.
21. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR MANUFACTURES CATALOG INFORMATION OF ANY/ALL LIGHTING FIXTURES, SWITCHES AND ALL OTHER ELECTRICAL ITEMS FOR APPROVAL BY THE CONSTRUCTION MANAGER PRIOR TO INSTALLATION.
22. ANY CUTTING OR PATCHING DEEMED NECESSARY FOR ELECTRICAL WORK IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY AND SHALL BE INCLUDED IN THE COST FOR WORK AND PERFORMED TO THE SATISFACTION OF THE 'CONSTRUCTION MANAGER' UPON FINAL ACCEPTANCE.
23. THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELS WITH ONLY TYPEWRITTEN DIRECTORIES.
24. DISCONNECT SWITCHES SHALL BE H.P. RATED HEAVY-DUTY, QUICK-MAKE AND QUICK-BREAK ENCLOSURES, AS REQUIRED BY EXPOSURE TYPE.
25. ALL CONNECTIONS EXCEPT THE EV CHARGE CABLE TERMINATION IN THE CHARGE POST SHALL BE MADE WITH A PROTECTIVE COATING OF AN ANTI-OXIDE COMPOUND SUCH AS "NOALOX" BY IDEAL INDUSTRIAL INC., COAT ALL WIRE SURFACES BEFORE CONNECTING. EXPOSED ALUMINUM & COPPER SURFACES, INCLUDING GROUND BARS, SHALL BE TREATED – NO SUBSTITUTIONS.
26. ALL EXTERIOR AND INTERIOR ABOVE GROUND CONDUIT SHALL BE RIGID UNLESS SPECIFIED OTHERWISE. ALL BURIED CONDUITS SHALL BE SCH 40 PVC UNLESS SPECIFIED OTHERWISE.
27. RACEWAYS: CONDUIT SHALL BE SCHEDULE 40 PVC, MEETING OR EXCEEDING NEMA TC2 – 2020. THE CONTRACTOR SHALL PLUG AND CAP EACH END OF SPARE AND EMPTY CONDUITS AND PROVIDE TWO SEPARATE PULL STRINGS – 200 LBS TEST POLYETHYLENE CORD. ALL CONDUIT BENDS SHALL BE A MINIMUM OF 3 FT. RADIUS. RGS CONDUITS WHEN SPECIFIED, SHALL MEET UL-6 FOR GALVANIZED STEEL. ALL FITTINGS SHALL BE SUITABLE FOR USE WITH THREADED RIGID CONDUIT. COAT ALL THREADS WITH 'BRITE ZINC' OR 'COLD GALV'.
28. SUPPORT OF ALL ELECTRICAL WORK SHALL BE AS REQUIRED BY NEC.
29. CONNECTORS FOR POWER CONDUCTORS: CONTRACTOR SHALL USE PRESSURE TYPE INSULATED TWIST-ON CONNECTORS FOR NO. 10 AWG AND SMALLER. USE SOLDERLESS MECHANICAL TERMINAL LUGS FOR NO. 8 AWG AND LARGER.
30. THE CONTRACTOR SHALL PLACE TWO LENGTHS OF WARNING TAPE AT A DEPTH OF 12" BELOW GROUND AND DIRECTLY ABOVE ELECTRICAL SERVICE CONDUITS. CAUTION TAPE TO READ "CAUTION BURIED ELECTRIC".
31. WHEN DIRECTIONAL BORING IS REQUIRED, CONTRACTOR SHALL INSTALL A LOOSE TONING WIRE WITHIN INSTALLED CONDUIT TO ALLOW FOR IDENTIFICATION OF UNDERGROUND CONDUITS.
32. ALL BOLTS SHALL BE STAINLESS STEEL.
33. ALL MATERIALS AND EQUIPMENT SUPPLIED AND INSTALLED BY THE CONTRACTOR SHOULD BE NEW AND UNUSED.
34. ALL WORK SHALL BE INSTALLED CONCEALED UNLESS OTHERWISE NOTED.
35. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS OF FINISHED CONSTRUCTION PRIOR TO FABRICATION AND INSTALLATION OF FIXTURES AND EQUIPMENT.
36. MOUNTING HEIGHTS OF EQUIPMENT AND DEVICES SHALL BE AS INDICATED ON THE ARCHITECTURAL DRAWINGS. WHERE MOUNTING HEIGHTS ARE NOT GIVEN ON THE ARCHITECTURAL DRAWINGS, UTILIZE THE FOLLOWING MOUNTING HEIGHTS UNLESS OTHERWISE NOTED (ALL DIMENSIONS TO CENTERLINE OF BOX): A. RECEPTACLES (WALL MOUNTED) – 18 A.F.F.
37. ELECTRICAL CONTRACTOR SHALL VISIT THE JOB SITE TO MAKE HIMSELF AWARE OF EXISTING CONDITIONS BEFORE SUBMITTING HIS PRICE.
38. THE MINIMUM RATING OF DISCONNECT SWITCHES SHALL BE EQUAL TO OR GREATER THAN THE RATING OF THE PROTECTIVE DEVICE ON THE SUPPLY SIDE OF THE DISCONNECT SWITCH. ALL RATINGS OF DISCONNECT SWITCHES AND OR FUSES/ OVER-CURRENT DEVICES SHALL BE SIZED IN ACCORDANCE WITH CODE FOR THE LOADS SERVED PER DESIGN DRAWINGS.
39. 3/4" (21 MM) SHALL BE THE MINIMUM CONDUIT INSTALLED.
40. NO LOW VOLTAGE WIRING SHALL BE PERMITTED IN THE SAME RACEWAY AS LINE VOLTAGE POWER WIRING.
41. ALL JUNCTION OR OUTLET BOXES SHALL BE INSTALLED SO AS TO ALLOW ACCESS TO COVER. PROVIDE APPROVED ACCESS DOORS OR PLATES AS REQUIRED IN AREAS WHERE UNOBSTRUCTED ACCESS TO BOX OR OUTLET IS NOT POSSIBLE.
42. AT ALL EMPTY CONDUITS PROVIDE BUSHINGS AT ENDS AND DRAG WIRES.
43. ELECTRICAL CONTRACTOR SHALL PROVIDE AN ELECTRICAL INSPECTION APPROVAL CERTIFICATE TO OWNER UPON COMPLETION OF WORK.
44. CIRCUIT ASSIGNMENTS FOR, RECEPTACLES, WIRING DEVICES, AND ELECTRICAL EQUIPMENT ARE DESIGNATED BY THE NUMBER SHOWN ADJACENT TO THESE DEVICES / EQUIPMENT. PROVIDE CONDUITS, WIRES AND BOXES REQUIRED TO ENERGIZE THE EQUIPMENT AS SHOWN.
45. CIRCUIT NUMBERS ARE FOR REFERENCE ONLY. CIRCUIT NUMBERS ARE INTENDED TO BE USED FOR QUANTITIES AND FOR DESIGNATING WHAT OUTLETS (FIXTURES, EQUIPMENT, ETC.) WILL BE ON THE SAME CIRCUIT. CONTRACTOR SHALL REARRANGE CIRCUITS PER FIELD CONDITIONS SO THAT LOAD VALUES FOR EACH PHASE DO NOT EXCEED CODE REQUIREMENTS AND TO BALANCE THE LOADS AT THE PANELS PER SPECIFICATIONS. THE ELECTRICAL CONTRACTOR SHALL PROVIDE CIRCUITS WITH PROPER PHASE SEQUENCES FOR EVERY REQUIRED NEUTRAL WIRE THAT IS SHARED. ELECTRICAL CONTRACTOR SHALL DOCUMENT ALL AFFECTED CIRCUITS, LABEL EACH OUTLET COVER WITH ACTUAL PANEL DESIGNATION AND CIRCUIT NUMBER, AND PROVIDE AS-BUILT PANEL DIRECTORIES AND DRAWINGS PER SPECIFICATIONS.
46. ALL WORK SHALL COMPLY WITH REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, LOCAL BUILDING CODE AND BUILDING MANAGEMENT RULES AND REGULATIONS.

EVgo FAST CHARGING

OWL eMobility

WISCONSIN PROFESSIONAL ENGINEER
PHILLIP J JAMINET
E-48131
YOUNGSTOWN
STATE OF OHIO

P78149 - PILOT TRAVEL CENTER 324
ELECTRIC VEHICLE CHARGING
13712 NORTHWESTERN AVENUE
FRANKSVILLE, WI 53126

NO.	DATE	REVISION DESCRIPTION
0	09/05/25	FOR REVIEW

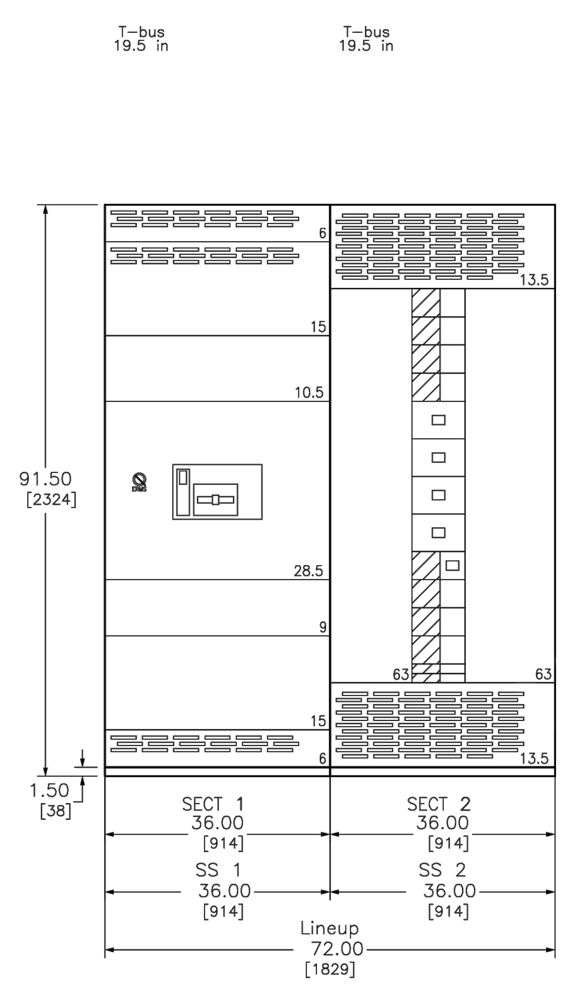
DATE 09/05/25

SHEET TITLE
ELECTRICAL GENERAL CONSTRUCTION NOTES

SHEET NUMBER
GN-1

EVgo FAST CHARGING

OWL eMobility



SWITCHBOARD GENERAL NOTES – SERIES 2

PRODUCT DESCRIPTION & RATINGS

Power System Data

480Y/277V 3Ph 4W 60Hz / 3 Phase Wye
Solidly Grounded
System Short Circuit Current Rating: 65kA RMS
Incoming Section 1 Cable Through the Bottom Left of Lineup

Bus System Data

2000A Tin/Aluminum & Silver/Copper Main Bus
(4) .25x2.00 IN/6x51 mm Al Bus Bar Per Phase
(2) .25x5.50 IN/6x140 mm Al Bus Bar Per Neutral
(1) .25x1.50 IN/6x38 mm Al Ground Bus

Enclosure Data

Type 3R Free Standing
Exterior Paint Color: ANSI 49
Front Accessibility Only Required
Handling: Rollers
Strip Heater w. Thermostat & Humidistat
Rodent barriers
1.5H Corrosion Resist Base Channels
Steel Bottom Closure Plate

Estimated Shipping Weight

Shipping Split 1 847.00 lbs / 384.20 kgs
Shipping Split 2 925.00 lbs / 419.58 kgs
Complete Lineup 1772.00 lbs / 803.78 kgs

Code Standards

U.L. Deadfront and suitable for use as Service Entrance when not more than six (6) disconnecting means are provided.

Rating Nameplates

ST1– Service Entrance – Section Bus 2000A
ST2– Deadfront – Section Bus 2000A

PRODUCT INFORMATION

Wiring

All wiring to be Machine Tool Wire type

Instruction Bulletins

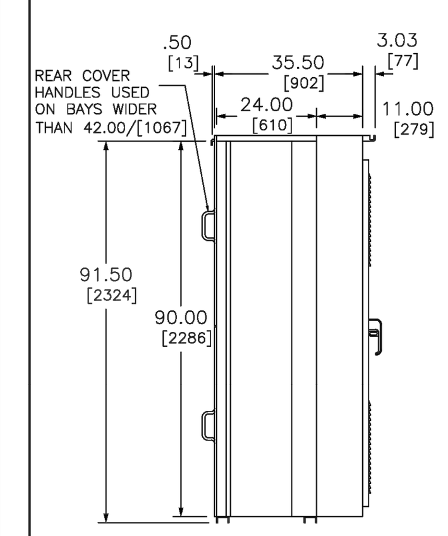
Reference 80043–055 For Handling, Installation, Anchoring, Inspection And Maintenance Information

Product Accessories/Options

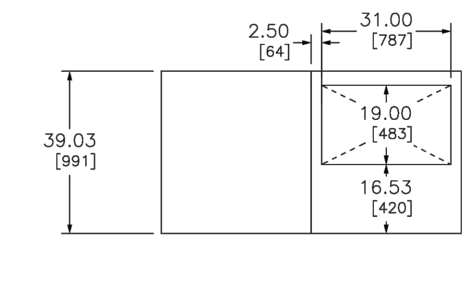
Seismic Qualified
24V Trip Unit Display Power
Locally Mounted ERMS Switch

DUAL DIMENSIONS: INCHES / MILLIMETERS

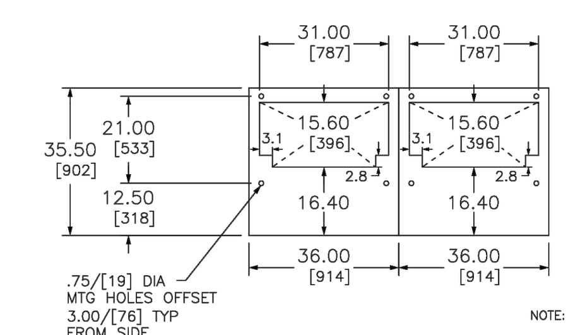
JOB NAME:	EVgo Switchboard Standardization	EQUIPMENT DESIGNATION:	2000A No UCT
JOB LOCATION:		EQUIPMENT TYPE:	QED–2 Switchboard
DRAWN BY:	(Q2C)	DRAWING TYPE:	GENERAL NOTES
ENGR:			SQUARE D by Schneider Electric
DATE:	March 28 2023		
DRAWING STATUS:	QUOTE	DWG# FQ–3923714–112456635–01	PG 1 OF 2 REV –



LEFT SIDE VIEW



TOP VIEW – FRONT



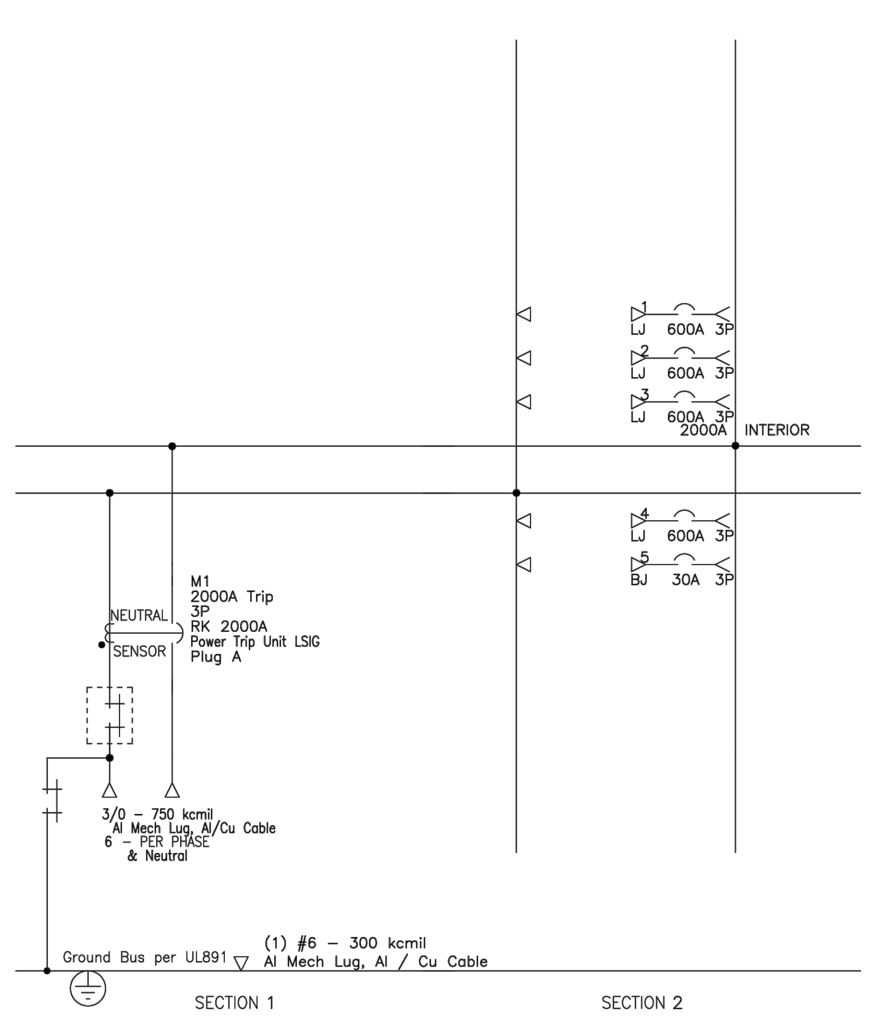
FLOOR PLAN – FRONT

NOTE: ALL DEVICES REQUIRING DRILLING OR INSERTION IN MOUNTING PAD SUCH AS CONDUIT, ANCHORING STUDS, SLEEVE INSERTS, ETC. SHOULD BE INSTALLED BEFORE SETTING EQUIPMENT IN PLACE.

NOTE:
A MINIMUM OF 2.00/[51] CLEARANCE BEHIND THE SWITCHBOARD IS REQUIRED FOR TOP COVER OVERHANG.

DUAL DIMENSIONS: INCHES / MILLIMETERS

JOB NAME:	EVgo Switchboard Standardization	EQUIPMENT DESIGNATION:	2000A No UCT
JOB LOCATION:		EQUIPMENT TYPE:	QED–2 Switchboard
DRAWN BY:	(Q2C)	DRAWING TYPE:	SIDE, TOP VIEW & FLOOR PLAN
ENGR:			SQUARE D by Schneider Electric
DATE:	March 28 2023		
DRAWING STATUS:	QUOTE	DWG# FQ–3923714–112456635–01	PG 2 OF 2 REV –



JOB NAME:	EVgo Switchboard Standardization	EQUIPMENT DESIGNATION:	2000A No UCT
JOB LOCATION:		EQUIPMENT TYPE:	QED–2 Switchboard
DRAWN BY:	(Q2C)	DRAWING TYPE:	ONE LINE
ENGR:			SQUARE D by Schneider Electric
DATE:	March 28 2023		
DRAWING STATUS:	QUOTE	DWG# OQ–3923714–112456635–01	PG 1 OF 2 REV –

POWER STYLE QED–2 SWITCHBOARD SERIES 2

SECT NO	CKT NO	IMD /GMD CONFIG	DEVICE/FRAME RATING	TRIP AMP	FUSE/ TRIP	#P	DESIGNATION	N/P	LUG/WIRE INFORMATION QTY	PHASE WIRE RANGE	QTY	NEUT WIRE RANGE	ACCESSORIES / NOTES
1	–	–	Strip Heater	–	–	–	–	–	–	–	–	–	SHR
1	M1	FIX	RK 2000A Plug A 100%	2000A	P–LSIG	3P		No	6	3/0 – 750 kcmil	6	3/0 – 750 kcmil	GF PLA,ERMS,TU
2	–	–	Strip Heater	–	–	–	–	–	–	–	–	–	SHR
2	1	6 in	LJ 600A	600A	S–LI	3P		No	2	4/0 – 500kcmil	2	4/0 – 500kcmil	
2	2	6 in	LJ 600A	600A	S–LI	3P		No	2	4/0 – 500kcmil	2	4/0 – 500kcmil	
2	3	6 in	LJ 600A	600A	S–LI	3P		No	2	4/0 – 500kcmil	2	4/0 – 500kcmil	
2	4	6 in	LJ 600A	600A	S–LI	3P		No	2	4/0 – 500kcmil	2	4/0 – 500kcmil	
2	5	4.5 in	BJ	30A	–	3P		No	1	#14 – 1/0 AWG	1	#14 – 1/0 AWG	

LEGEND	
ERMS	Energy Reduction Maintenance SW
GF	Ground Fault
PLA	Padlock Attachment–Fixed
SHR	Strip Heater
TU	24V Trip Unit Display Power

JOB NAME:	EVgo Switchboard Standardization	EQUIPMENT DESIGNATION:	2000A No UCT
JOB LOCATION:		EQUIPMENT TYPE:	QED–2 Switchboard
DRAWN BY:	(Q2C)	DRAWING TYPE:	SCHEDULE
ENGR:			SQUARE D by Schneider Electric
DATE:	March 28 2023		
DRAWING STATUS:	QUOTE	DWG# OQ–3923714–112456635–01	PG 2 OF 2 REV –

PHILLIP J JAMINET
E-48131
YOUNGSTOWN OH
WISCONSIN PROFESSIONAL ENGINEER

P78149 - PILOT TRAVEL CENTER 324
ELECTRIC VEHICLE CHARGING
13712 NORTHWESTERN AVENUE
FRANKSVILLE, WI 53126

NO.	DATE	REVISION DESCRIPTION
0	09/05/25	FOR REVIEW

DATE
09/05/25

SHEET TITLE
SWITCH BOARD CUT SHEETS

SHEET NUMBER
SW-1

LEGEND

- SITE BENCHMARK
- SANITARY MANHOLE
- SANITARY CLEANOUT
- STORM INLET (ROUND)
- STORM INLET (RECTANGLE)
- FIRE HYDRANT
- WATER VALVE
- LIGHT POLE
- ELECTRIC MANHOLE
- ELECTRIC TRANSFORMER
- TELEPHONE MANHOLE
- TELEPHONE VAULT
- TELEPHONE PEDESTAL
- GAS METER
- PETROLEUM VALVE
- PETROLEUM MANHOLE
- UNKNOWN MANHOLE
- HANDICAP PARKING
- TRAFFIC SIGN MAST
- WOODEN POST
- UNKNOWN MARKER
- CONIFEROUS TREE W/ DRIP LINE
- DECIDUOUS TREE W/ DRIP LINE
- SHRUB
- LS — LANDSCAPED AREA
- BOLLARD
- SIGN
- FENCE GATE
- ST — STORM LINE (UNDERGROUND)
- WL — WATER LINE (UNDERGROUND)
- UG — GAS LINE (UNDERGROUND)
- UP — PETROLEUM LINE (UNDERGROUND)
- UE — ELECTRIC LINE (UNDERGROUND)
- UT — TELEPHONE LINE (UNDERGROUND)
- WOOD FENCE
- HEDGE LINE
- CONCRETE AREA
- X — EXCEPTION NUMBER
- X — AREA OF CONCERN

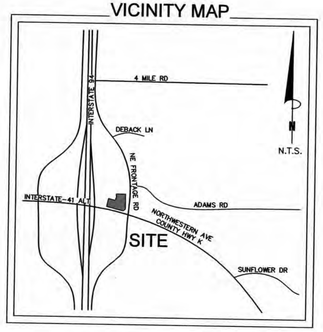
N

GRAPHIC SCALE

30 0 15 30

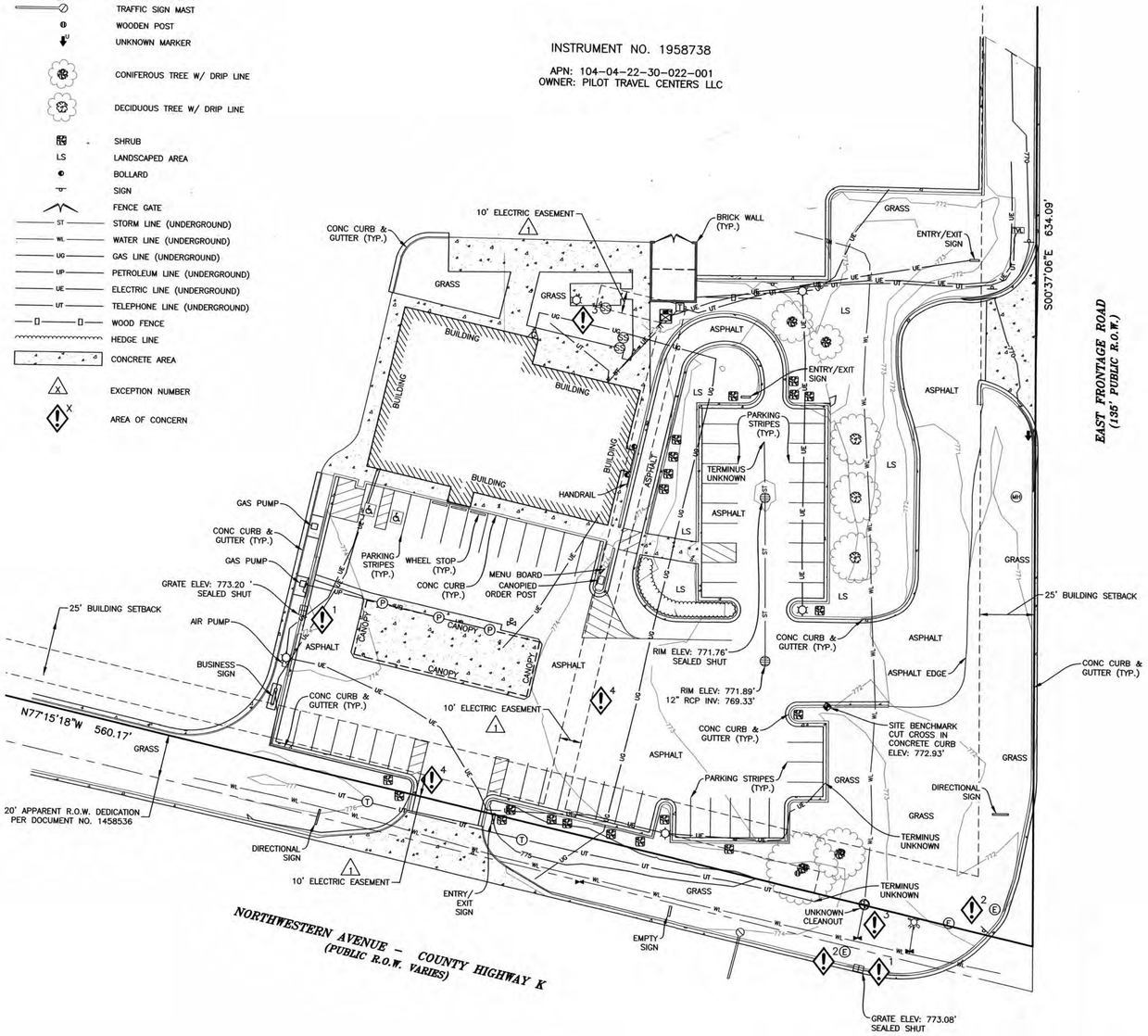
(IN FEET)
1 inch = 30 ft.

VICINITY MAP



INSTRUMENT NO. 1958738

APN: 104-04-22-30-022-001
OWNER: PILOT TRAVEL CENTERS LLC



LEGAL DESCRIPTION:

THE PARCEL DESCRIBED IN THAT WARRANTY DEED RECORDED ON MARCH 2, 2004 IN INSTRUMENT NO. 1958738 IN THE OFFICE OF THE COUNTY RECORDER OF THE RACINE COUNTY, WISCONSIN.

SCHEDULE B2 EXCEPTIONS:

Item No.

1. Subject to Easement, recorded in Instrument number 1458536 in the official records of the Racine County Recording Office.
   -IS LOCATED ON THE SURVEY AREA, AS SHOWN HEREON.
2. Subject to Revocable Occupancy Permit, recorded in Instrument number 1915453 in the official records of the Racine County Recording Office.
   -IS NOT LOCATED ON THE SURVEY AREA.
3. Subject to Agreement, recorded in Instrument number 1104147 in the official records of the Racine County Recording Office.
   -IS LOCATED ON THE SURVEY AREA, BLANKET IN NATURE.
4. Subject to Agreement, recorded in Instrument number 1105316 in the official records of the Racine County Recording Office.
   -IS LOCATED ON THE SURVEY AREA, BLANKET IN NATURE.
5. Subject to Plat Survey, recorded in Instrument number SM_13012 in the official records of the Racine County Recording Office.
   -IS LOCATED ON THE SURVEY AREA, BLANKET IN NATURE.
6. Subject to Plat Survey, recorded in Instrument number SM_14546 in the official records of the Racine County Recording Office.
   -IS LOCATED ON THE SURVEY AREA, BLANKET IN NATURE.
7. Subject to Plat Survey, recorded in Instrument number SM_28348 in the official records of the Racine County Recording Office
   -IS LOCATED ON THE SURVEY AREA, BLANKET IN NATURE.

Items not listed above are determined non-survey related items and are not plotted hereon.

NOTES:

1. This is a topographic map. This is not a boundary survey and is only intended to depict those topographic features or improvements shown. The property lines shown are for graphical reference only.
2. Any underground utilities shown have been located from field survey information. The surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the area, either in service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated although he does certify that they are located as accurately as possible from the information available. Public utility locate request was made under Ticket No. 20224404678 dated October 24, 2022. This site was located by standard RF and ground penetrating radar methods.
3. FEDERAL EMERGENCY MANAGEMENT AGENCY, FEMA FIRMette published September 7, 2022, referencing Flood Insurance Rate Map, Map Number 55101C0089D effective date May 2, 2012, indicates this survey area is located in Zone X (Area of minimal flood hazard).
4. This survey does not constitute a title search by Clark Land Surveying, Inc. to determine ownership or easements of record. For all information regarding easements, rights of way and title of record, Clark Land Surveying, Inc. relied upon a Search Report, prepared by Nationwide Abstrax, LLC with a file number of 2022-0136596-WI, dated August 16, 2022.
5. Elevations are based on NAVD 88 datum.
6. BENCHMARK: Cut cross in concrete curb, as shown. Elevation: 772.93' (NAVD 88).
7. BASIS OF BEARINGS: Grid north based upon Wisconsin State Plane Coordinate System, South Zone, NAD83.
8. Field work for this survey was completed on November 4, 2022.
9. The owner names and tax parcel data shown hereon are based upon the public records available at the original date of this survey. Current ownership and tax parcel data should be verified for accuracy.
10. This site is zoned "B-3" (Commercial Service District) per Village of Caledonia Planning and Zoning Department.
    Building Setbacks:
    Shore: 75'
    Street: 25'
    Side: 10'
    Rear: 25'
    No zoning information provided by the client. Any Zoning setbacks shown hereon are the interpretation of the surveyor. For clarification of exact zoning designations and setback locations, please, contact the Village of Caledonia Planning and Zoning Department at 262-835-6446.

AREAS OF CONCERN:

1. Unable to locate underground storm lines in these areas.
2. Unable to locate underground electric lines in these areas.
3. Unable to locate underground sanitary lines in this area.
4. Unable to locate underground electric lines within these easements.

Surveyor can revise underground utilities' locations shown hereon, if provided with as-built drawings or utility maps.

SURVEYOR'S STATEMENT:

On the basis of my knowledge, information and belief, I hereby state and declare that this drawing was prepared under my direct supervision to the standard of care of surveyors practicing in the State of Wisconsin and that the information shown hereon is true and correct to the best of my knowledge and belief.

This statement is neither a warranty nor a guarantee, either expressed or implied.

WISCONSIN
KEVIN C. LEWIS
S-2775
UNION GROVE, WIS.
LAND SURVEYOR

Kevin C. Lewis
Wisconsin Professional Land Surveyor No. 2775
For and on behalf of Clark Land Surveying, Inc.

Clark Land Surveying, Inc
177 S. Tiffany Dr. ● Pueblo West, Co. 81007 ● 719.633.8533
www.clarkls.com

Revisions			
No.	Description	By	Date

SITE NAME:
P78149 - Pilot Travel Center #324

ENGINEERING DESIGN SURVEY

A PORTION OF THE WEST 1/2 OF SECTION 30, TOWNSHIP 4 NORTH, RANGE 22 EAST, FOURTH P.M., VILLAGE OF CALEDONIA, RACINE COUNTY, STATE OF WISCONSIN.

Project No. 222218

Drawn By: FSN
Checked By: KCL

Date: 11/15/2022
Sheet 1 of 1