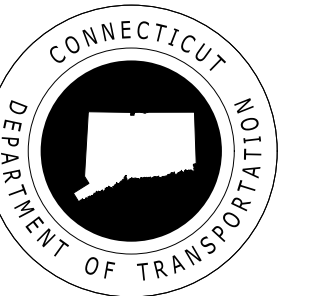
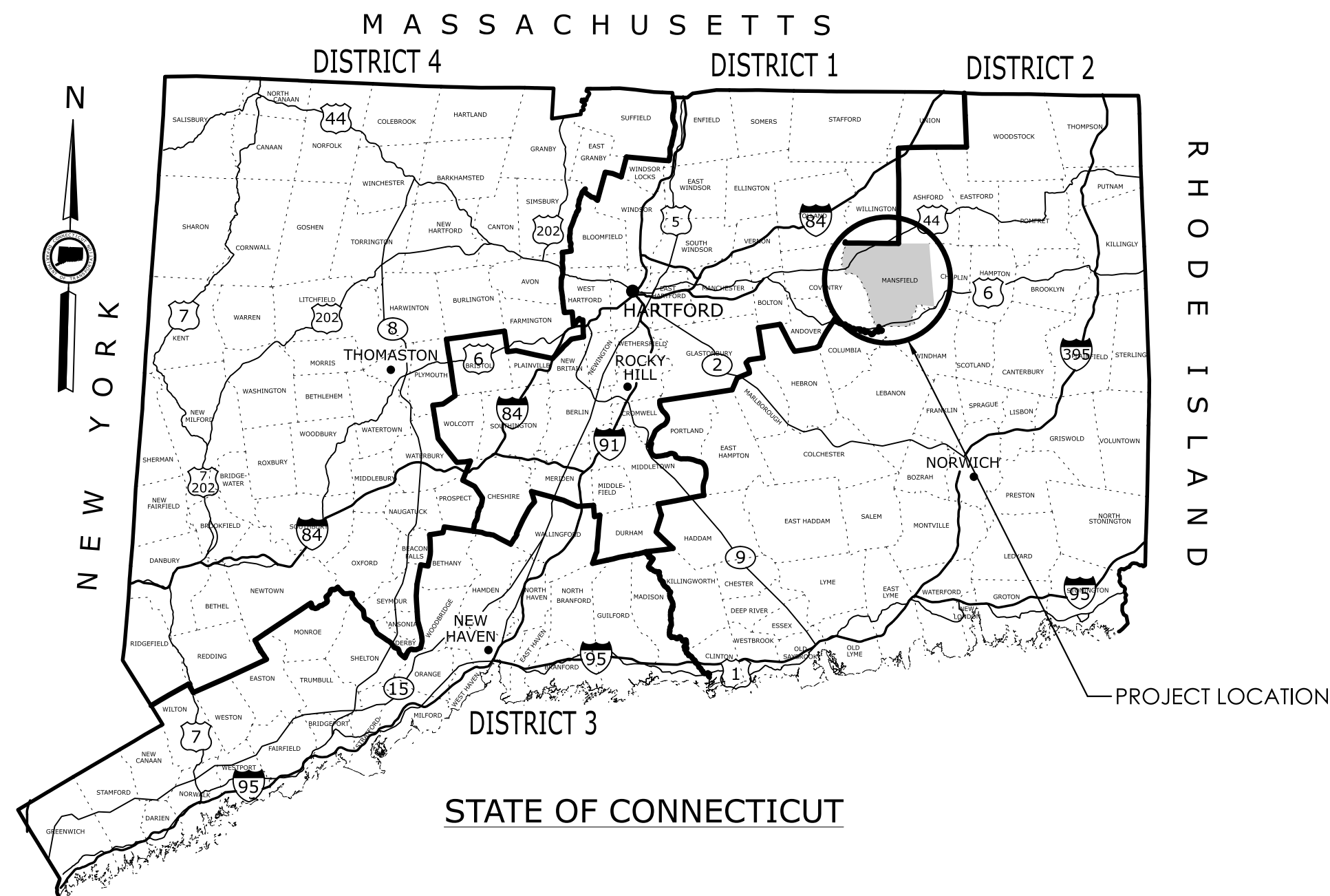


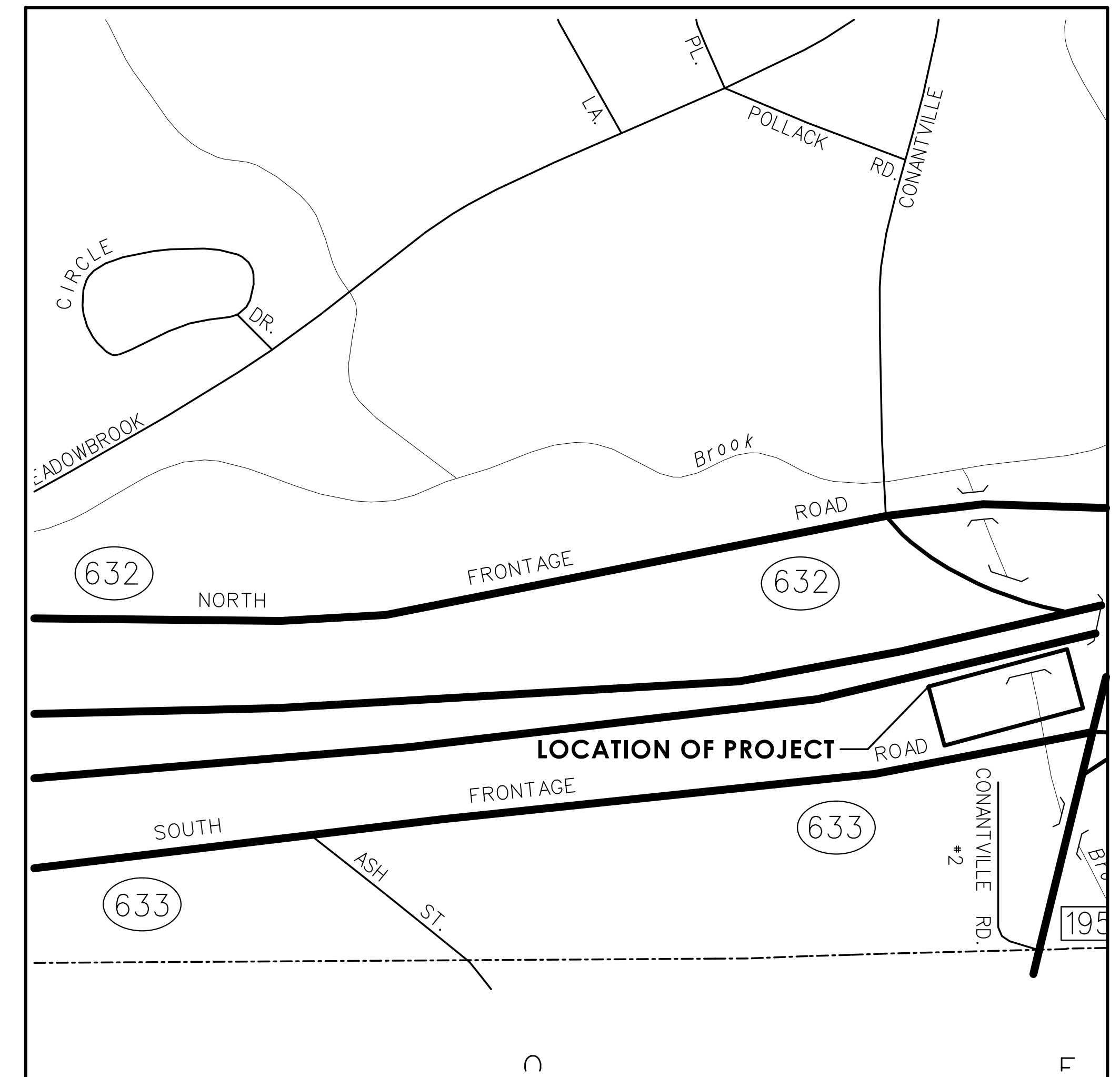
# CONNECTICUT DEPARTMENT OF TRANSPORTATION



## Plans For WRTD 2 BEB - ELECTRICAL



Town(s)/City of  
**MANSFIELD**



LOCATION PLAN  
NOT TO SCALE

**GENERAL NOTES:**

1. FEDERAL AID PROJECT NO. N/A
2. CONSTRUCTION SPECIFICATIONS:  
Connecticut Department of Transportation, Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, Form 818 dated 2020; Supplemental Specifications, dated July 2023; and Special Provisions
3. 400 FOOT GRID BASED ON CONNECTICUT COORDINATE SYSTEM N.A.D. 1983
4. VERTICAL DATUM BASED ON NAVD 1988
5. Surveyed By: CTDOT District 3 Surveys

**LIST OF SUBSETS**

SUBSET NO.	SUBSET TITLE	*SUBSET SHEET COUNT
01	GENERAL	1
02	ELECTRICAL	12

**LIST OF DRAWINGS  
SUBSET 01 - GENERAL**

DRAWING TITLE	DRAWING NO.
TITLE SHEET	TSH-01

**STANDARD CONVENTIONS**

Grid Arrow	Chain Link Fence	Riprap	Under Ground Power Line
North Arrow W/No. Coord.	Rustic Fence	Hedge Row	Over Head Power Line
Edge of Road	Pipe Fence	Tree Line	Railroad Tracks
Concrete Pavement	Board Fence	Ledge Outcrop	State Line
Dirt Road	Retaining Wall	Stone Wall	Property Line
B.C.P.C.	Water Edge	Shrub	Lot Line
Granite Curb	Stream	Evergreen Tree	Easement Line
Guide Rail	Ditch	Deciduous Tree	Town Line
Concrete Median Barrier	Limit of Marsh	Inland Wetland Limits	Highway Line
Bit. Walk	Swamp	Building	Street Line
Conc. Sidewalk	Transmission Tower		

DESIGNED BY:

100 Great Meadow Road  
Suite 200  
Wethersfield, CT 06109  
P: 860.807.4300  
F: 860.372.4570

Plans For  
WRTD 2 BEB - ELECTRICAL

Town(s)/City  
**MANSFIELD**

STATE PROJECT NO.  
**0474-0095**

DRAWING NO.  
TSH-01  
SHEET NO.  
1

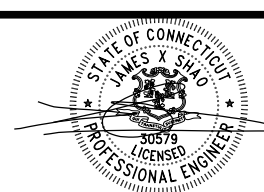
**02 - ELECTRICAL  
INDEX OF DRAWINGS**

DRAWING NUMBER	DRAWING TITLE
INX-01	INDEX OF DRAWINGS
E-01	SYMBOLS, ABBREVIATIONS, AND ELECTRICAL SPECIFICATIONS
E-02	EXISTING BLOCK HEATERS CABLE ROUTING PLAN
E-03	EXISTING BLOCK HEATERS SINGLE LINE DIAGRAM
E-04	EXISTING BLOCK HEATERS PANEL SCHEDULE
E-05	PROPOSED EV BUS CHARGING SITE PLAN
E-06	PROPOSED TEMPORARY EV PLUG SINGLE LINE DIAGRAM
E-07	PROPOSED EV1 PANEL SCHEDULE
E-08	PROPOSED BLOCK HEATERS SINGLE LINE DIAGRAM
E-09	PROPOSED BLOCK HEATERS PANEL SCHEDULE
E-10	EV INSTALLATION DETAILS SHEET 1 OF 2
E-11	EV INSTALLATION DETAILS SHEET 2 OF 2

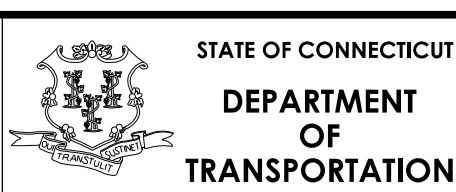
REV.	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: Y. LI CHECKED BY: C. SULLIVAN

SIGNATURE/  
BLOCK:



100 Great Meadow Road  
Suite 200  
Wethersfield, CT 06109  
P: 860.807.4300  
F: 860.372.4570



PROJECT NUMBER: 0474-0095  
PROJECT DESCRIPTION: WRTD 2 BEB - ELECTRICAL  
TOWN(S): WINDHAM  
DRAWING TITLE: INDEX OF DRAWINGS

DRAWING NO.  
INX-01  
SHEET NO.  
2

**POWER SYMBOLS**

- CONDUIT RUN EXPOSED
- CONDUIT RUN CONCEALED IN CEILING OR WALL OR UNDERGROUND
- CONDUIT TURNING UP
- CONDUIT TURNING DOWN
- CONDUIT "TEE" FITTING
- HOMERUN, LP1-3, DENOTES LIGHTING PANEL NO.1, CIRCUIT \*3
- UNFUSED DISCONNECT SWITCH RATINGS AS SHOWN ON DWGS.
- 120/240 V POWER/LIGHTING PANEL PP/LP-X DENOTES PANEL NAME AND NUMBER
- GROUND FAULT INTERRUPTER, DUPLEX RECEPTACLE, 20A, 125V, 42" AFF OR ABOVE COUNTER
- JUNCTION BOX
- PULL BOX

**ONE LINE DIAGRAM SYMBOLS**

- MODELED CASE CIRCUIT BREAKER  
AF - AMPERE FRAME  
AT - AMPERE TRIP  
3P - THREE POLE
- DISCONNECT SWITCH
- FUSE
- METER
- GROUND CONNECTION
- CT CABINET
- UTILITY POLE

**ABBREVIATIONS**

- A AMPERE
- AIC AMPERES INTERRUPTING CAPACITY
- AWG AMERICAN WIRE GAUGE
- BHP BUS HEATER PANEL BREAKER
- BRK BREAKER
- C CONDUIT
- CB CIRCUIT BREAKER
- CKT CIRCUIT
- CONTR CONTRACTOR
- DISC DISCONNECT SWITCH
- DWG. DRAWING
- E.C. EMPTY CONDUIT
- ELECT ELECTRIC OR ELECTRICAL
- FIXT. FIXTURE
- G/GNDR GROUND
- GFI GROUND FAULT INTERRUPTER
- JB JUNCTION BOX
- KVA KILOVOLT AMPERE
- KW KILOWATTS
- MCB MAIN CIRCUIT BREAKER
- MTG MOUNTING
- MTD MOUNTED
- NEC NATIONAL ELECTRICAL CODE
- NTS NOT TO SCALE
- OFFC OFFICE
- P POLE
- PP POWER PANEL
- PWR POWER
- QTY QUANTITY
- RECEPT RECEPTACLE
- S/N SOLID NEUTRAL
- SW SWITCH
- TEMP TEMPORARY
- TYP. TYPICAL
- 2P 2 POLE
- 3P 3 POLE
- U.O.N. UNLESS NOTED OTHERWISE
- V VOLT
- V.A. VOLT AMPERES
- W WATT OR WIRE
- WP WEATHER PROOF

**ELECTRICAL SPECIFICATIONS**

**GENERAL**

- THE ELECTRICAL CONTRACTOR REFERRED TO HEARAFTER AS THE CONTRACTOR SHALL PROVIDE COMPLETE ELECTRICAL SYSTEMS AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN.
- CONTRACTOR SHALL PROVIDE PROTECTIVE DEVICES, CONDUCTORS, SUPPORTS, RACEWAYS, AND MISCELLANEOUS MATERIALS TO SERVE ALL DEVICES REQUIRING ELECTRICAL POWER.
- CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS REQUIRED TO COMMENCE AND COMPLETE ELECTRICAL WORK.
- CONTRACTOR SHALL CONDUCT A THOROUGH SITE INSPECTION TO FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS AND ALL ASPECTS OF HIS SCOPE OF WORK.
- THE CONTRACTOR SHALL PROVIDE, DROP CLOTH, RUBBER MATS, AND PLYWOOD COVERS FOR OWNER'S EQUIPMENT SUSCEPTIBLE TO DAMAGE DURING CONSTRUCTION. VERY SPECIFIC LOCATIONS WITH OWNER'S REPRESENTATIVE.
- ALL WORK SHALL BE PERFORMED DURING PERIODS ACCEPTABLE TO THE OWNER.
- AT PROJECT COMPLETION, THE CONTRACTOR SHALL INSURE THAT ALL ELECTRICAL SYSTEMS OPERATE PROPERLY. CONTRACTOR SHALL DEMONSTRATE OPERATION OF EACH SYSTEM WITH THE OWNER'S REPRESENTATIVE.
- CONTRACTOR SHALL KEEP THE WORK AREA CLEAN & FREE OF DUST AT ALL TIMES DURING CONSTRUCTION.
- CONTRACTOR SHALL, EACH DAY AND AT THE CONCLUSION OF WORK, REMOVE ALL WASTE, DIRT AND DEBRIS RESULTING FROM THE WORK PERFORMED. SUCH MATERIAL SHALL BE REMOVED FROM THE PROPERTY & DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL NOT LEAVE ANY SECURITY DOOR, GATE, OR OPENING UNSECURED AT ANY TIME WHEN SUCH AREA IS NOT DIRECTLY ATTENDED.
- CONTRACTOR SHALL COMMISSION A THIRD PARTY ELECTRICAL INSPECTOR TO INSPECT ALL ELECTRICAL WORK. ALL COST SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.

**CODES AND STANDARDS**

- ELECTRICAL WORK SHALL COMPLY WITH THE LATEST EDITION OF:
  - NFPA 70 (NATIONAL ELECTRICAL CODE)
  - STATE OF CONNECTICUT BUILDING CODES
  - CODES SPECIFIC TO OTHER SECTIONS HEREIN
- ELECTRICAL WORK SHALL COMPLY WITH ALL LOCAL AND STATE ELECTRICAL CODES AND IN ACCORDANCE WITH REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION (AHJ).

**QUALITY**

- WORKMANSHIP SHALL BE HIGH QUALITY AND FOLLOW INDUSTRY STANDARDS. SUBSTANDARD WORK WILL BE REJECTED. THE CONTRACTOR IS RESPONSIBLE FOR REPAIR AND REWORK TO RECTIFY SUBSTANDARD WORK. QUALITY OF WORK SHALL BE DETERMINED BY THE OWNER'S REPRESENTATIVE AND/OR ENGINEER OR RECORD.

**INTERFERENCES**

- PLANS ARE GENERALLY DIAGRAMMATIC. THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES SO THAT INTERFERENCES BETWEEN CONDUITS, PIPING, EQUIPMENT, DUCTS, AND STRUCTURAL WORK WILL BE AVOIDED. IN SUCH CASE THE CONTRACTOR FAILS TO COORDINATE WITH OTHER TRADES AND INTERFERENCES ARE ALLOWED TO DEVELOP. CTDOT PROJECT MANAGER WILL DECIDE WHICH EQUIPMENT, DUCT, CONDUIT, ECT. MUST BE RELOCATED, REGARDLESS OF WHICH WAS INSTALLED FIRST WITH NO COST TO CTDOT.

**MATERIALS**

- ALL ELECTRICAL EQUIPMENT & MATERIALS SHALL BE APPROVED BY UNDERWRITERS LABORATORY FOR THE APPLICATION & SHALL BEAR A UL LABEL.
- ELECTRICAL ENCLOSURES SHALL BE NEMA RATED. UNLESS OTHERWISE NOTED, ENCLOSURE RATINGS SHALL ADHERE TO THE FOLLOWING:
  - NEMA 1 INDOOR
  - NEMA 3R OUTDOOR

**GUARANTEE**

- CONTRACTOR SHALL GUARANTEE ALL WORK FOR A PERIOD OF ONE YEAR FROM DATE OF OWNER'S ACCEPTANCE. THE CONTRACTOR SHALL RECTIFY ANY DEFECTS DUE TO FAULTY MATERIALS OR WORKMANSHIP AND PAY FOR DAMAGE CAUSED BY FAILURE AND REWORK. THE OWNER WILL GIVE NOTICE OF DEFECTS WITH REASONABLE PROMPTNESS AFTER DISCOVERY. THE CONTRACTOR SHALL START REWORK WITHIN (10) WORKING DAYS OF NOTIFICATION AND COMPLETE REPAIRS IN A TIMELY MANNER.

**IDENTIFICATION OF EQUIPMENT**

- LABEL ALL ELECTRICAL EQUIPMENT WITH ENGRAVED LAMINATED PLASTIC NAMEPLATE THAT CLEARLY DESCRIBES THE EQUIPMENT NAME, VOLTAGE, AMPERAGE RATING, AND FUNCTION. NAMEPLATES SHALL BE AS DETAILED ON DRAWINGS, OR SPECIFIED IN SPECIFICATIONS.
- INSTALL VINYL CLOTH SELF-ADHESIVE CIRCUIT LABELS ON ALL WIRE AND CABLE IN JUNCTION BOXES, WIRE TROUGHS, CONDUITS, AND PANELBOARD WIRING GUTTERS.
- IDENTIFY JUNCTION BOXES WITH PERMANENT MARKER INDICATING PANELBOARD AND CIRCUIT NUMBERS OF WIRING CONTAINED WITHIN.
- PROVIDE TYPEWRITTEN PANELBOARD DIRECTORIES WITH ACCURATE RECORD DOCUMENT INFORMATION. DIRECTORIES SHALL REFLECT TYPE OF LOAD AND AREA SERVED FOR EACH BREAKER.

**RACEWAYS AND FITTINGS**

- CONDUIT SHALL BE PROPERLY ALIGNED, GROUPED, AND SUPPORTED. EXPOSED CONDUIT SHALL BE INSTALLED AT RIGHT ANGLES TO OR PARALLEL TO THE PRINCIPAL STRUCTURAL MEMBERS. CONDUIT SHALL BE SUPPORTED AT INTERVALS NOT EXCEEDING 8 FEET.
- PROVIDE NYLON PULL CORD IN ALL EMPTY CONDUITS.
- ELECTRICAL METAL TUBING (EMT) SHALL BE USED FOR DRY INTERIOR INSTALLATIONS AND RGS FOR DAMP WET, OR EXTERIOR INSTALLATIONS. COUPLINGS AND CONNECTORS SHALL BE STEEL, COMPRESSION TYPE FOR STEEL EMT AND DIECAST ALUMINUM, LIQUID TIGHT, COMPRESSION TYPE FOR ALUMINUM EMT.
- FLEXIBLE METALLIC CONDUIT IN DAMP OR WET LOCATIONS SHALL BE UNDERWRITERS' APPROVED, GALVANIZED STEEL WITH MOISTURE PROOF PVC JACKET.
- GALVANIZED RIGID STEEL (RGS) CONDUIT SHALL BE UL APPROVED HOT DIPPED GALVANIZED. RGS CONDUIT COUPLINGS SHALL BE THREADED HEAVY WALL GALVANIZED STEEL. USE RGS CONDUIT FOR FEEDER RISERS 2" OR GREATER BETWEEN ELECTRICAL PANEL BOARDS, JUNCTION BOXES, OR METERS. USE 90 DEGREES RGS SWEEPS IN UNDERGROUND PVC CONDUIT RUNS LARGER THAN 2" IN DIAMETER. RGS SWEEPS SHALL HAVE A PVC-RGS COUPLER BETWEEN RGS BEND AND PVC VERTICAL STUB UP. PAINT ALL GALVANIZED RIGID CONDUITS INSTALLED BELOW GRADE WITH RUST INHIBITING PAINT.

**BOXES**

- BOXES SHALL BE RIGIDLY MOUNTED AND COVERED WITH MATCHING SCREW FASTEN PLATE. OPEN KNOCKOUTS OR HOLES IN BOXES SHALL BE PLUGGED WITH A SUITABLE BLANKING DEVICE.
- OUTLET BOXES FOR EXPOSED WALL MOUNTING AND OUTDOOR INSTALLATIONS SHALL BE CAST WITH SUITABLE GALVANIZED SHEET STEEL COVERS OR CAST METAL WEATHER PROOF OR VAPOR TIGHT COVERS WHEN NOTED ON DRAWINGS. WEATHER PROOF RECEPTACLE COVERS SHALL HAVE SPRING HINGE LIDS.

**SAFETY SWITCHES**

- CIRCUIT BREAKERS SHALL BE MOLDED PLASTIC CASE WITH QUICK-MAKE, QUICK-BREAK CONTACTS. BREAKERS SHALL HAVE THERMAL MAGNETIC TRIP UNITS. MULTI-POLE BREAKERS SHALL HAVE A FACTORY INSTALLED COMMON TRIP. THE BARS INSTALLED IN THE FIELD ARE NOT ACCEPTABLE.
- SAFETY SWITCH MECHANISMS SHALL BE HEAVY DUTY WITH QUICK-MAKE, QUICK-BREAK CONTACTS. COVER SHALL BE LOCKABLE AND INTERLOCKED WITH MECHANISM TO PREVENT OPENING WITH HANDLE IN THE "ON" POSITION. ALL ENCLOSURES SHALL BE PRIMED AND FINISHED TO RESIST RUSTING AND CORROSION. SWITCHES SHALL BE GENERAL ELECTRIC OR SQUARE D NEMA 3R ENCLOSURE.
- FUSES SHALL BE DUAL ELEMENT, CARTRIDGE TYPE. FUSES SHALL BE BUSMAN "FUSETRON" OR CHASE SHAWMUT "TRONIC". THE CONTRACTOR SHALL PROVIDE SIZES BASED ON EQUIPMENT NAMEPLATE DATA. CONTRACTOR SHALL FURNISH AS SPARE, A DUPLICATE CARTRIDGE FOR EACH FUSE INSTALLED.

**CONDUCTORS**

- UNLESS OTHERWISE INDICATED, BRANCH CIRCUIT CONDUCTORS SHALL BE SOLID NO. 12 AWG COPPER. BRANCH CIRCUITS RUN OVER 100 FEET IN LENGTH, MEASURING ONE WAY FROM THE FIRST OUTLET OF THE CIRCUIT TO THE PANEL, SHALL BE SOLID NO. 10 AWG COPPER FOR THE ENTIRE CIRCUIT.
- ALLOW SUFFICIENT CABLE SLACK IN BOXES, OUTLETS AND CABINETS TO MAKE CONNECTION.
- CONDUCTORS SHALL BE COPPER. UNLESS OTHERWISE NOTED, INSULATION SHALL BE DUAL TYPE THHN/THWN 90 DEGREES C. CONDUCTORS SHALL BE COLOR CODED IN ACCORDANCE WITH NFC 70. COLOR CODING SHALL BE BY MEANS OF COLORED INSULATING MATERIAL, COLORED BRAID JACKET OVER THE INSULATION OR BY MEANS OF SUITABLE COLORED, PERMANENT, NON-AGING, INSULATING TAPE APPLIED TO CONDUCTORS AT EACH CABINET OR JUNCTION POINT. THE FOLLOWING SYSTEM OF COLOR CODING SHALL BE ADHERED TO:
  - GROUND LEADS: GREEN
  - 120/240 NEUTRAL CONDUCTOR: WHITE
  - 120/240 VOLT, PHASE CONDUCTORS: BLACK, RED
  - 277/480 NEUTRAL CONDUCTOR: GREY
  - 277/480 VOLT, PHASE CONDUCTORS: BROWN, ORANGE, YELLOW
- THE COLOR CODE ASSIGNED TO EACH PHASE WIRE SHALL BE CONSISTENTLY FOLLOWED THROUGHOUT.

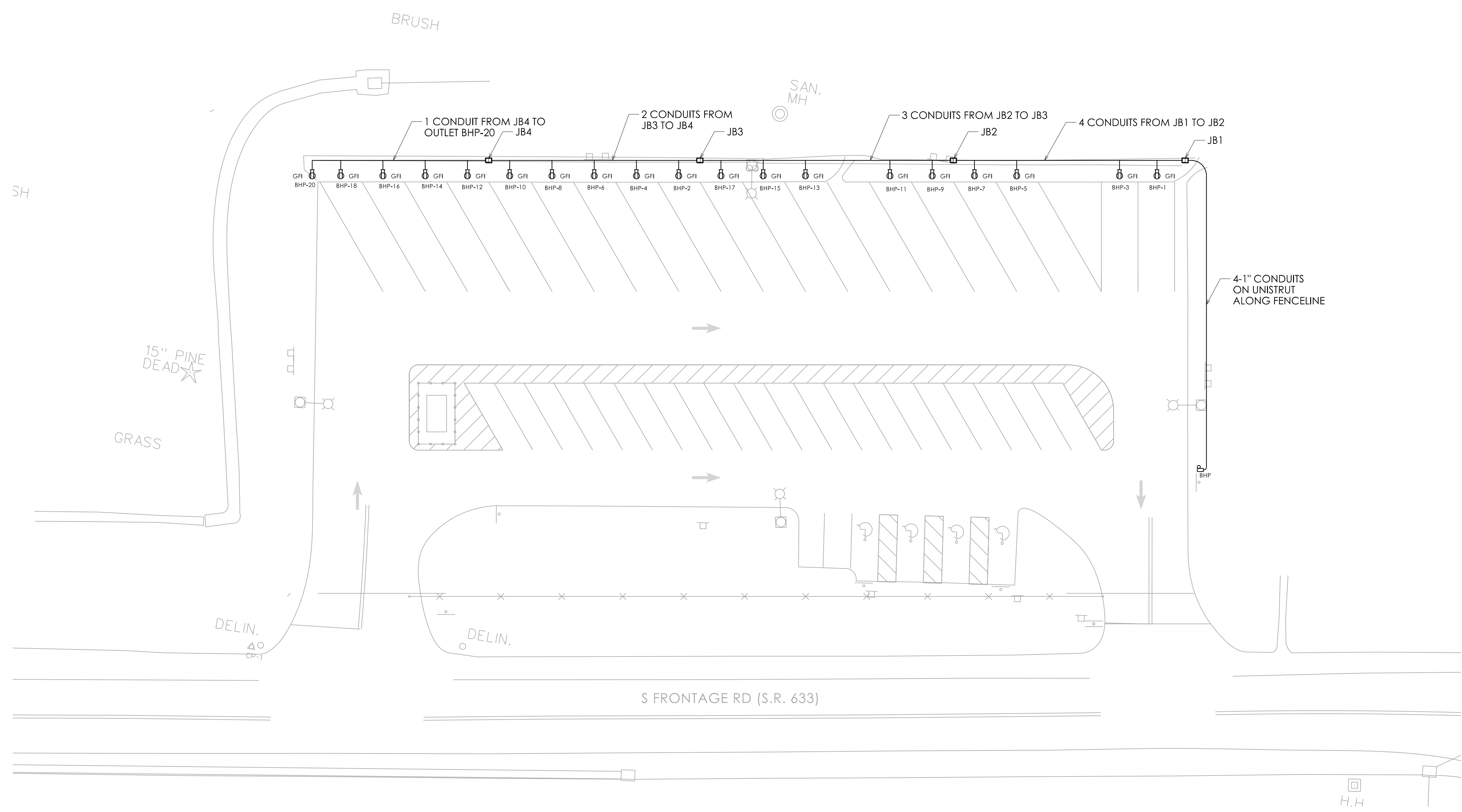
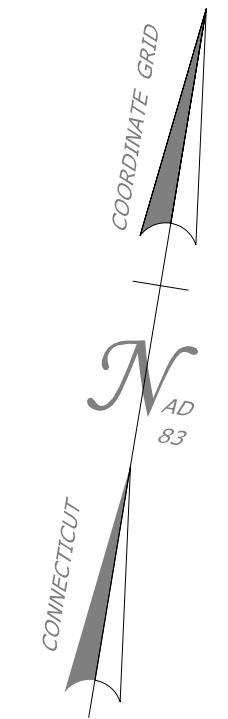
**GROUNDING**

- ALL INTERIOR ELECTRICAL SYSTEMS SHALL BE COMPLETELY AND EFFECTIVELY GROUNDED AS REQUIRED BY NFPA 70 AND AS SPECIFIED HEREIN.
- METALLIC RACEWAYS SHALL BE MECHANICALLY AND ELECTRICALLY SECURE AT ALL JOINTS AND AT ALL BOXES, CABINETS, FITTINGS, AND EQUIPMENT. METALLIC RACEWAYS SHALL BE CONNECTED TO A DIRECT GROUND AT POINT OF ELECTRICAL SERVICE ENTRANCE AND SHALL BE ELECTRICALLY CONTINUOUS THROUGHOUT THE ENTIRE SYSTEM.
- ALL GROUND CONDUCTORS SHALL BE INSULATED COPPER UNLESS OTHERWISE NOTED.
- ALL RACEWAYS SHALL BE PROVIDED WITH A PARITY SIZED GREEN EQUIPMENT GROUND CONDUCTOR. GROUND CONDUCTOR SHALL BE INSTALLED IN ENTIRE RACEWAY SYSTEM INCLUDING SWITCHES AND FIXTURES. EQUIPMENT GROUND CONDUCTOR SIZES FOR CIRCUITS WITH PHASE CONDUCTORS LARGER THAN NO. 12 AWG ARE INDICATED ON THE DRAWINGS.
- ALL EQUIPMENT GROUND CONDUCTORS SHALL BE TERMINATED WITH LUGS OR COMPRESSION TERMINALS. CONDUCTORS LOOPED UNDER SCREW OR BOLT HEADS WILL NOT BE PERMITTED.

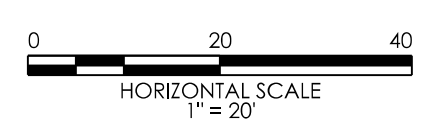
**GENERAL NOTES:**

- THE DRAWINGS ARE DIAGRAMMATIC & INDICATE GENERALLY THE LOCATIONS OF THE MATERIAL & EQUIPMENT. THESE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE.
- MINOR DETAILS NOT USUALLY SHOWN OR SPECIFIED, BUT NECESSARY FOR PROPER INSTALLATION & OPERATION, SHALL BE INCLUDED IN THE CONTRACTOR'S BID, THE SAME AS IF HEREIN SPECIFIED OR SHOWN.
- ALL MATERIAL & INSTALLATION SHALL BE IN ACCORDANCE WITH LATEST EDITION OF THE NATIONAL ELECTRIC CODE, LATEST EDITION OF LOCAL CODES & ORDINANCES.
- ALL CONDUITS ON EXPOSED WORK SHALL BE RUN AT RIGHT ANGLES AND PARALLEL. DIAGONAL RUNS WILL NOT BE ALLOWED. BENDS IN PARALLEL CONDUIT RUNS SHALL BE CONCENTRIC, ALL CONDUIT SHALL RUN PERFECTLY STRAIGHT & TRUE.
- CONTRACTOR SHALL PROVIDE INFORMATION LABELS ON ALL RECEPTACLES, PANELBOARDS, JUNCTION BOXES, WALL SWITCHES, & DISCONNECT SWITCHES. LABELS SHALL BE PHENALIC TYPE WITH BLACK BACKGROUND & WHITE ENGRAVED LETTERING. LABEL SHALL INDICATE CIRCUIT/FEEDER SOURCE & EQUIPMENT ID NAME.
- EXACT LOCATION OF ALL BEB CHARGING & ASSOCIATED ELECTRICAL EQUIPMENT SHALL BE FIELD VERIFIED WITH OWNER PRIOR TO CONSTRUCTION & COORDINATED WITH EXISTING MECHANICAL & ELECTRICAL EQUIPMENT.

REV.	DATE	REVISION DESCRIPTION



**1 EXISTING BLOCK HEATERS CABLE ROUTING PLAN**  
 SCALE: 1" = 20'

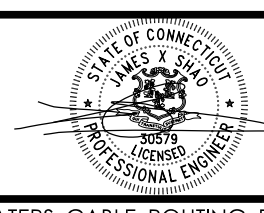


NOTES:  
 1. ALL ELECTRICAL INSTALLATIONS SHOWN ON THIS SHEET ARE EXISTING TO REMAIN.

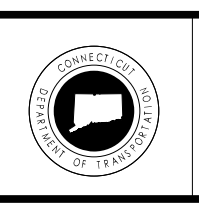
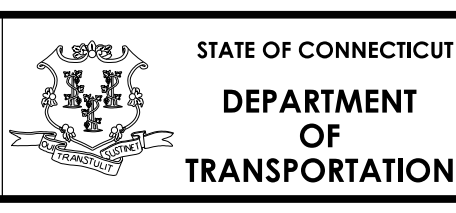
REV.	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: J. TROUT, CHECKED BY: J. SHAO  
 LASTED SAVED BY: jtrout FILE NAME: \\vhb.com\gb\proj\Wethersfield\43249.01 PT Support-TO\cad\A-pjrdwg\00.02 EXISTING\_BLOCK\_HEATERS\_CABLE\_ROUTING\_PLAN.dgn  
 PLOTTED DATE: 8/1/2024

SIGNATURE/  
 BLOCK:



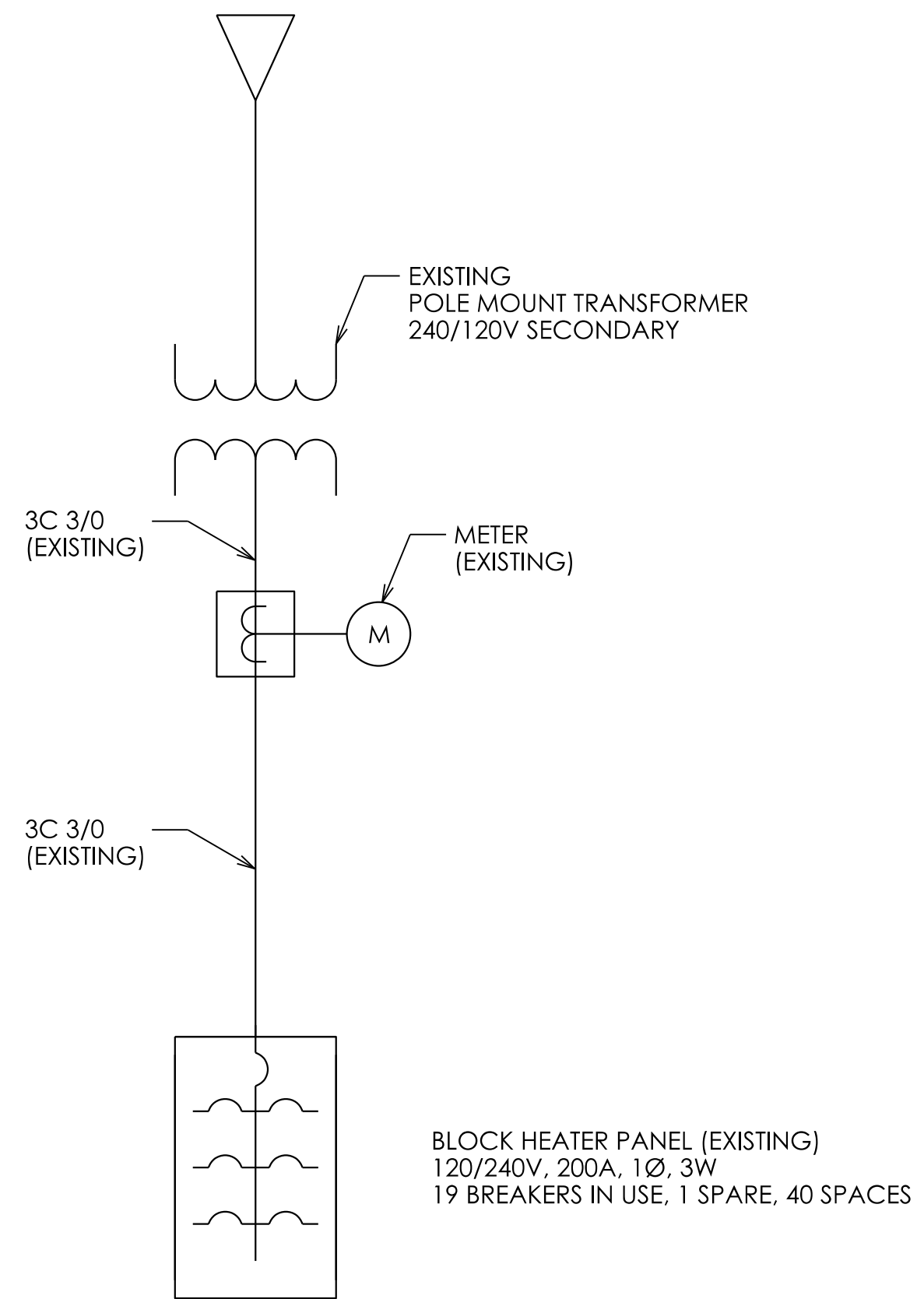
100 Great Meadow Road  
 Suite 200  
 Wethersfield, CT 06109  
 P: 860.807.4300  
 F: 860.372.4570



PROJECT NUMBER: 0474-0095  
 PROJECT DESCRIPTION: WRTD 2 BEB-ELECTRICAL  
 TOWN(S): MANSFIELD  
 DRAWING TITLE: EXISTING BLOCK HEATERS CABLE ROUTING PLAN

DRAWING NO. E-02  
 SHEET NO. 4

TO EXISTING OVERHEAD UTILITY SERVICE



**EXISTING BLOCK HEATERS-SINGLE LINE DIAGRAM**

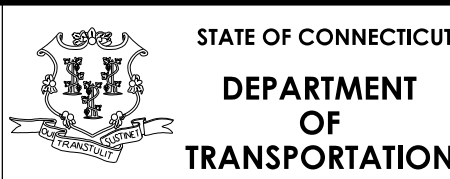
REV.	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: J. TROUT CHECKED BY: J. SHAO

SIGNATURE/  
BLOCK:



100 Great Meadow Road  
Suite 200  
Wethersfield, CT 06109  
P: 860.807.4300  
F: 860.372.4570



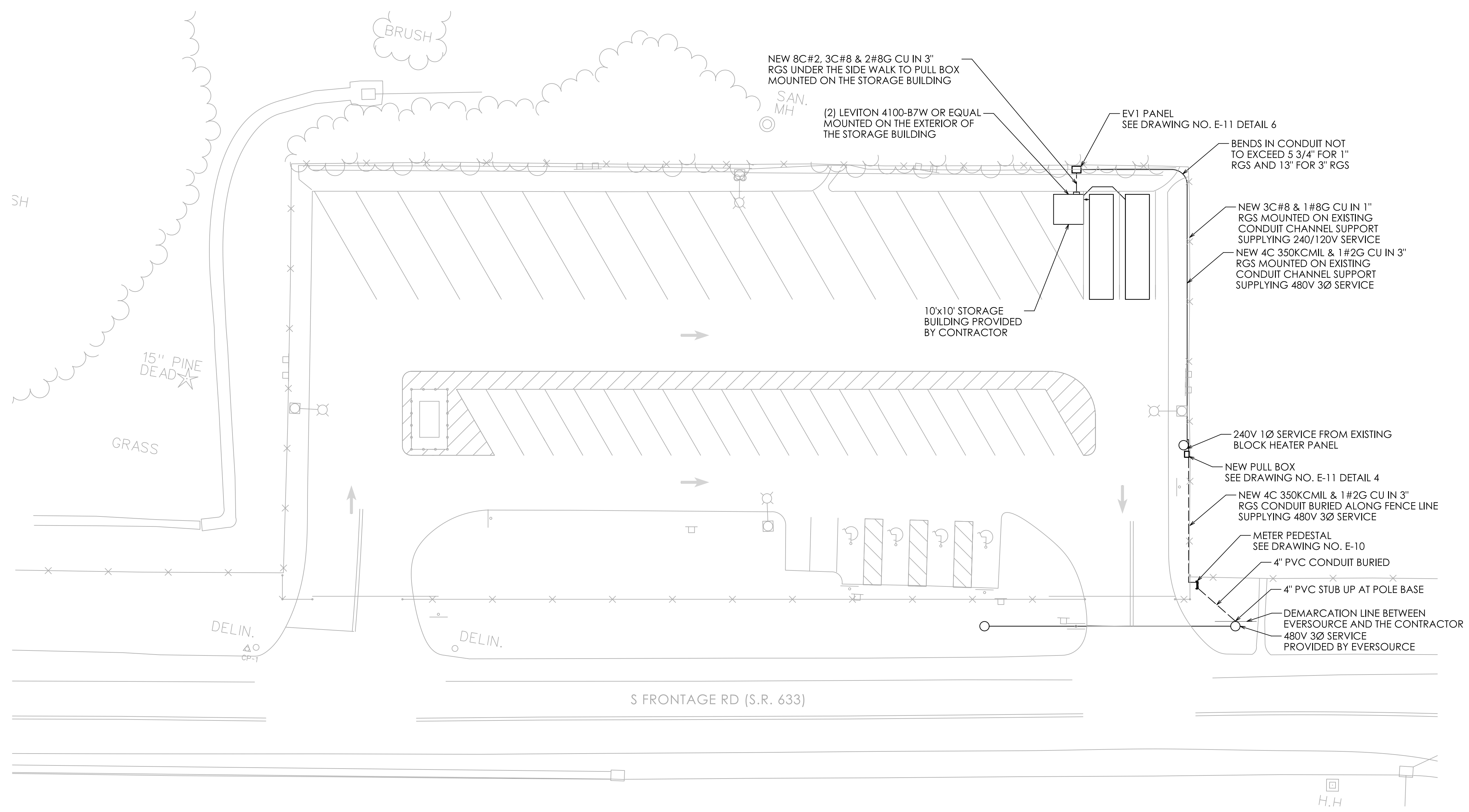
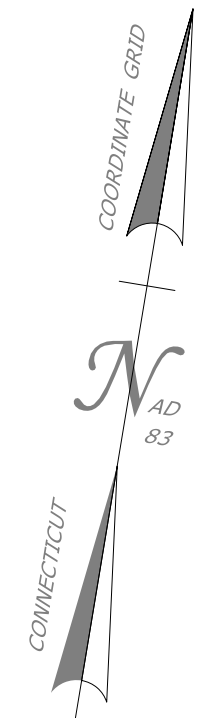
PROJECT NUMBER: 0474-0095  
PROJECT DESCRIPTION: WRTD 2 BEB-ELECTRICAL  
TOWN(S): MANSFIELD  
DRAWING TITLE: EXISTING BLOCK HEATERS SINGLE LINE DIAGRAM

DRAWING NO.  
E-03  
SHEET NO.  
5

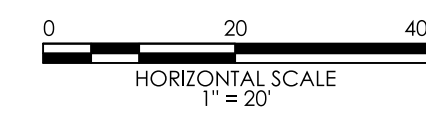
### EXISTING BLOCK HEATERS PANEL SCHEDULE

PANEL: BH PANEL TYPE: NEMA 3R PANEL RATING: 22,000 A/C (MIN.)					LOCATION: NEXT TO POLE MOUNT METER MAIN LUG: 225A PANEL MOUNTING: SURFACE								
DESCRIPTION	CONNECTED LOAD (KVA)		C.B.		CKT. NO.			CKT. NO.	C.B.		CONNECTED LOAD (KVA)		DESCRIPTION
	PH. A	PH. B	A	POLE					POLE	A	PH. A	PH. B	
OUTLET 1	1		20	1	1			2	1	20	1		OUTLET 2
OUTLET 3		1	20	1	3			4	1	20		1	OUTLET 4
OUTLET 5	1		20	1	5			6	1	20	1		OUTLET 6
OUTLET 7		1	20	1	7			8	1	20		1	OUTLET 8
OUTLET 9	1		20	1	9			10	1	20	1		OUTLET 10
OUTLET 11		1	20	1	11			12	1	20		1	OUTLET 12
OUTLET 13	1		20	1	13			14	1	20	1		OUTLET 14
OUTLET 15		1	20	1	15			16	1	20		1	OUTLET 16
OUTLET 17	1		20	1	17			18	1	20	1		OUTLET 18
SPACE			20	1	19			20	1	20		1	OUTLET 20
SPACE					21			22					SPACE
SPACE					23			24					SPACE
SPACE					25			26					SPACE
SPACE					27			28					SPACE
SPACE					29			30					SPACE
SPACE					31			32					SPACE
SPACE					33			34					SPACE
SPACE					35			36					SPACE
SPACE					37			38					SPACE
SPACE					39			40					SPACE
SUB-TOTAL					5	4			5	5			SUB-TOTAL

REV.	DATE	REVISION DESCRIPTION



**1 PROPOSED EV BUS CHARGING SITE PLAN**  
SCALE: 1" = 20'



NOTES:  
1. ALL OUTDOOR ELECTRICAL EQUIPMENT (SUPPLIED BY THE CONTRACTOR) - PANEL, DISCONNECT SWITCH, ETC., SHALL BE HOUSED IN NEMA-3R ENCLOSURE.

REV.	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: J. TROUT CHECKED BY: J. SHAO

SIGNATURE/BLOCK:

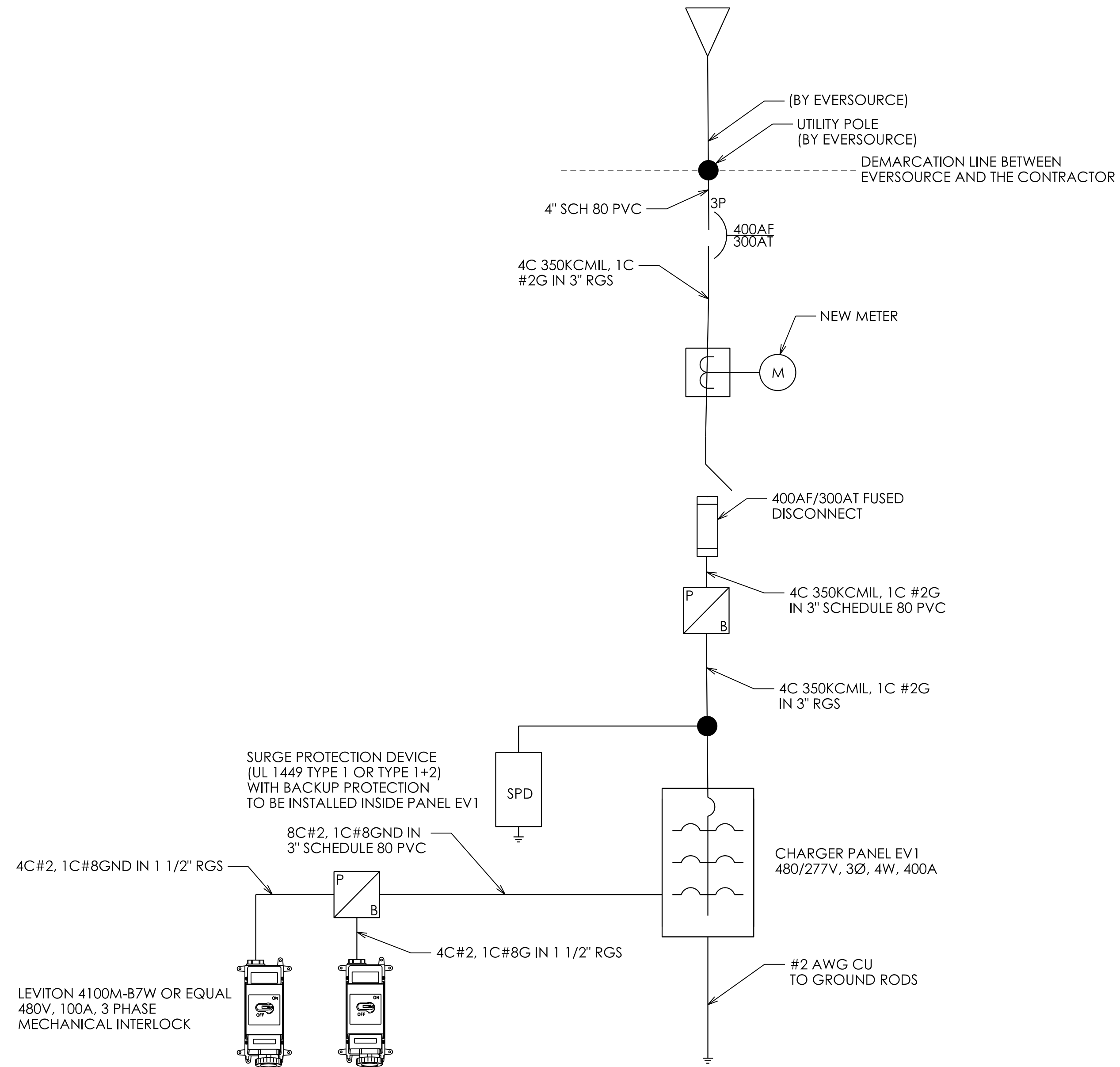
**vhb**  
100 Great Meadow Road  
Suite 200  
Wethersfield, CT 06109  
P: 860.807.4300  
F: 860.372.4570

STATE OF CONNECTICUT  
**DEPARTMENT OF TRANSPORTATION**

PROJECT NUMBER: 0474-0095  
PROJECT DESCRIPTION: WRTD 2 BEB-ELECTRICAL  
TOWN(S): MANSFIELD  
DRAWING TITLE: PROPOSED EV BUS CHARGING SITE PLAN

DRAWING NO. E-05  
SHEET NO. 7

480/277V 3 PHASE UTILITY SERVICE



**PROPOSED TEMPORARY EV PLUG-SINGLE LINE DIAGRAM**

REV.	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: J. TROUT, CHECKED BY: J. SHAO

SIGNATURE/BLOCK:

100 Great Meadow Road  
Suite 200  
Wethersfield, CT 06109  
P: 860.807.4300  
F: 860.372.4570

STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER: 0474-0095  
PROJECT DESCRIPTION: WRTD 2 BEB - ELECTRICAL  
TOWN(S): MANSFIELD  
DRAWING TITLE: PROPOSED TEMPORARY EV PLUG SINGLE LINE DIAGRAM

DRAWING NO. E-06  
SHEET NO. 8



### EV1 PANEL SCHEDULE

PANEL: EV1		VOLTAGE: 480/277		LOCATION: EXTERIOR	
ENCLOSURE: 3R		PHASES: 3		MAIN TYPE: MAIN BREAKER	
K.I.C RATING: 22KIC		WIRES: 4		MAIN RATING: 300A	

DESCRIPTION	CONNECTED LOAD (KVA)			C.B. A	C.B. POLE	CKT. NO.
	PH. A	PH. B	PH. C			
CHARGER PLUG 1	18.014			90	3	1
CHARGER PLUG 1		18.014				3
CHARGER PLUG 1			18.014			5
SPACE						7
SPACE						9
SPACE						11
SPACE						13
SPACE						15
SPACE						17
SUB-TOTAL	18.014	18.014	18.014			

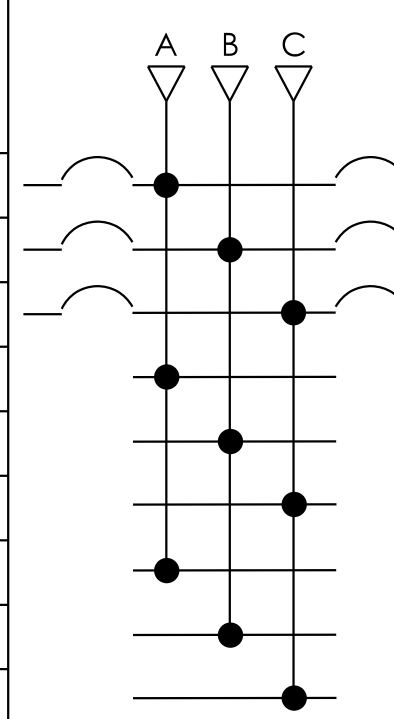
  

CKT. NO.	C.B. POLE	C.B. A	CONNECTED LOAD (KVA)			DESCRIPTION
			PH. A	PH. B	PH. C	
2			18.014			CHARGER PLUG 2
4	3	90		18.014		CHARGER PLUG 2
6					18.014	CHARGER PLUG 2
8						SPACE
10						SPACE
12						SPACE
14						SPACE
16						SPACE
18						SPACE
SUB-TOTAL			18.014	18.014	18.014	

S/N

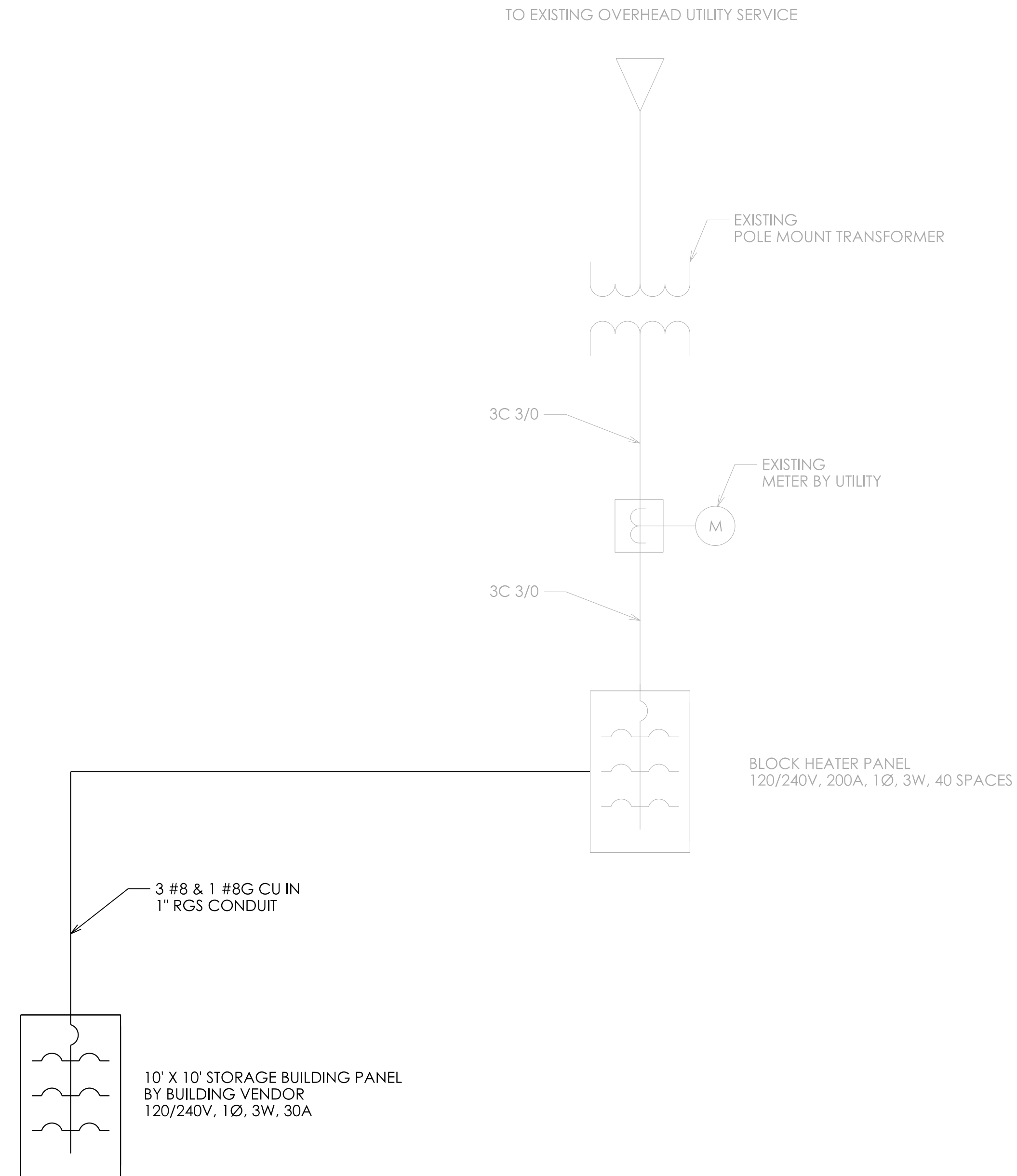
GND



REV.	DATE	REVISION DESCRIPTION

**LEGEND**

- EXISTING ELECTRICAL INSTALLATION
- NEW ELECTRICAL INSTALLATION



**POWER FOR TEMPORARY STORAGE BUILDING-SINGLE LINE DIAGRAM**

REV.	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: J. TROUT CHECKED BY: J. SHAO

SIGNATURE/  
BLOCK:

**vhb**  
100 Great Meadow Road  
Suite 200  
Wethersfield, CT 06109  
P: 860.807.4300  
F: 860.372.4570

STATE OF CONNECTICUT  
**DEPARTMENT OF TRANSPORTATION**

PROJECT NUMBER: 0474-0095  
PROJECT DESCRIPTION: WRTD 2 BEB-ELECTRICAL  
TOWN(S): MANSFIELD  
DRAWING TITLE: PROPOSED BLOCK HEATERS SINGLE LINE DIAGRAM

DRAWING NO.  
E-08  
SHEET NO.  
10

**LEGEND**

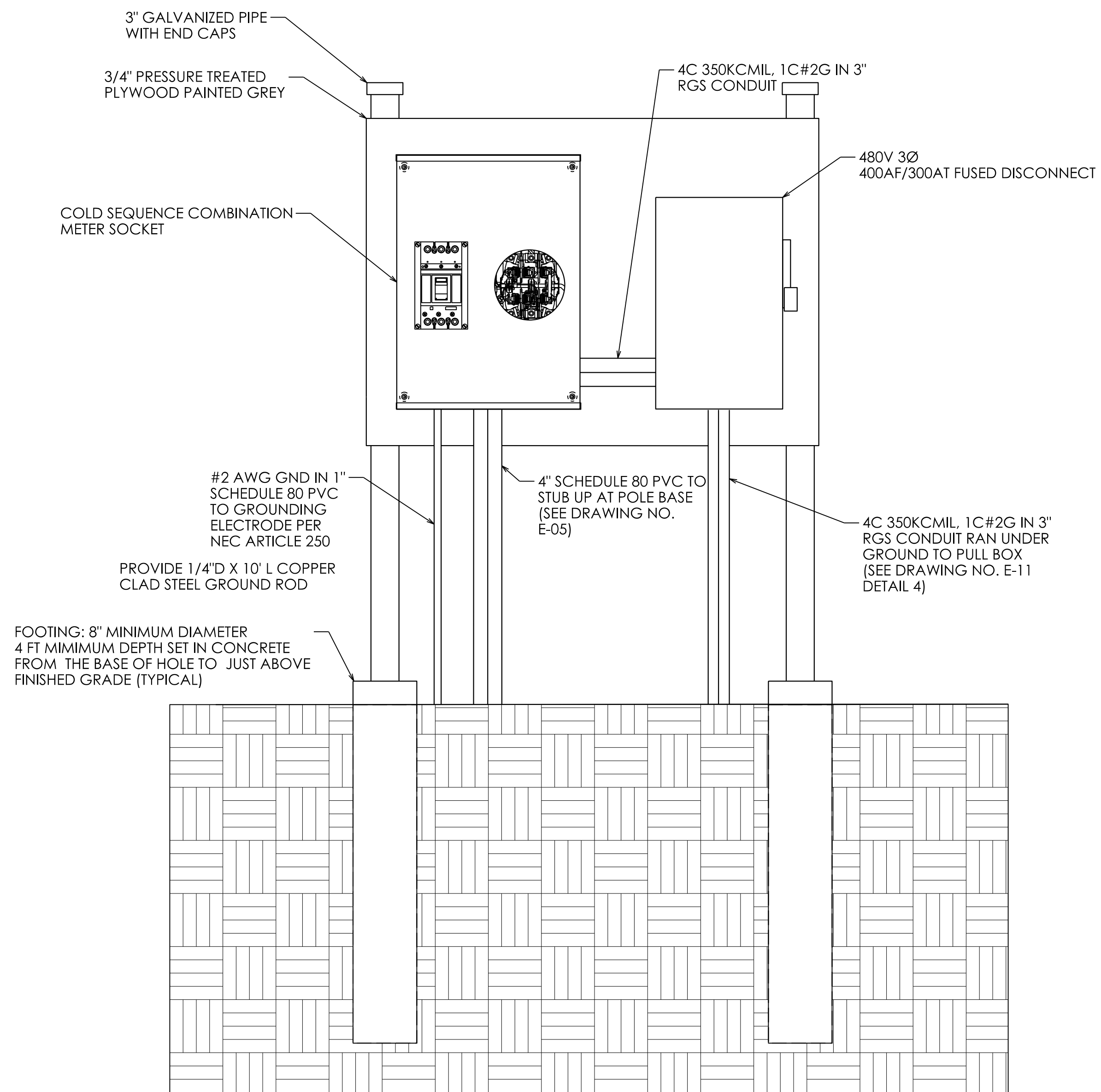
— EXISTING ELECTRICAL INSTALLATION  
 — NEW ELECTRICAL INSTALLATION

**PROPOSED BLOCK HEATERS PANEL SCHEDULE**

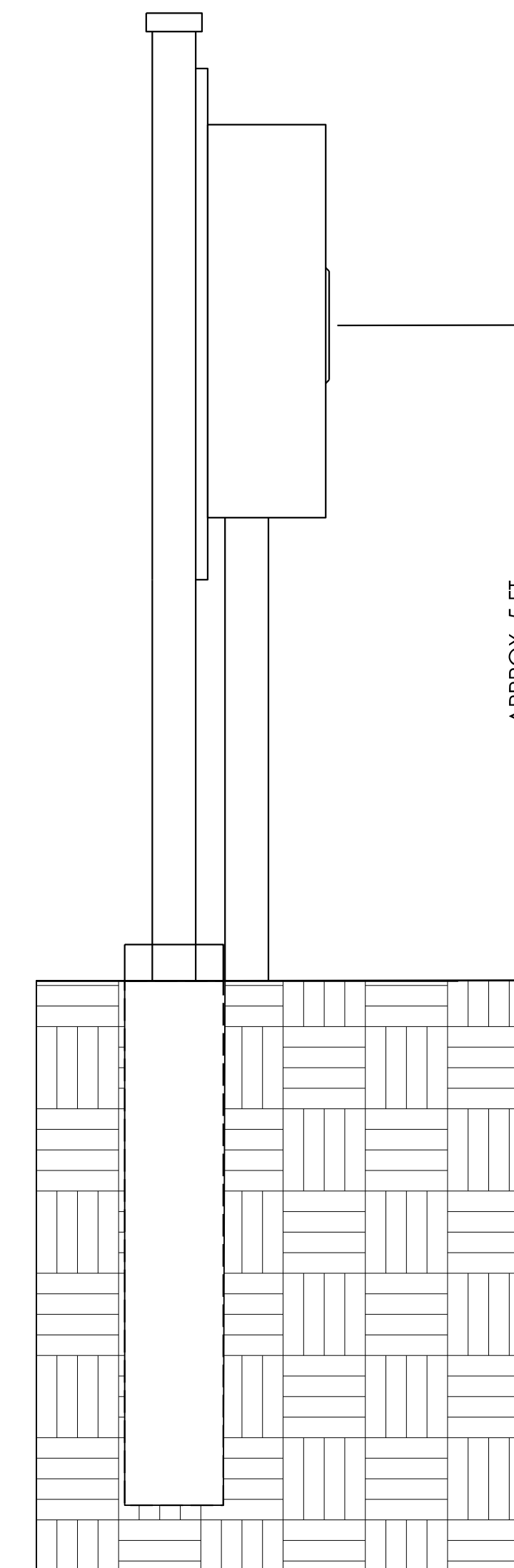
PANEL: BH (EXISTING) PANEL TYPE: NEMA 1 PANEL RATING: 22,000 A/C (MIN.)						LOCATION: NEXT TO POLE MOUNT METER MAIN LUG: 225A PANEL MOUNTING: SURFACE							
DESCRIPTION	CONNECTED LOAD (KVA)		C.B.		CKT. NO.	A	B	CKT. NO.	C.B.		CONNECTED LOAD (KVA)		DESCRIPTION
	PH. A	PH. B	A	POLE					POLE	A	PH. A	PH. B	
OUTLET 1	1		20	1	1			2	1	20	1		OUTLET 2
OUTLET 3		1	20	1	3			4	1	20		1	OUTLET 4
OUTLET 5	1		20	1	5			6	1	20	1		OUTLET 6
OUTLET 7		1	20	1	7			8	1	20		1	OUTLET 8
OUTLET 9	1		20	1	9			10	1	20	1		OUTLET 10
OUTLET 11		1	20	1	11			12	1	20		1	OUTLET 12
OUTLET 13	1		20	1	13			14	1	20	1		OUTLET 14
OUTLET 15		1	20	1	15			16	1	20		1	OUTLET 16
OUTLET 17	1		20	1	17			18	1	20	1		OUTLET 18
OUTLET 19		1	20	1	19			20	1	20		1	OUTLET 20
SPACE					21			22			2.88		STORAGE BUILDING
SPACE					23			24	2	30		2.88	STORAGE BUILDING
SPACE					25			26					SPACE
SPACE					27			28					SPACE
SPACE					29			30					SPACE
SPACE					31			32					SPACE
SPACE					33			34					SPACE
SPACE					35			36					SPACE
SPACE					37			38					SPACE
SPACE					39			40					SPACE
SUB-TOTAL		5	5								7.88	7.88	SUB-TOTAL



REV.	DATE	REVISION DESCRIPTION



1 METER PEDESTAL FRONT VIEW  
E-10 NOT TO SCALE




2 METER PEDESTAL SIDE VIEW  
E-10 NOT TO SCALE

REV.	DATE	REVISION DESCRIPTION


DESIGNER/DRAFTER: J. TROUT CHECKED BY: J. SHAO

SIGNATURE/  
BLOCK:



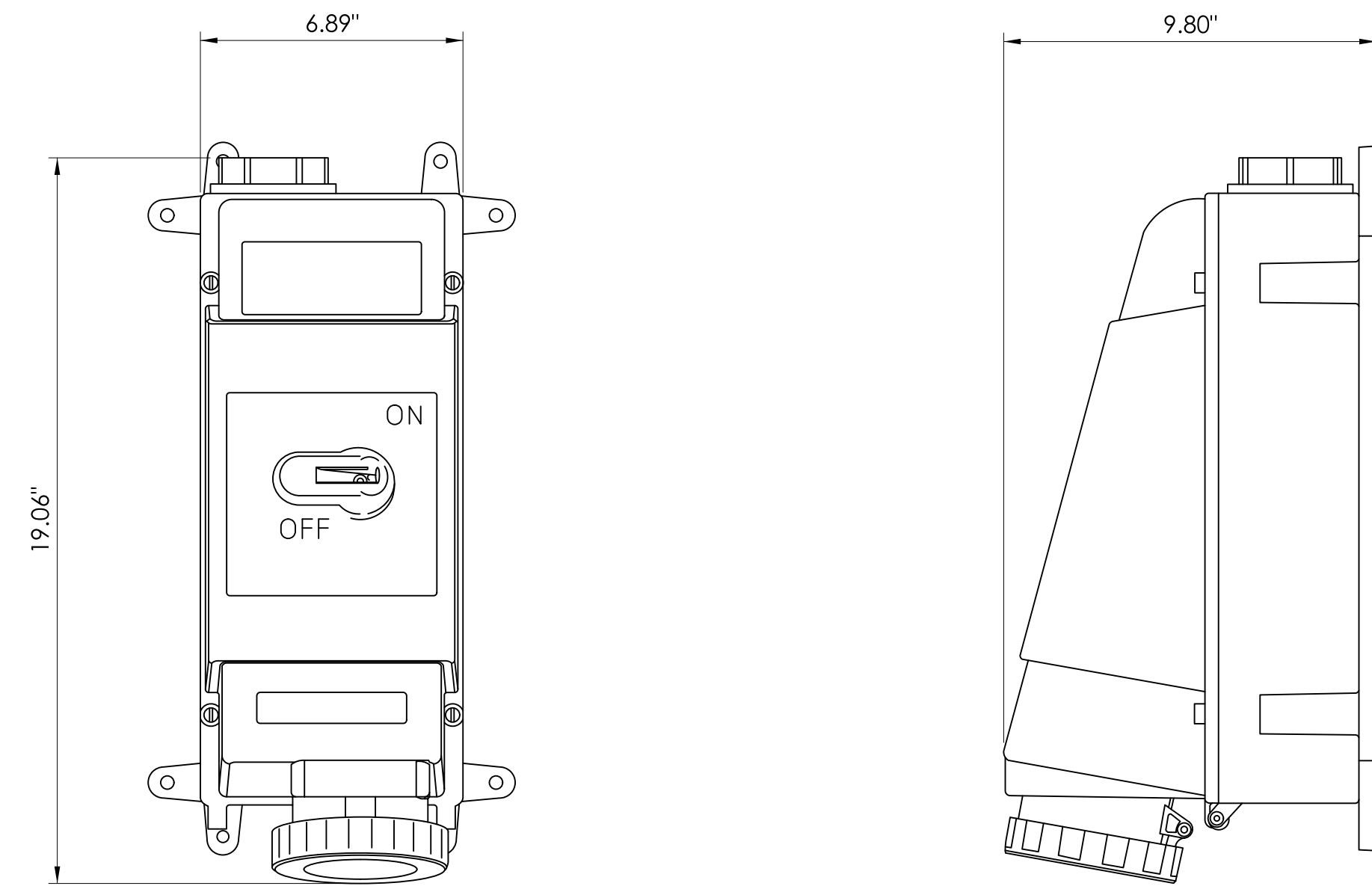
**vhb**  
100 Great Meadow Road  
Suite 200  
Wethersfield, CT 06109  
P: 860.807.4300  
F: 860.372.4570

STATE OF CONNECTICUT  
DEPARTMENT  
OF  
TRANSPORTATION

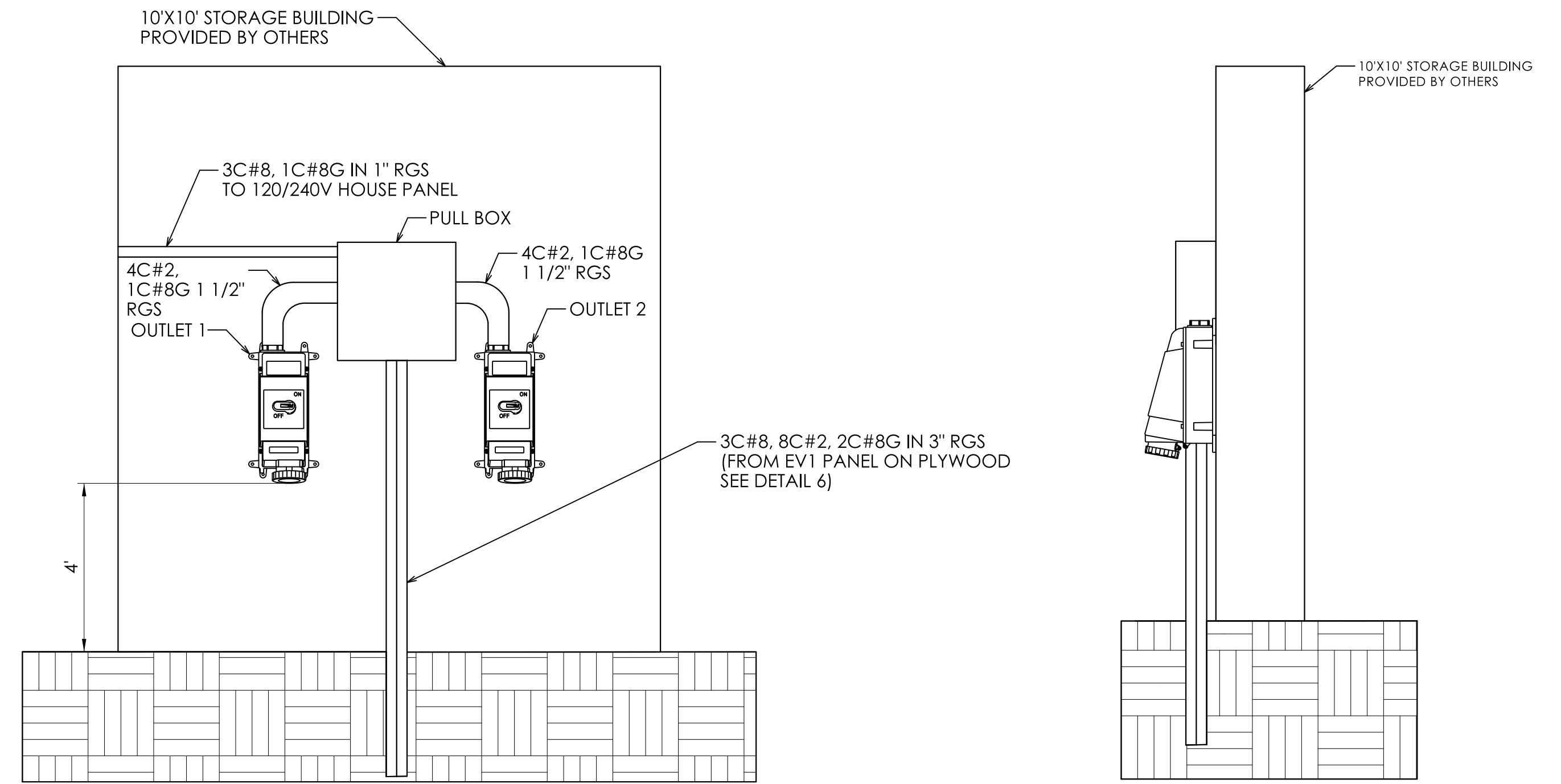


PROJECT NUMBER: 0474-0095  
PROJECT DESCRIPTION: WRTD 2 BEB - ELECTRICAL  
TOWN(S): MANSFIELD  
DRAWING TITLE: EV INSTALLATION DETAILS SHEET 1 OF 2

DRAWING NO.  
E-10  
SHEET NO.  
12

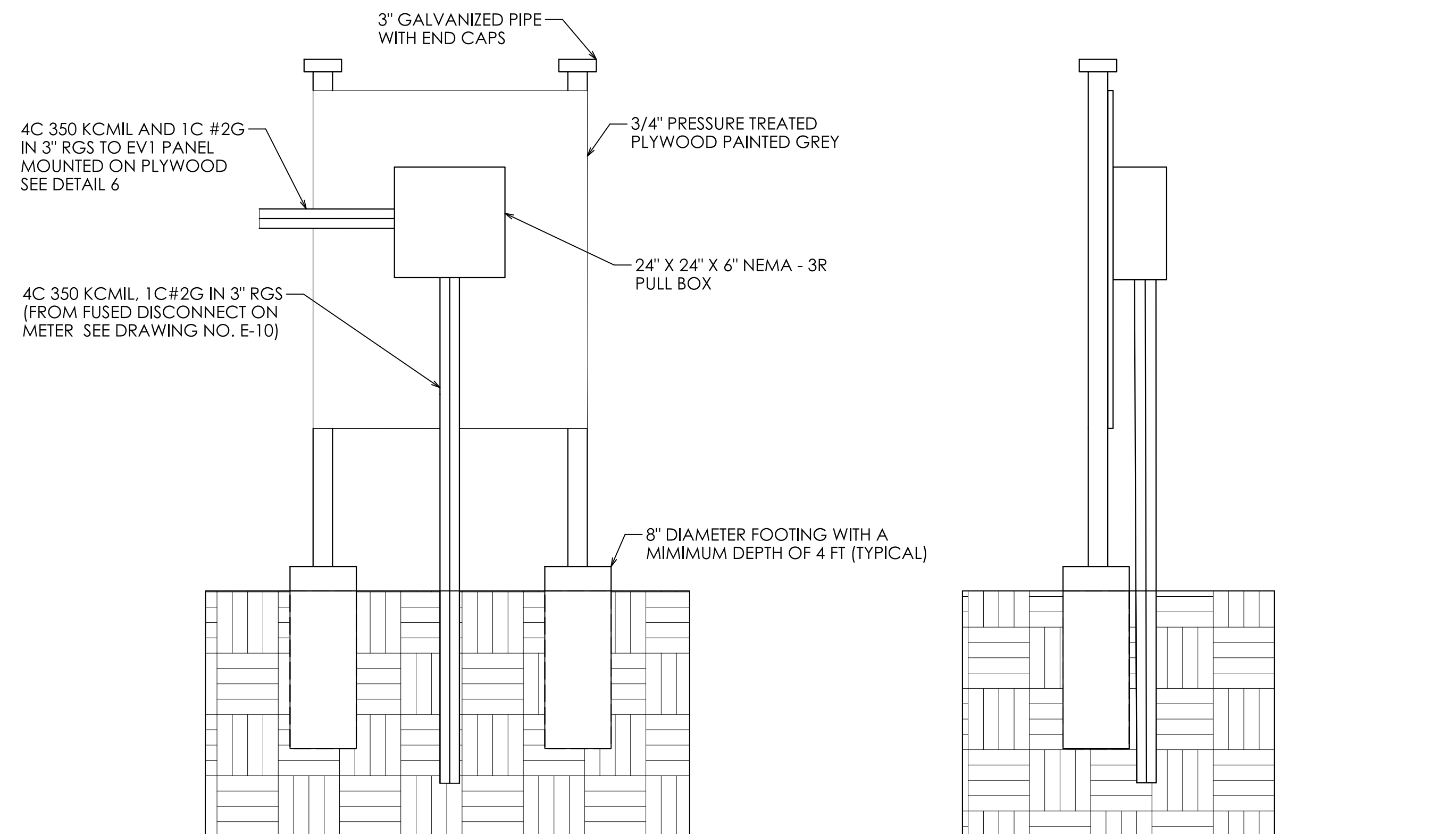


1  
E-11  
**LEVITON 4100M-B7W OR EQUAL 100A-480V 3-PHASE MECHANICAL INTERLOCK**  
NOT TO SCALE



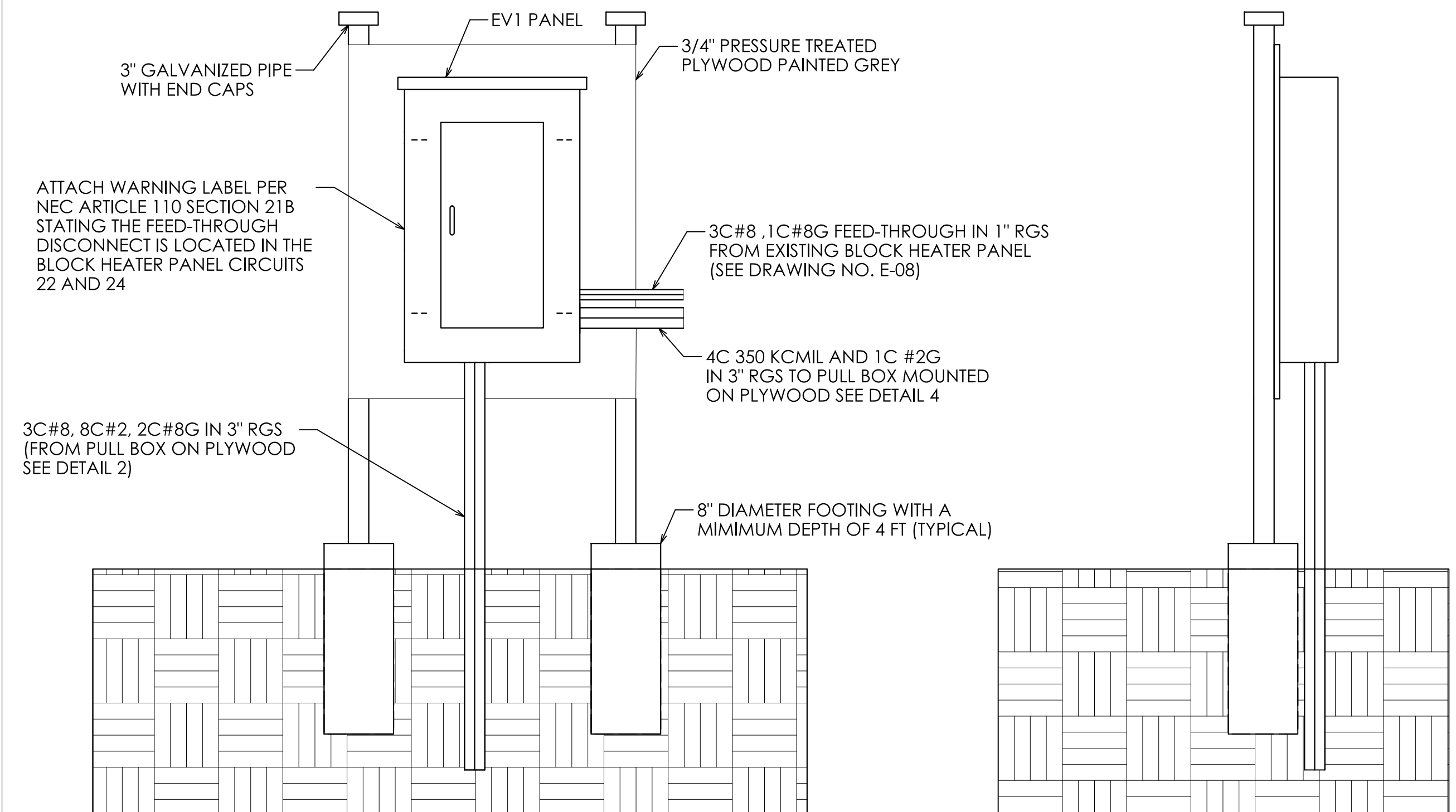
2  
E-11  
**STORAGE BUILDING MOUNTING DETAIL FRONT VIEW**  
NOT TO SCALE

3  
E-11  
**STORAGE BUILDING MOUNTING DETAIL SIDE VIEW**  
NOT TO SCALE



4  
E-11  
**480V 3 PHASE PB MOUNTING DETAIL FRONT VIEW**  
NOT TO SCALE

5  
E-11  
**480V 3 PHASE PB MOUNTING DETAIL SIDE VIEW**  
NOT TO SCALE



6  
E-11  
**EV1 PANEL MOUNTING DETAIL FRONT VIEW**  
NOT TO SCALE

7  
E-11  
**EV1 PANEL MOUNTING DETAIL SIDE VIEW**  
NOT TO SCALE

REV.	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: J. TROUT CHECKED BY: J. SHAO

SIGNATURE/  
BLOCK:

**vhb**  
100 Great Meadow Road  
Suite 200  
Wethersfield, CT 06109  
P: 860.807.4300  
F: 860.372.4570

STATE OF CONNECTICUT  
DEPARTMENT  
OF  
TRANSPORTATION

PROJECT NUMBER: 0474-0095  
PROJECT DESCRIPTION: WRTD 2 BEB - ELECTRICAL  
TOWN(S): MANSFIELD  
DRAWING TITLE: EV INSTALLATION DETAILS SHEET 2 OF 2

DRAWING NO.  
E-11  
SHEET NO.  
13