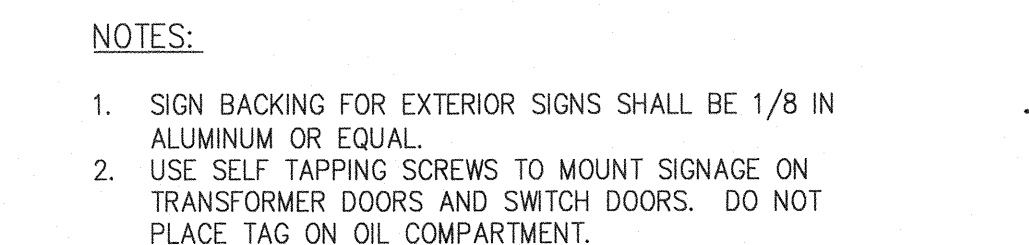
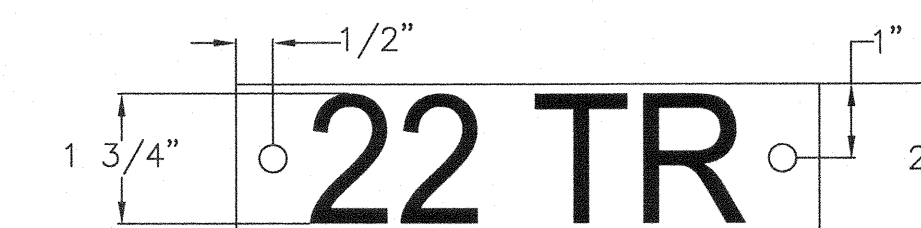
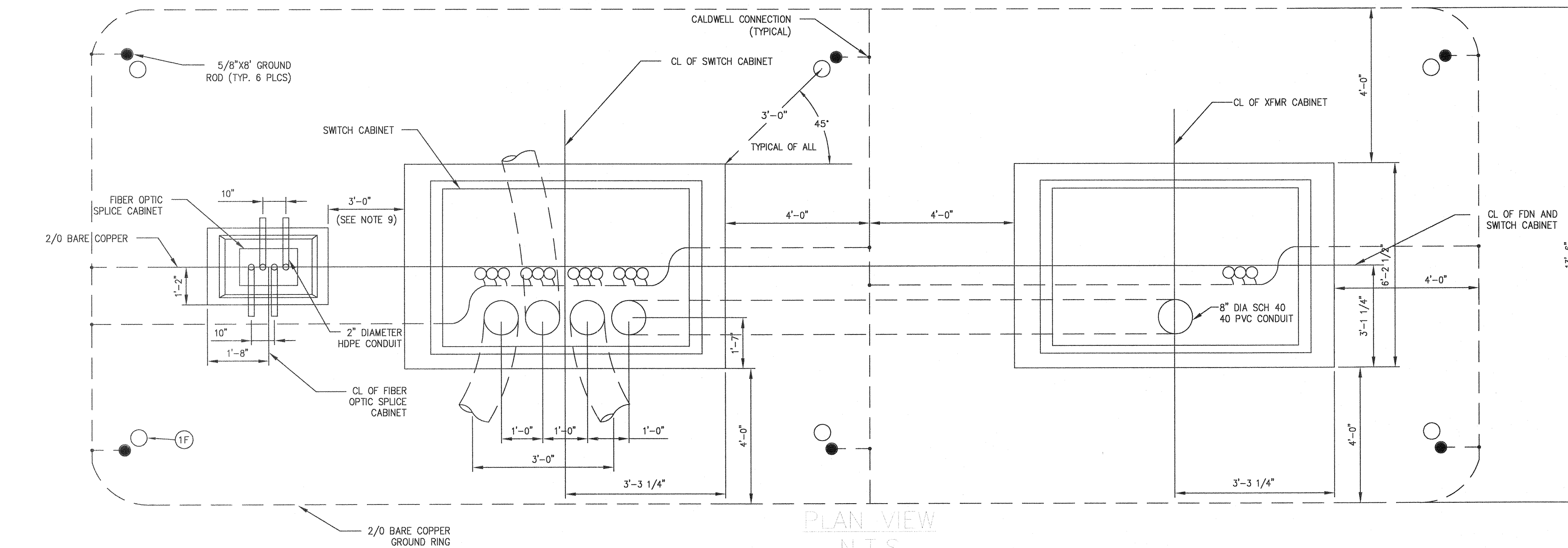
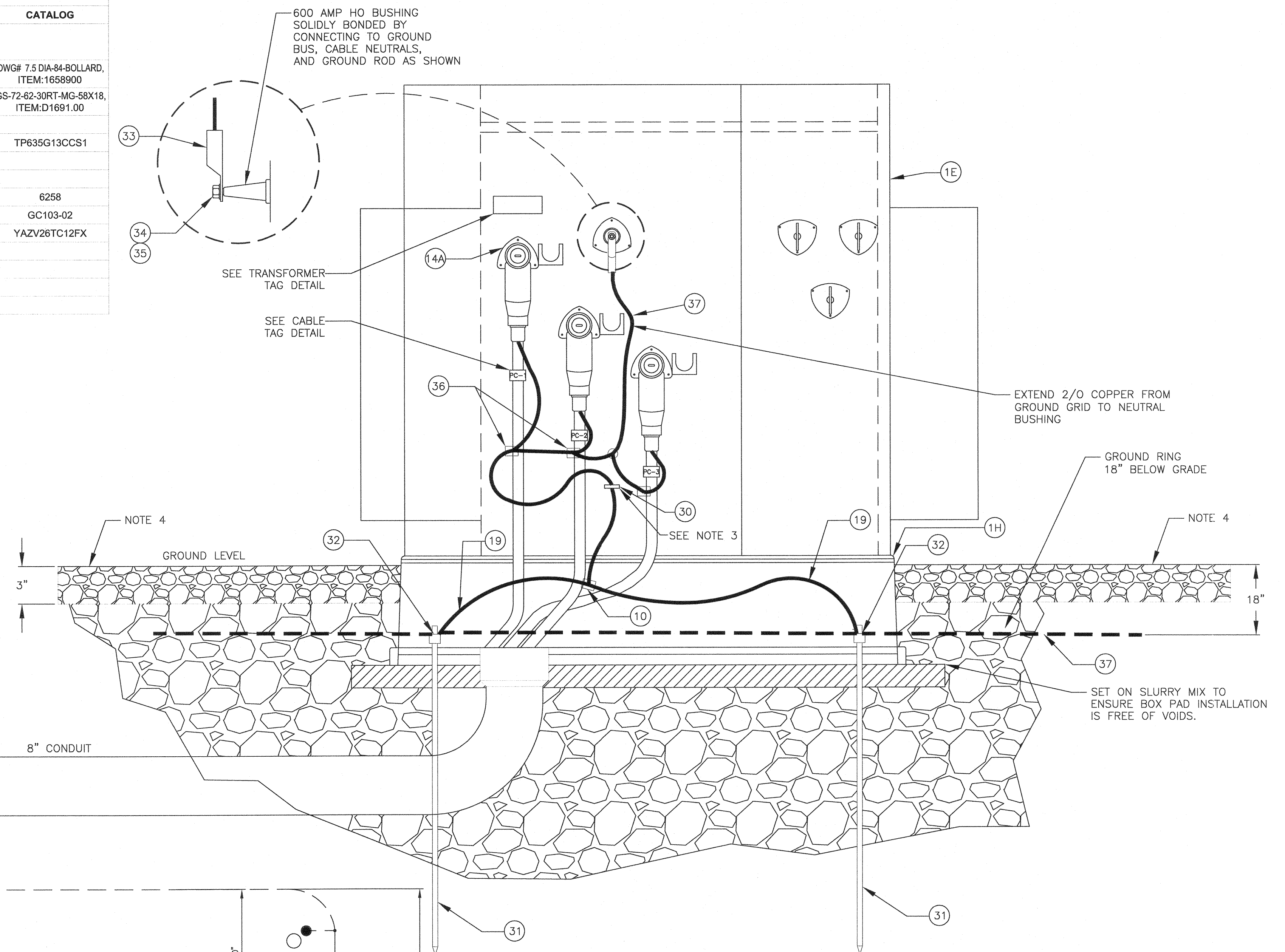
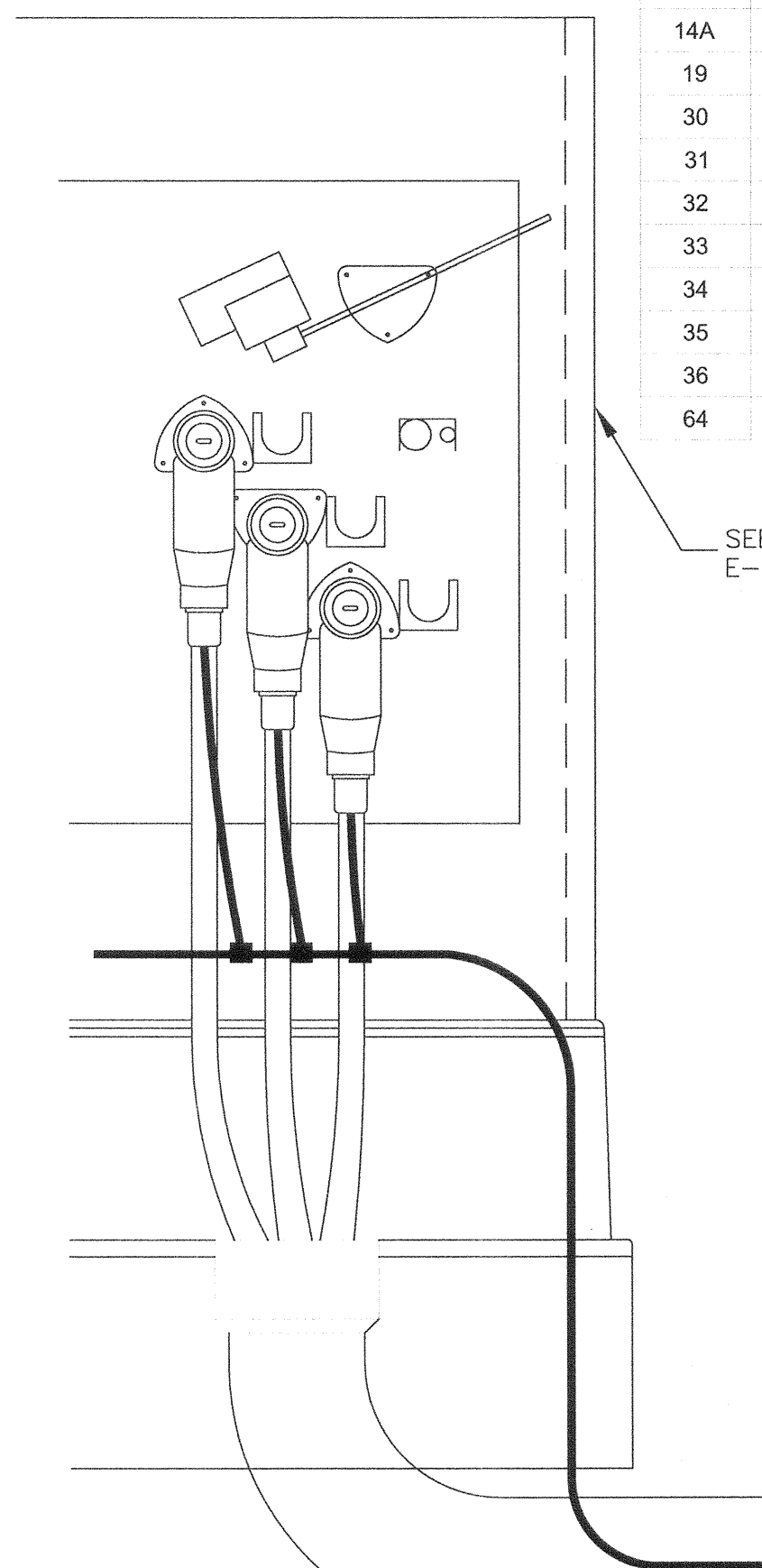


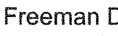
BILL OF MATERIALS - GROUNDING TRANSFORMER, RADIAL FEED					
ITEM	QUANTITY	UNIT	DESCRIPTION	MANUFACTURER	CATALOG
1E	1	EA	ZIG ZAG PADMOUNT GND TRANSFORMER 3Ø, 830A@10 SEC. 60A CONT NEUT I, 20A CONT PHASE I, 700Q/Ø	PACIFIC CREST	
1F	2	EA	BOLLARD 5 1/2" O.D. X 6'-0", CONCRETE FILLED, PAINTED YELLOW OR PROVIDE YELLOW COVERS	OLD CASTLE PRECAST	DWG# 7.5 DIA-84-BOLLARD ITEM:1659900
1H	1	EA	TRANSFORMER PAD, SIZED TO FIT GROUNDING TRANSFORMER	NORDIC	GS-72-62-30RT-MG-58X1 ITEM:D1691.00
10	1	EA	CONNECTOR, COPPER COMPRESSION 2/0-4/0 TO 2/0-4/0		
14A	3	EA	ELBOW ASSEMBLY KIT, 600 AMP, 35KV, 1/0 AWG AL, 345 MILS	COOPER	TP635G13CCS1
19	50	FT	WIRE, 2/0 COPPER BARE, STR		
30	1	EA	LUG, TRANSFORMER GROUNDING, 250 KCMIL MAX		
31	2	EA	GROUND ROD, 5/8" x 8'	BLACKBURN - OE	6258
32	2	EA	CONNECTOR, COPPER, 1/2"-5/8" ROD TO 1/0-2/0	HUBBELL/ ANDERSON	GC103-02
33	1	EA	LUG, COMPRESSION, COPPER 1 HOLE, 2/0 STR	BURNDY	YAZV26TC12FX
34	1	EA	WASHER, BELLVILLE, STAINLESS, 5/8"-11x1"		
35	1	EA	BOLT, 302 OR 316 STAINLESS, 5/8"-11x1"		
36	3	EA	CONNECTOR, COPPER CRIMPIT #2-1/0 TO 2/0-4/0		
64	2	EA	8" SCH 40 PVC 90 DEGREE ELBOW, 48" RADIUS		



NOTES:

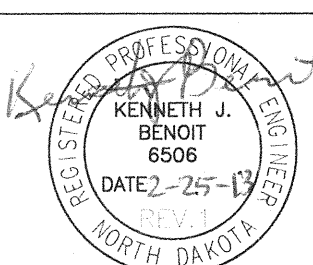
1. INDICATE DESTINATION FOR EACH CIRCUIT.
2. MARK EACH PHASE USING A, B, C FORMAT.
3. BOND 2/0 COPPER FROM GROUND GRID TO ALL APPLICABLE GROUNDING LUGS ON TRANSFORMER.
4. 1" CRUSHED STONE SHALL BE INSTALLED 3" DEEP AND 4' AROUND GROUNDING TRANSFORMER.

CABLE TAG DETAIL



PIKE[®]
ENERGY SOLUTIONS
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 10101 Claude Freeman Drive, Suite 100W
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 ND License No. 954PE

A	BNK	RJG	CSF	6/7/11	30% DELIVERABLE
B	BNK	RJG	CSF	7/1/11	90% DELIVERABLE
C	BNK	CSF	RJG	7/19/11	REVISED FOR QA CHECKS
	BNK	CSF	JLM	8/4/11	ISSUED FOR CONSTRUCTION
1	NJG	KJS	JCL	2/22/13	CONSTRUCTION REVISIONS



CLIENT	7/8/118/16/119/20/11						
BID							
CONSTRUCTION					10/4/11		
PERMITTING							
RELEASED TO/FOR	A	B	C	0	1	2	3
	DATE RELEASED						

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Scale	N.T.S
Date	07/08/11
Drawn	BNK
Checked	CSF
Designed	RJG
Approved	JLM



A WIND ENERGY INITIATIVE OF MINNESOTA POWER IN NORTH DAKOTA

BISON 3 WIND PROJECT MORTON & OLIVER COUNTIES, NORTH DAKOTA
COLLECTOR SYSTEM GROUNDING TRANSFORMER DETAIL

BARR PROJECT No. 34/33-1006	
CLIENT PROJECT No.	
DWG. No. E-GT-31	REV. No. 1