

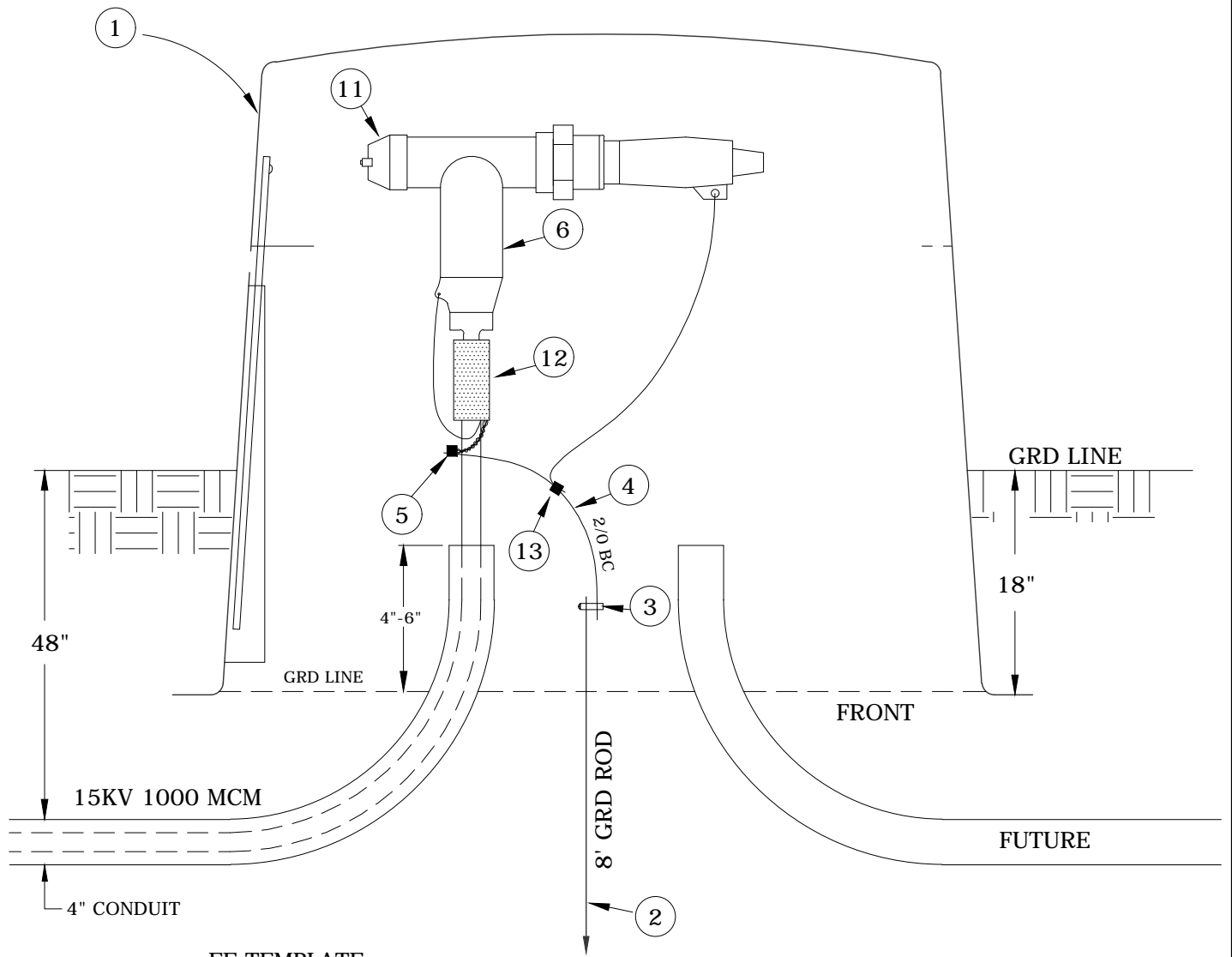
1600

1000 MCM CABLE

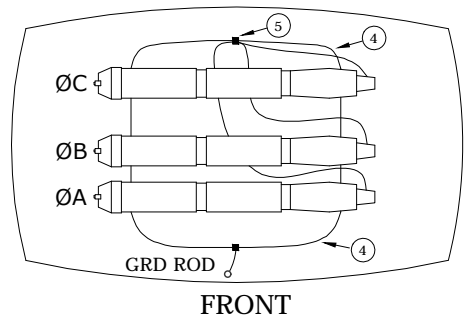
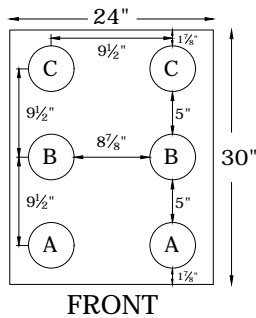
3/15/2010

C	UEE1	Elbow Enclosure - Deadend
C	UEE2	Elbow Enclosure - Feed-Through
C	UPR1	1000 MCM Cable Riser
~	UPR2	1000MCM Power Cable Riser Grounding Detail
N	UPR4	1000 MCM Cable Riser with 3Ø Switch
N	UPR5	1000 MCM Cable Riser with 600 Amp Disconnects
~	USG1	Padmount Switchgear - 600A Elbow - 1000MCM Cable
~	USG2	Padmount Switchgear Chart
~	USG3	Deadfront Switchgear
~	USG4	Livefront Switchgear
~	USG-5	Switch Vault Duct Entry for 1000MCM Cable
~	USG-6	Switch Vault Detail, Vault Base
~	USG-7	Switch Vault Detail, Vault Cover

N	New Standard
R	Redrawn Standard
C	Changed Standard
~	No Change



EE TEMPLATE



NOTES:

1. Use EE template when framing conduits and backfilling.
2. Leave enough cable slack to position the elbow near the top of the enclosure lid. This provides future operating room.
3. Terminators assemble 9 1/2" apart (Center to Center). Align conduits to avoid cable bending.

Rev 3: Corrected material list.



CONSTRUCTION STANDARDS
 ELBOW ENCLOSURE
 DEADEND

REVISIONS			
Δ	DATE	ENGR	OPS
0	2/23/00	HWH	MA
1	9/23/04	LB	AH
2	10/7/05	LB	AH
3	12/14/09	KJP	

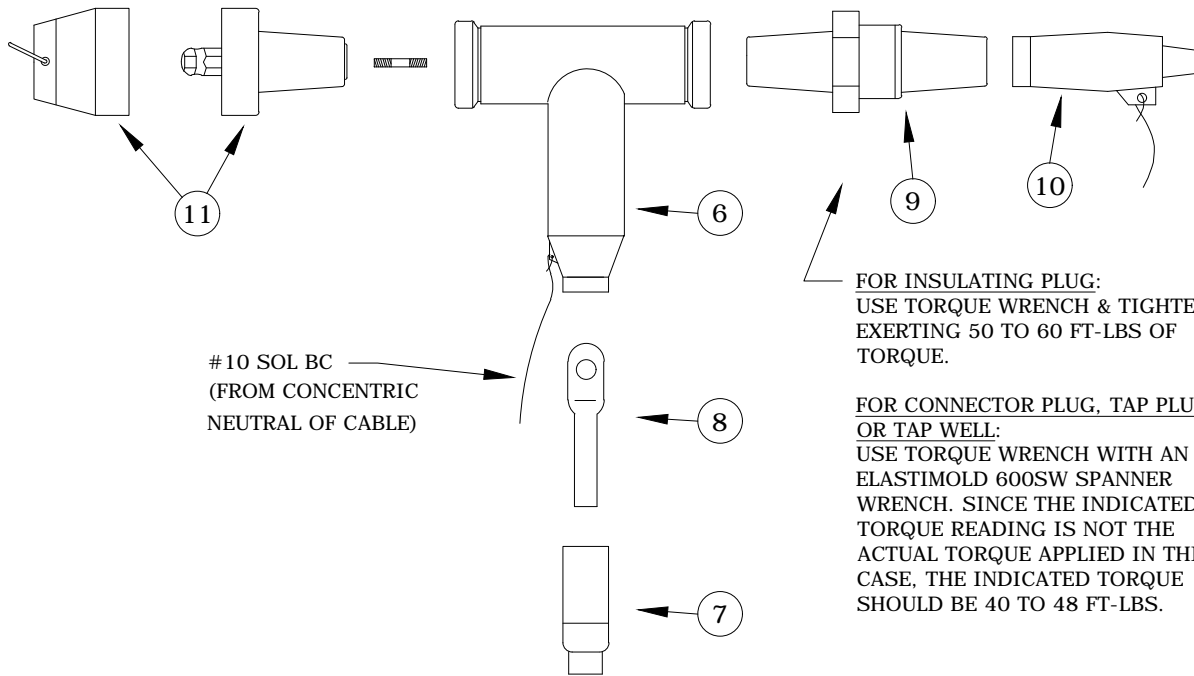
PAGE:
1 of 2

UEE1

CAD FILE:
UEE1

APP:
DATE: 6/90

SECTION
1600



#10 SOL BC
(FROM CONCENTRIC
NEUTRAL OF CABLE)

FOR INSULATING PLUG:
USE TORQUE WRENCH & TIGHTEN
EXERTING 50 TO 60 FT-LBS OF
TORQUE.

FOR CONNECTOR PLUG, TAP PLUG
OR TAP WELL:
USE TORQUE WRENCH WITH AN
ELASTIMOLD 600SW SPANNER
WRENCH. SINCE THE INDICATED
TORQUE READING IS NOT THE
ACTUAL TORQUE APPLIED IN THIS
CASE, THE INDICATED TORQUE
SHOULD BE 40 TO 48 FT-LBS.

DEADEND

Rev 3: Corrected material list.

ITEM NO.	DESCRIPTION	UEE1*	
		QTY.	S/N
1	Enclosure, Fiberglass	1	2213
2	Rod, Ground, 5/8" x 8'	1	1124
3	Clamp, Ground Rod, Large	1	282
4	Conductor, 2/0 BSDC	30 Ft.	376
5	Connector, Crimpet, Cu 4/0-4/0	3	460
6	Elbow, 600 Amp	3	1825
7	Cable Adapter, 1000 MCM	3	1
8	1000 MCM AL Compression Contact 3/4" Non-Threaded Hole	3	941
9	Loadbreak Reducing Plug, 600A-200A	3	1769
10	Cap, Protective Insulated, 200A	3	265
11	Basic Insulating Plug With Cap	3	1824
12	Cable Sealing Kit, 1000MCM	3	2376
13	Connector, Crimpet, Cu 2/0-2/0	1	457



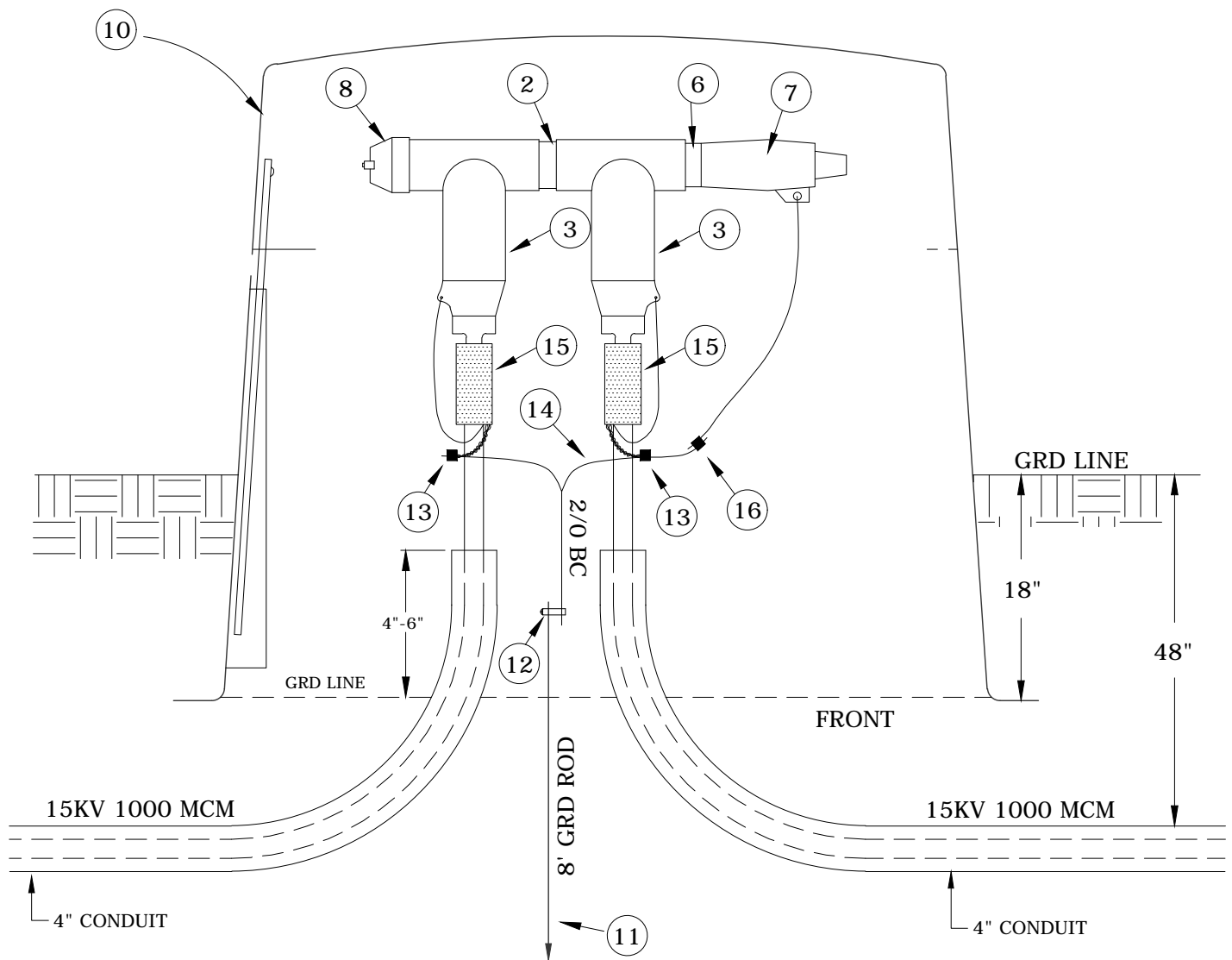
CONSTRUCTION STANDARDS
ELBOW ENCLOSURE
DEADEND

PAGE:
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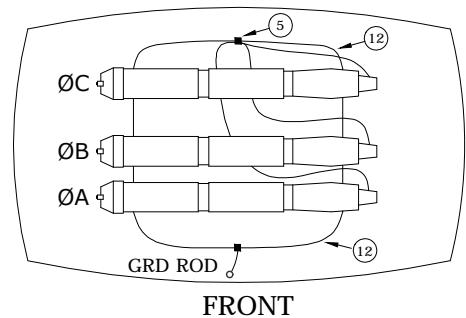
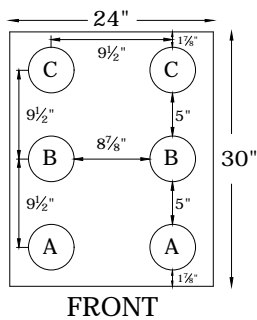
UEE1

CAD FILE:
UEE1

REVISIONS			
DATE	ENGR	OPS	
2/23/00	HWH	MA	
9/23/04	LB	AH	
10/7/05	LB	AH	
12/14/09	KJP		
APP:		SECTION	
DATE:	6/90	1600	



EE TEMPLATE



NOTES:

1. Use EE template when framing conduits and backfilling.
2. Leave enough cable slack to position the elbow near the top of the enclosure lid. This provides future operating room.
3. Elbows assemble 9 1/2" apart (Center to Center). Align conduits to avoid cable bending.

Rev 2: Corrected material list callout and added UEE2 kit.



CONSTRUCTION STANDARDS
ELBOW ENCLOSURE
FEED-THROUGH

REVISIONS			
REV	DATE	ENGR	OPS
0	9/23/04	LB	AH
1	10/7/05	LB	AH
2	8/25/09	CM	AH

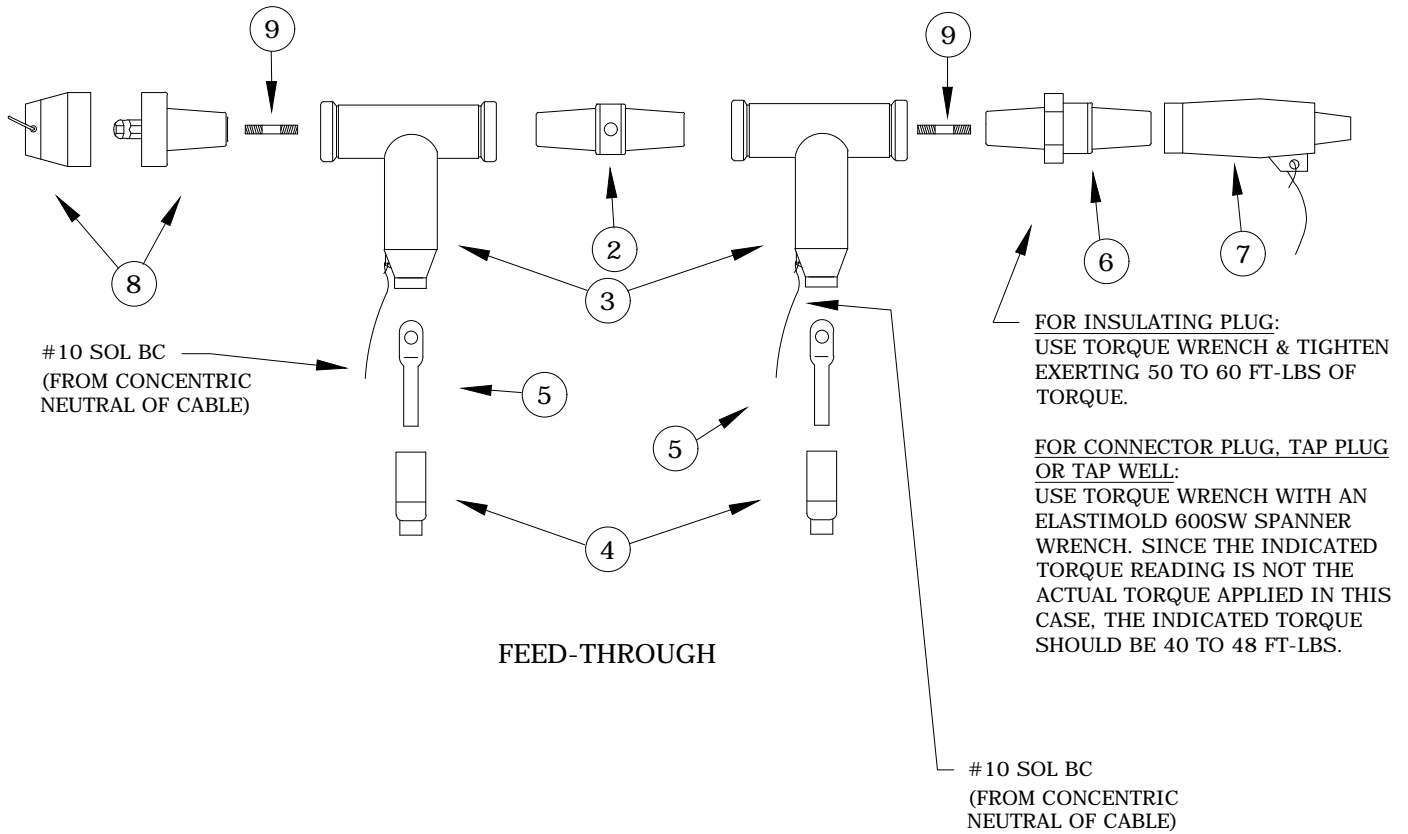
PAGE:
1 of 2

UEE2

CAD FILE:
UEE2

APP: KJP
DATE:

SECTION
1600



Rev 2: Corrected material list callout and added UEE2 kit.

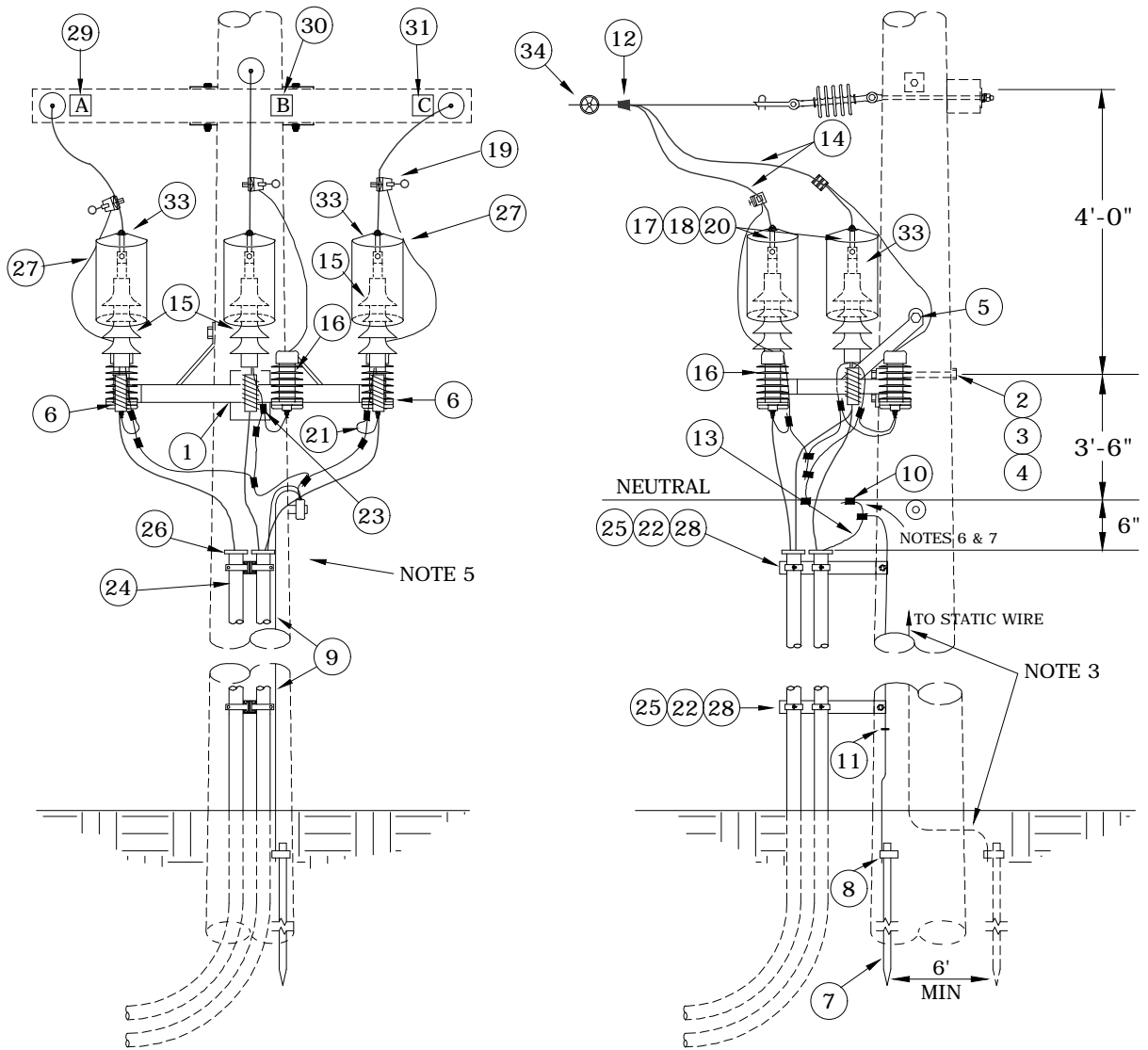
ITEM NO.	DESCRIPTION	UEE2 *	
		QTY.	S/N
1	UEE2 600A Elbow Kit	1	2693
	Consists Of: (Items #2 Thru #9)		
2	Connecting Plug, 600A	3	1723
3	Elbow, 600A	6	1825
4	Cable Adapter	6	1
5	1000 MCM AL Compression Contact 3/4" Hole (Non-Threaded)	6	941
6	Loadbreak Reducing Plug, 600A-200A	3	1769
7	Cap, Protective Insulated, 200A	3	265
8	Basic Insulating Plug With Cap	3	1824
9	600A Al Stud	1	2702
10	Enclosure, Fiberglass	1	2213
11	Rod, Ground, 5/8" x 8'	1	1124
12	Clamp, Ground Rod, Large	1	282
13	Connector, Crimpet, Cu 4/0-4/0	6	460
14	Conductor, 2/0, BSDC	30 ft	379
15	Elbow Sealing Kit, 1000MCM	6	2376
16	Connector, Crimpet, CU 2/0-2/0	1	457



CONSTRUCTION STANDARDS
ELBOW ENCLOSURE
FEED-THROUGH

REVISIONS			
DATE	ENGR	OPS	
9/23/04	LB	AH	0
10/7/05	LB	AH	1
8/25/09	CM	AH	2


APP: KJP	SECTION
DATE:	1600



Notes:

1. UPR4 is the preferred standard. This standard is to be used for short dips such as airport dips or if other switches are nearby for isolation. See UPR4 for the recommended construction.
2. See UPR2 for grounding details.
3. All ground wire is #4 solid copper covered.
4. Static wire ground when required. DO NOT connect to neutral. See N2 for static wire details. Engineer must call for static wire ground separately.
5. Avoid sharp turns in lightning arrester grounds and primary leads.
6. 2/0 CU neutral in substation get-a-way risers only. 2/0 CU from terminators to overhead neutral for all 1000 MCM construction.
7. Press directly to neutral if there is no 2/0 substation get-a-way neutral.

Rev 2: Corrected material list and changed drawing to show pre-assembled deadend.

	CONSTRUCTION STANDARDS		REVISIONS		
	1000 MCM CABLE RISER		DATE	ENGR	OPS
	0	2/23/00	HWH	MA	
	1	12/29/04	LB	AH	
	2	1/13/10	CM	AH	
PAGE: 1 of 2	UPR1		CAD FILE: UPR1	APP: DATE: 6/90	SECTION 1600

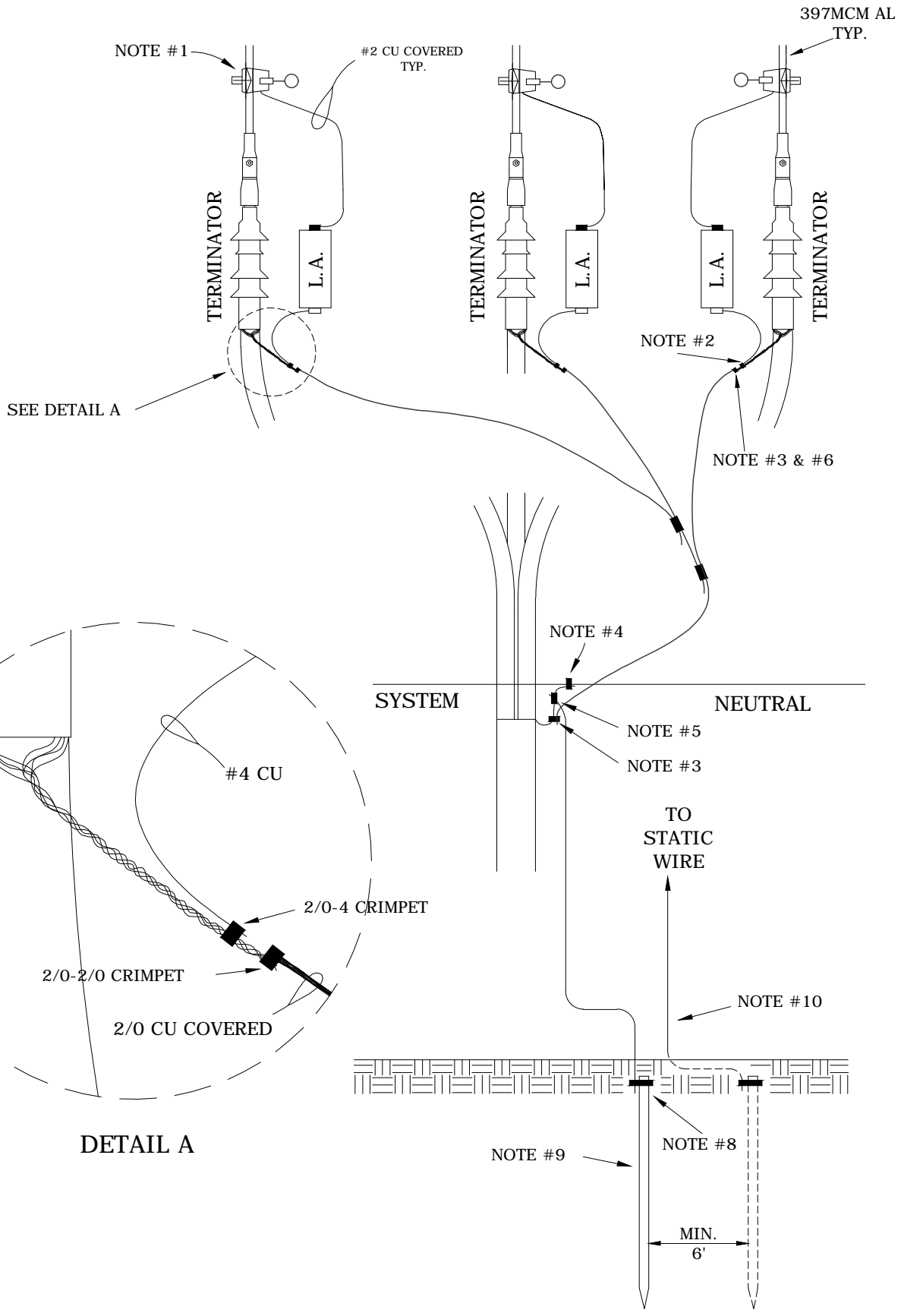
Rev 2: Corrected material list and changed drawing to show pre-assembled deadend.

		UPR1	
ITEM NO.	DESCRIPTION	BR10	
		QTY.	S/N
1	Bracket, Term, Mount 1000 MCM Cable	1	2226
2	Bolt, Machine, 5/8" x 14"	1	156
3	Washer, Sq., Curved, Cast, 3" x 3" x 3/8" Thick x 13/16" Hole	1	1392
4	Washer, Spring, 5/8"	1	2217
5	Screw, Lag, 1/2" x 4 1/2"	3	1132
6	Cable Positioner	3	2229
ITEM NO.	DESCRIPTION	N1	
		QTY.	S/N
7	Rod, Ground, 5/8" x 8'	1	1124
8	Clamp, Ground rod, 5/8", Small, Bronze	1	281
9	Conductor, Cu #4 SLD 1/C	36	390
10	Connector, Compression, Cu/Al, Neutral	1	413
11	Staple, Ground Wire	10	1228
ITEM NO.	DESCRIPTION	ADDITIONAL MATERIAL	
		QTY.	S/N
12	Connector, Tap, Power Booster, 397 to 397	3	2501
13	Conductor, Cu, 2/0 STR, 600v, XLP	30	381
14	Conductor, 397 MCM AL	30	367 *
15	Terminator, 1000 MCM	3	2225
16	Arrester, 9 kV, Riser Pole	3	58
17	Connector, Comp., Lug, AL, 397 MCM	3	438
18	Connector, Comp., Lug, AL, 1000 MCM	3	1501
19	Hot Line Clamp, GP1530	3	284
20	Bolt, Machine, 1/2" x 2" Assembly	6	1389
21	Conductor, #4 BSDC, 1/C	10	376
22	Screw, Lag, 1/2" x 4 1/2"	6	1132
23	Connector, Crimpet, Cu 2/0-C-4	3	456
24	Conduit, 4" x 10', Sch 80	9	2203
25	Clamp, Standoff Bracket, 4"	9	297
26	4" End Bell, Sch 40	3	2204
27	Conductor, #2 Cu Covered, 1/C, 600v HMP	15	393
28	Standoff Bracket, 15"	3	227
29	Phase A Tag	1	1280
30	Phase B Tag	1	1281
31	Phase C Tag	1	1282
32	Connector, Crimpet, Cu, 2/0-2/0	6	457
33	Wildlife Guard	3	2515
34	Fault Indicator, 400A, OH, Beacon	3	2558



CONSTRUCTION STANDARDS
1000 MCM CABLE RISER

REVISIONS			
DATE	ENGR	OPS	
2/23/00	HWH	MA	
12/29/04	LB	AH	
1/13/10	CM	AH	



REV 1 - REMOVED EQUIPMENT MOUNTING BRACKET GROUND AND REVISED NOTE 7



CONSTRUCTION STANDARDS
 1000 MCM POWER CABLE RISER
 GROUNDING DETAIL

REVISIONS			
NO.	DATE	ENGR	OPS
0	2/23/00	HWH	MA
1	12/29/04	LB	AH

PAGE:
1 of 2

UPR2

CAD FILE:
UPR-2



APP:
DATE: 6/90

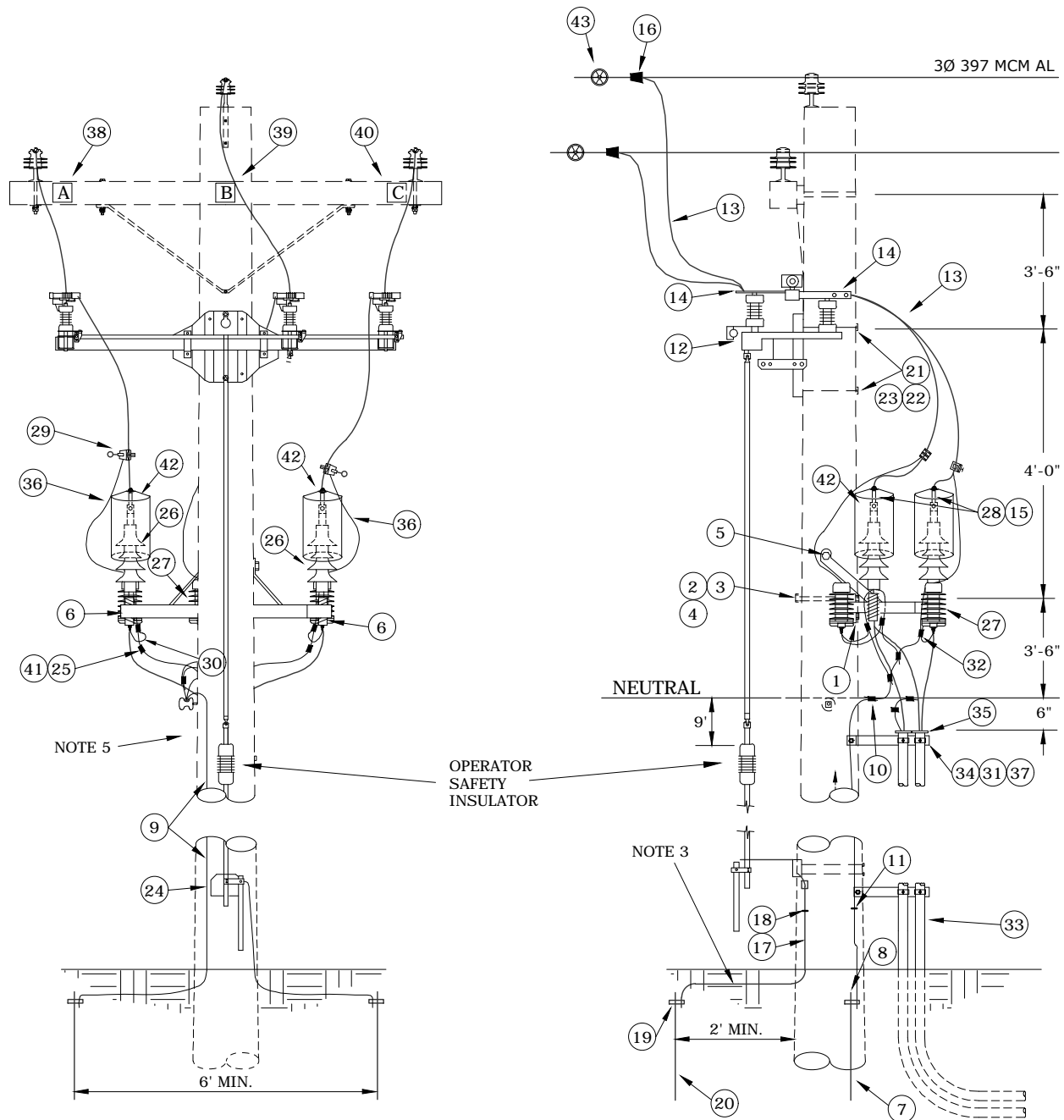
SECTION
1600

NOTES:

1. Make connections as close to terminator as possible but DO NOT make a sharp bend. Use hot line clamp for easy removal.
2. Connect surge arrester lead to concentric neutral.
3. Connect concentric neutral wires (twist together) to 2/0 stranded copper with 2/0 crimpet. Connect separate 2/0 runs, as per drawing, from each concentric neutral to the system neutral. Use 2/0 covered conductor and train this conductor back down along the 1000MCM cable for appearance.
4. Connect 2/0 copper riser neutral to system neutral only. This riser neutral is only used for substation get-a-ways.
5. Use separate ground lead for system neutral grounding connection. Any other equipment grounds may be connected to this ground lead also.
WAC 296-44-02335 (1) (a) & (b)
6. Do not connect arrester grounds separately to system neutral. Connect to concentric neutral as near to the terminator as possible.
7. Do not ground equipment mounting bracket per 2002 NESC 123A.
8. Top of ground rod must be underground. WAC 296-44-02319-(2)(c)
9. If more than one ground rod is required they must be separated by at least 6 feet. WAC 296-44-02319-(2)(B)
10. Static wire ground when required. DO NOT connect neutral. See t-N1 to T-N4 for static wire details.

REV 1 - REMOVED EQUIPMENT MOUNTING BRACKET GROUND AND REVISED NOTE 7

	CONSTRUCTION STANDARDS 1000 MCM POWER CABLE RISER GROUNDING DETAIL		REVISIONS			
				DATE	ENGR	OPS
	0	2/23/00	HWH	MA		
	1	12/29/04	LB	AH		
PAGE: 2 of 2		UPR2	CAD FILE: UPR-2	APP: DATE: 6/90		SECTION 1600



NOTES:

1. This is the recommended 1000 MCM riser standard. See UPR1 or UPR5 when it is not possible to install a switch.
2. See UPR2 for grounding details.
3. All ground wire is #4 solid copper covered.
4. Avoid sharp turns in lightning arrester ground and primary leads.
5. The pole must be 45' or taller.



CONSTRUCTION STANDARDS

1000 MCM CABLE RISER
WITH 3Ø SWITCH

PAGE:
1 of 2

UPR4

CAD FILE:
UPR4

REVISIONS			
△	DATE	ENGR	OPS
△			
APP:	CM/AH	SECTION	
DATE:	1/13/10	1600	

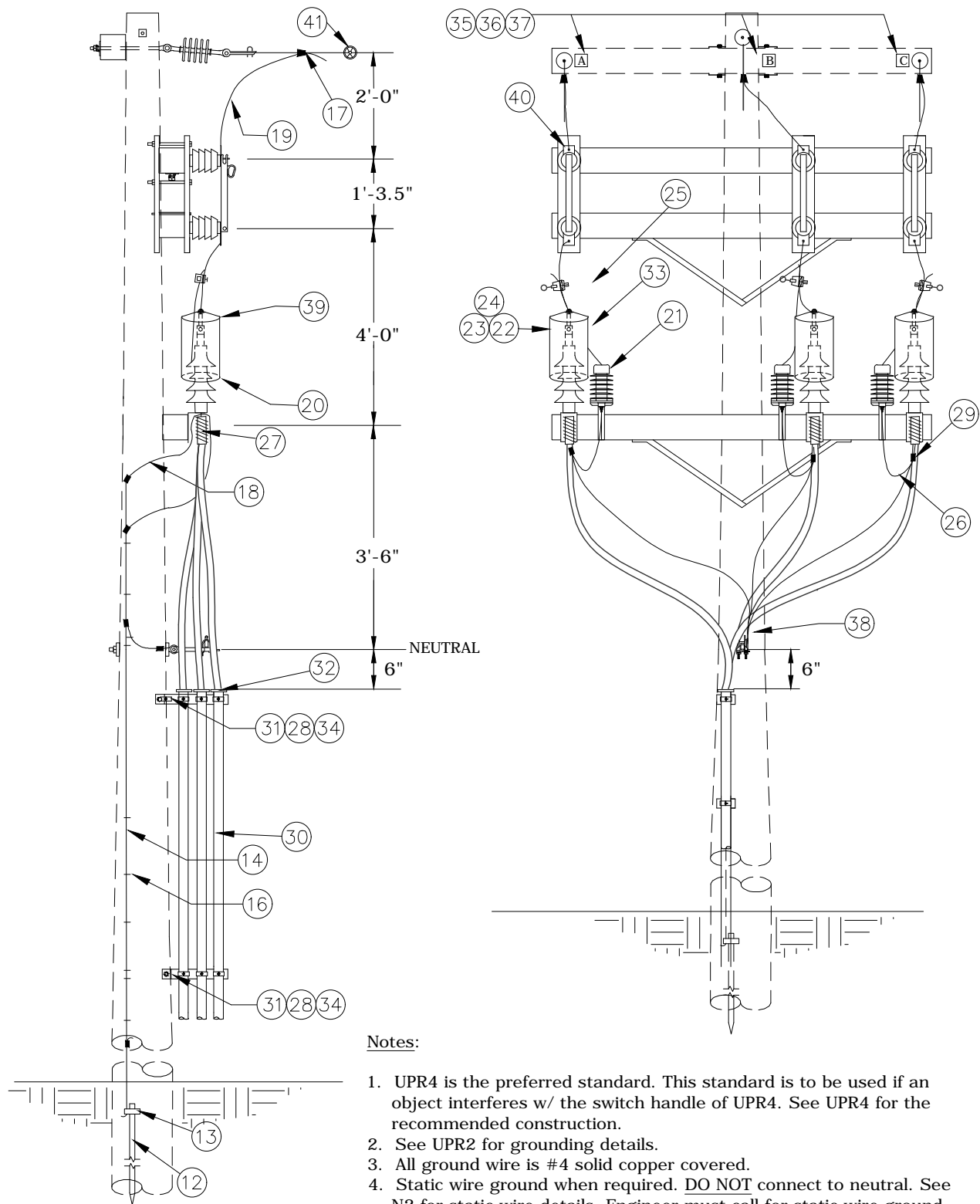
ITEM NO.	DESCRIPTION	UPR4	
		BR10	
		QTY.	S/N
1	Bracket, Term, Mount 1000 MCM Cable	1	2226
2	Bolt, Machine, 5/8" x 14"	1	156
3	Washer, Sq., Curved, Cast, 3" x 3" x 3/8" Thick x 13/16" Hole	1	1392
4	Washer, Spring, 5/8"	1	2217
5	Screw, Lag, 1/2" x 4 1/2"	3	1132
6	Cable Positioner	3	2229
ITEM NO.	DESCRIPTION	N1	
		QTY.	S/N
		7	Rod, Ground, 5/8" x 8'
8	Clamp, Ground rod, 5/8", Small, Bronze	1	281
9	Conductor, Cu #4 SLD 1/C	36	390
10	Connector, Compression, Cu/Al, Neutral	1	413
11	Staple, Ground Wire	10	1228
ITEM NO.	DESCRIPTION	ADDITIONAL MATERIAL	
		QTY.	S/N
		12	Loadbreak Switch, Horizontal, 600A, 15kV
13	Conductor, OH, 397 MCM AL	60	367 *
14	Connector, Clamp, 397 to NEMA 2-Hole	6	438
15	Bolt, Machine, 1/2" x 2" Assembly	12	1389
16	Connector, Tap, Power Booster, 397 to 397	3	2501
17	Conductor, #4 Cu, SLD, 1/C	20	390
18	Ground Wire Staples	5	1228
19	Ground Rod Clamp, 5/8", Small Bronze	1	281
20	Ground Rod, 5/8" x 8'	1	1124
21	Machine Bolt, Galv., 3/4" x 16"	2	175
22	Washer, Curved, 4" x 4"	2	1910
23	Washer, Spring, 3/4"	2	2218
24	Padlock, Hardened Stainless Steel	1	2564
25	Conductor, 2/0 Cu STR, 600v, XLP	60	381
26	Terminator, 1000 MCM	3	2225
27	Arrester, 9kV, Riser Pole	3	58
28	Connector, Comp., Lug, AL, 1000 MCM	3	1501
29	Hot Line Clamp GP 1530	3	284
30	Conductor, #4 BSDC, 1/C	10	376
31	Screw, Lag, 1/2" x 4 1/2"	6	1132
32	Connector, Crimpet, Cu 2/0-C-4	6	456
33	Conduit, 4" x 10', Sch 80	9	2203
34	Clamp, Standoff Bracket, 4"	9	297
35	End Bell, 4" Sch 40	3	2204
36	Conductor, #2 Cu SD, 1/C, 600v, HMP	15	393
37	Standoff Bracket, 15"	3	227
38	Phase A Tag	1	1280
39	Phase B Tag	1	1281
40	Phase C Tag	1	1282
41	Connector, Crimpet, Cu, 2/0-2/0	12	457
42	Wildlife Guard	3	2515
43	Fault Indicator, 400A, OH	3	2558



CONSTRUCTION STANDARDS
1000 MCM CABLE RISER
WITH 3Ø SWITCH

PAGE: 2 of 2 UPR4 CAD FILE: UPR4

REVISIONS			
△	DATE	ENGR	OPS
△	APP:	CM/AH	SECTION
	DATE: 1/13/10		1600



Notes:

1. UPR4 is the preferred standard. This standard is to be used if an object interferes w/ the switch handle of UPR4. See UPR4 for the recommended construction.
2. See UPR2 for grounding details.
3. All ground wire is #4 solid copper covered.
4. Static wire ground when required. **DO NOT** connect to neutral. See N2 for static wire details. Engineer must call for static wire ground separately.
5. Avoid sharp turns in lightning arrester grounds and primary leads.
6. 2/0 CU neutral in substation get-a-way risers only. 2/0 CU from terminators to overhead neutral for all 1000 MCM construction.
7. Press directly to neutral if there is no 2/0 substation get-a-way neutral.



CONSTRUCTION STANDARDS

1000 MCM CABLE RISER
WITH 600 AMP DISCONNECTS

PAGE:
1 of 2

UPR5

CAD FILE:
UPR5


REVISIONS			
△	DATE	ENGR	OPS
△			
APP:	CM/AH	SECTION	
DATE:	1/13/10	1600	

		UPR5	
--	--	------	--

ITEM NO.	DESCRIPTION	UPR5	
		QTY.	S/N
1	Crossarm (Distr.) 3 3/4" x 4 3/4" x 10'	6	26
2	Bolt, Machine, 1/2" x 7"	12	143
3	Not Used	-	-
4	Bolt, Double, Arm, 5/8" x 20"	9	83
5	Gain, Pole Plastic	3	709
6	Brace, Angle, 72"	6	204
7	Washer, Spring, 5/8"	18	2217
8	Washer, Spring, 1/2"	12	2216
9	Washer, Sq. Flat 5/8", 2 1/4" x 2 1/4"	30	1412
10	Bolt Machine, 5/8" x 12"	3	155
11	Washer, Round, Flat 1/2"	12	1394

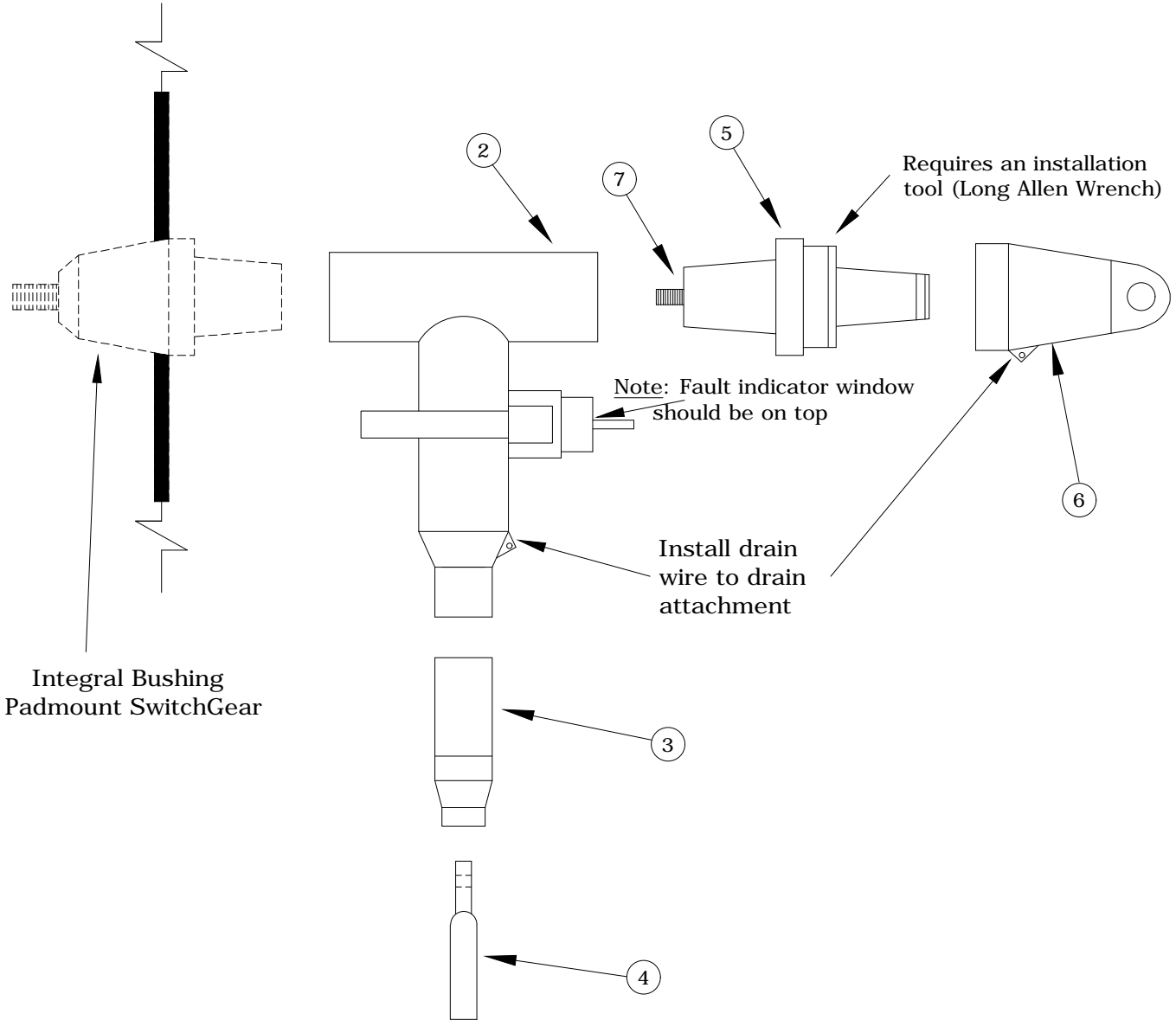
ITEM NO.	DESCRIPTION	N1	
		QTY.	S/N
12	Rod, Ground, 5/8" x 8'	1	1124
13	Clamp, Ground rod, 5/8", Small, Bronze	1	281
14	Conductor, Cu #4 SLD 1/C	36	390
15	Connector, Compression, Cu/Al, Neutral	1	413
16	Staple, Ground Wire	10	1228

ITEM NO.	DESCRIPTION	ADDITIONAL MATERIAL	
		QTY.	S/N
17	Connector, Tap, Power Booster, 397 to 397	3	2501
18	Conductor, Cu, 2/0 STR, 600v, XLP	30	381
19	Conductor, 397 MCM AL	30	367 *
20	Terminator, 1000 MCM	3	2225
21	Arrester, 9 kV, Riser Pole	3	58
22	Connector, Comp., Lug, AL, 397 MCM	3	438
23	Connector, Comp., Lug, AL, 1000 MCM	3	1501
24	Hot Line Clamp, GP1530	3	284
25	Bolt, Machine, 1/2" x 2" Assembly	6	1389
26	Conductor, #4 BSDC, 1/C	10	376
27	Cable Positioner	3	2229
28	Screw, Lag, 1/2" x 4 1/2"	6	1132
29	Connector, Crimpet, Cu 2/0-C-4	3	456
30	Conduit, 4" x 10', Sch 80	9	2203
31	Clamp, Standoff Bracket, 4"	9	297
32	4" End Bell, Sch 40	3	2204
33	Conductor, #2 Cu Covered, 1/C, 600v HMP	15	393
34	Standoff Bracket, 15"	3	227
35	Phase A Tag	1	1280
36	Phase B Tag	1	1281
37	Phase C Tag	1	1282
38	Connector, Crimpet, CU, 2/0-2/0	6	457
39	Wildlife Guard	3	2558
40	Disconnect, 600 Amp, Single Blade	3	2531
41	Fault Indicator, 400A, OH, Beacon	3	2558

	CONSTRUCTION STANDARDS 1000 MCM CABLE RISER WITH 600 AMP DISCONNECTS		REVISIONS			
			△	DATE	ENGR	OPS
PAGE: 2 of 2		UPR5		CAD FILE: UPR5	APP: CM/AH DATE: 1/13/10	SECTION 1600

ASSEMBLY DIAGRAM

ONE ASSEMBLY PER 600A PHASE



Rev 2: Added Voltage-reset fault indicator to drawing and USG1 600A elbow kit.

ITEM NO.	DESCRIPTION	USG1	
		QTY.	S/N
1	600A Elbow Kit For Switchgear	1	2692
	Consists Of #2 to #8:		
2	Housing Elbow, 600A	1	1825
3	Adapter, Cable, 1000 MCM	1	1
4	Contact, Conductor, 1000 MCM, Al	1	941
5	Plug, Loadbreak Reducing tap, 600A-200A	1	1769
6	Cap, Protective Insulated, 200A, 15KV	1	265
7	600A Al Stud	1	2704
8	600A Elbow Sealing Kit	1	2376

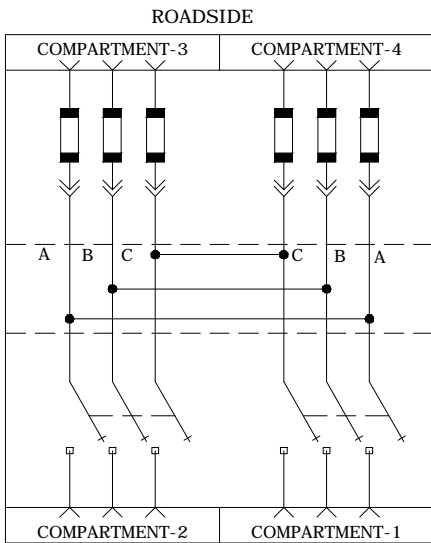


CONSTRUCTION STANDARDS

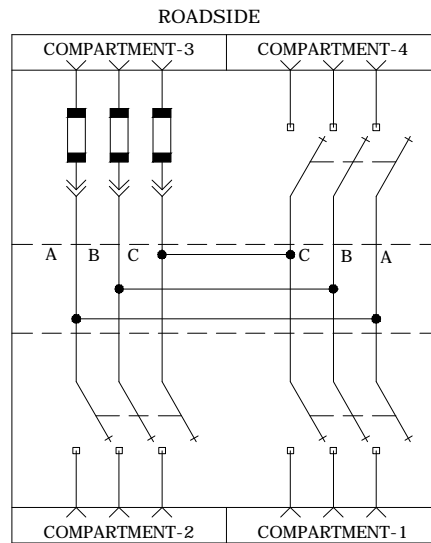
PADMOUNT SWITCHGEAR
600 AMP ELBOW - 1000MCM CABLE

REVISIONS			
DATE	ENGR	OPS	
2/23/00	HWH	MA	
1/11/04	LB	AH	
4/29/09	CM	AH	

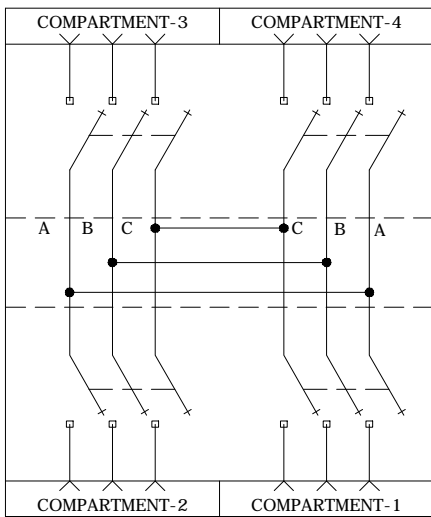
APP: JEH	SECTION
DATE: 2/22/00	1600



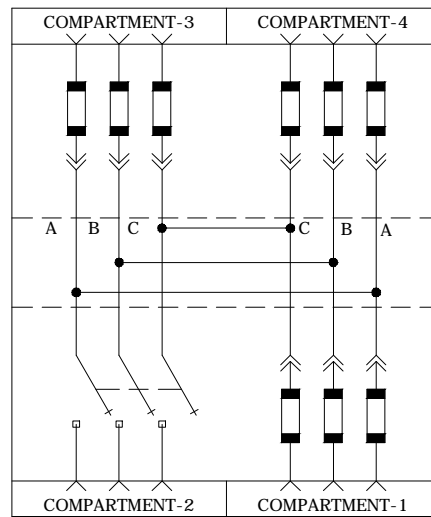
PMDF9



PMDF11



PMDF10



PMDF12

PADMOUNT DEADFRONT (District Standard)	PADMOUNT LIVEFRONT	600 AMP 3Ø SWITCH	200 AMP 3Ø POSITIONS
PMDF9	PMLF9	2	2
PMDF10	PMLF10	4	0
PMDF11	PMLF11	3	1
PMDF12	PMLF12	1	3

Rev 3: Changed to Voltage-reset fault indicators and added sealing kit.



CONSTRUCTION STANDARDS

PADMOUNT SWITCHGEAR CHART

REVISIONS			
REV	DATE	ENGR	OPS
0	2/23/00	HWH	MA
1	1/11/04	LB	AH
2	10/7/05	LB	AH
3	4/29/09	CM	AH

APP: JEH	SECTION
DATE: 2/22/00	1600

Rev 3: Changed to Voltage-Reset fault indicators and added sealing kit.

DEADFRONT (District standard)

ITEM NO.	DESCRIPTION	S/N	PMD F9	PMD F10	PMD F11	PMD F12
			QTY	QTY	QTY	QTY
1	600A Elbow Kit For Switchgear	2692	6	12	9	3
	Consists Of #2 to #8:					
2	Housing, Elbow, 600 AMP	1825	6	12	9	3
3	Adapter, Cable, 1000 MCM	1	6	12	9	3
4	Contact, Conductor, 1000 MCM	941	6	12	9	3
5	Plug, Loadbreak Reducing Tap, 600/200 A	1769	6	12	9	3
6	Cap Protective, Insulated, 200A 15 KV	265	6 *	12	9 *	3 *
7	600A Al Stud	2704	6	12	9	3
8	Elbow Sealing Kit, 600A	2376	6	12	9	3
9	Clamp, Ground Rod, Large	282	2	2	2	2
10	Conductor, 2/0 BC, 7 STR	379	50	50	50	50
11	Connector, Crimpet, 2/0 - 2/0	457	4	4	4	4
12	Rod, Ground, 5/8" x 8'	1124	2	2	2	2
13	Vault, Concrete, 600 AMP SW, Mod. U-J-6	1541	1	1	1	1
14	Switch, Padmt, Deadfront, PMDF 9	2458	1			
	PMD F 10	2452		1		
	PMD F 11	2459			1	
	PMD F 12	CONTACT STANDARDS ENGINEER - NOT STOCKED				
15	Holder, Fuse, Padmount, Deadfront	2466	6		3	9
16	Fault Indicator, 800A, Voltage-Reset, Beacon	2695 *	1	3	2	
17	Caulk, Switchgear	2604	1	1	1	1

LIVEFRONT (Non-standard. For Maintenance only)


ITEM NO.	DESCRIPTION	S/N	PML F9	PML F10	PML F11	PML F12
			QTY	QTY	QTY	QTY
1	Bolt, Machine, 1/2" x 2", SS	132	24	24	24	24
2	Clamp, Ground Rod	282	2	2	2	2
3	Conductor, 2/0 BC, 7 STR	379	50	50	50	50
4	Connector, Comp Lug YCA26-2NCU 2/0	481	6		3	9
5	Connector, Crimpet, 2/0 - 2/0	457	4	4	4	4
6	Rod, Ground, 5/8" x 8'	1124	2	2	2	2
7	2" x 1/2" Bolt Assembly	1389	24	24	24	24
8	Connector, Comp Lug, YA44-A3AL/CU 1000 MCM	1501	6	12	9	3
9	Vault, Concrete, 600 AMP SW, Mod. U-J-6	1541	1	1	1	1
10	Terminator, Outdoor, Molded Rubber, 2/0	2214	6		3	9
11	Terminator, Outdoor, Butyl, 600 AMP, 1000 MCM	2225	6	12	9	3
12	Switch, Padmt, Livefront, PMLF9	1265	1			
	PML F10	1264		1		
	PML F11	1468			1	
	PML F12	1471				1
13	Holder, Fuse, Padmount, Livefront	745	6		3	9
14	Fault Indicator, 800A, Current-Reset, Beacon	2463	1	3	2	
15	Caulk, Switchgear	2604	1	1	1	1

NOTE 1: MATERIAL ISSUE HAS THE MAXIMUM NUMBER OF FAULT INDICATORS THAT MAY BE USED. ENGINEER TO DETERMINE THE ACTUAL NUMBER NEEDED.

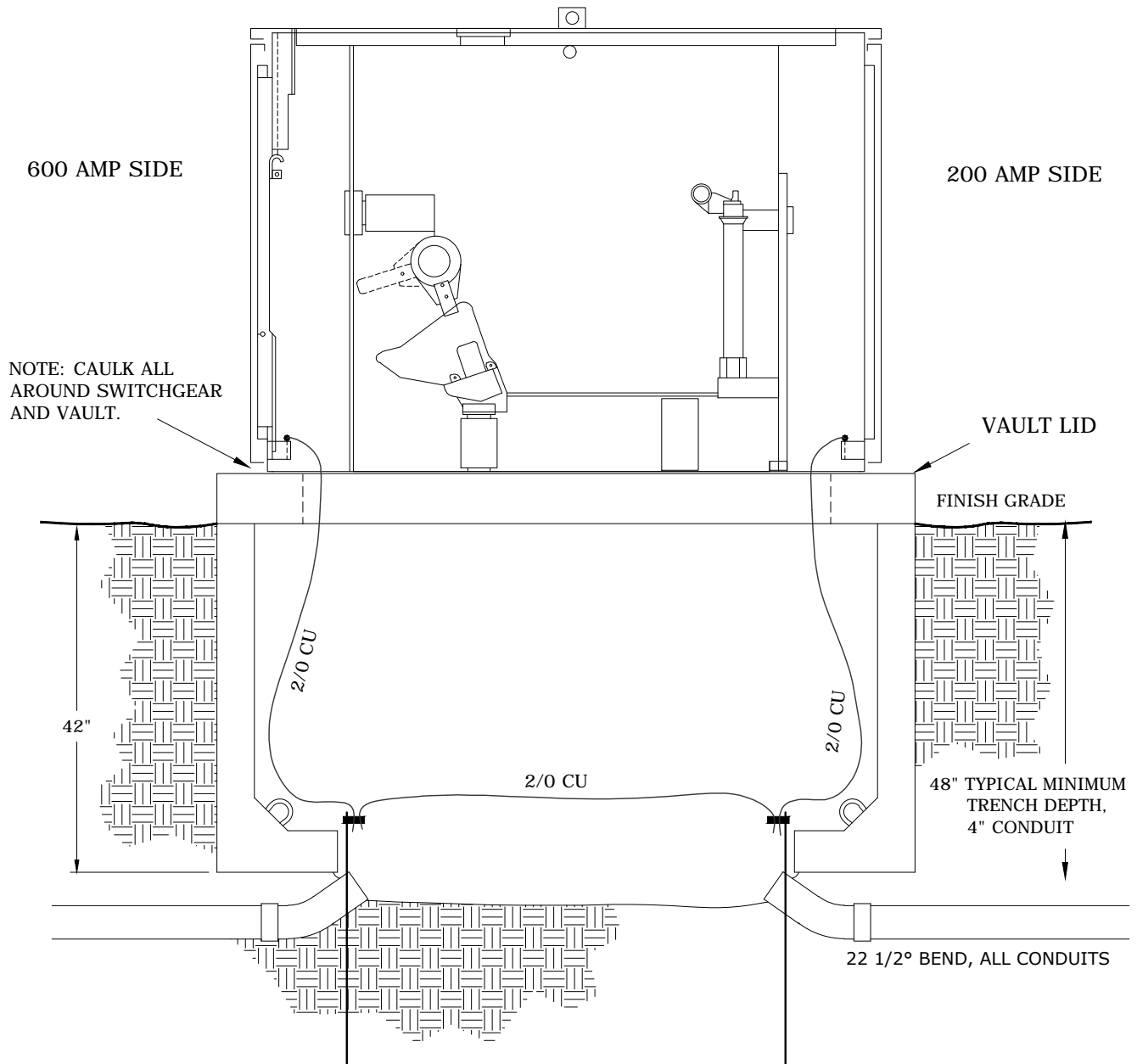
NOTE 2: THE ENGINEER SHOULD CALL FOR 3 SPARE FUSES TO BE STORED IN THE SWITCHGEAR CABINET.

FUSE SIZE	S/N
65 E	661
100 E	662
125 E	663

CONTACT SYSTEMS ENGINEERING FOR PROPER FUSE COORDINATION.

	CONSTRUCTION STANDARDS PADMOUNT SWITCHGEAR CHART		REVISIONS																							
			<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>ENGR</th> <th>OPS</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>2/23/00</td> <td>HWH</td> <td>MA</td> </tr> <tr> <td>1</td> <td>1/11/04</td> <td>LB</td> <td>AH</td> </tr> <tr> <td>2</td> <td>10/7/05</td> <td>LB</td> <td>AH</td> </tr> <tr> <td>3</td> <td>4/29/09</td> <td>CM</td> <td>AH</td> </tr> </tbody> </table>	REV	DATE	ENGR	OPS	0	2/23/00	HWH	MA	1	1/11/04	LB	AH	2	10/7/05	LB	AH	3	4/29/09	CM	AH			
	REV	DATE	ENGR	OPS																						
0	2/23/00	HWH	MA																							
1	1/11/04	LB	AH																							
2	10/7/05	LB	AH																							
3	4/29/09	CM	AH																							
PAGE: 2 of 2	USG2	CAD FILE: USG2	APP: JEH DATE: 2/22/00	SECTION 1600																						

TYPICAL CROSS-SECTION
SEE USG-2 FOR OPTIONS



NOTE 1: INSTALL 2 GROUND RODS AND 2/0 CU BUS LOOP AROUND VAULT & BOND TO SWITCHGEAR CASE IN OPPOSITE CORNERS.

NOTE 2: BOND CONCENTRIC NEUTRAL FROM URD CABLE TO 2/0 CU GROUND. LEAVE ENOUGH SLACK TO OPERATE CABLES.

* NOTE 3: REMOTE INDICATOR FOR FAULT INDICATOR IS TO BE INSTALLED IN THE UPPER HINGED-SIDE OF DOOR OF COMPARTMENT WITH INDICATOR.

REV 1: ADDED NOTE 3 AND CORRECTED NOTES 1 & 2

REV 2: ADDED CAULK NOTE



CONSTRUCTION STANDARDS
DEADFRONT SWITCHGEAR

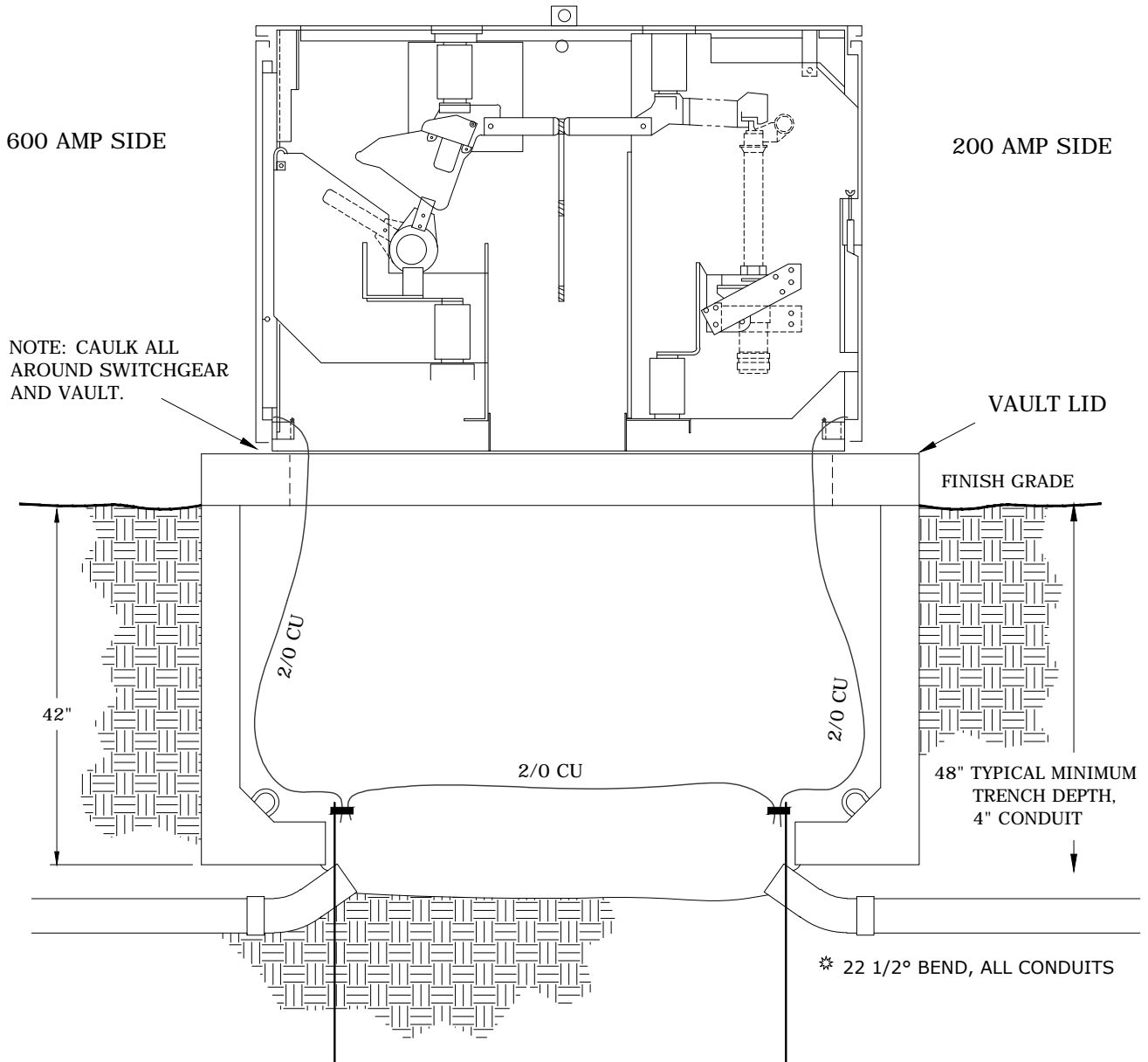
PAGE:
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USG3

CAD FILE:
USG-3

REVISIONS			
△	DATE	ENGR	OPS
0	2/23/00	HWH	MA
1	1/11/04	LB	AH
2	10/7/05	LB	AH
△			
APP:	JEH	SECTION	
DATE:	2/22/00	1600	

TYPICAL CROSS-SECTION
SEE USG-2 FOR OPTIONS



NOTE 1: INSTALL 2 GROUND RODS AND 2/0 CU BUS LOOP AROUND VAULT AND BOND TO SWITCHGEAR CASE IN OPPOSITE CORNERS.

NOTE 2: BOND CONCENTRIC NEUTRAL FROM URD CABLE TO 2/0 CU GROUND. LEAVE ENOUGH SLACK TO OPERATE CABLES.

* NOTE 3: REMOTE INDICATOR FOR FAULT INDICATOR IS TO BE INSTALLED IN THE UPPER HINGED-SIDE OF DOOR OF COMPARTMENT WITH INDICATOR.

REV 1: ADDED NOTE 3 - 22 1/2° BEND FOR CONDUITS

REV 2: ADDED CAULKING NOTE



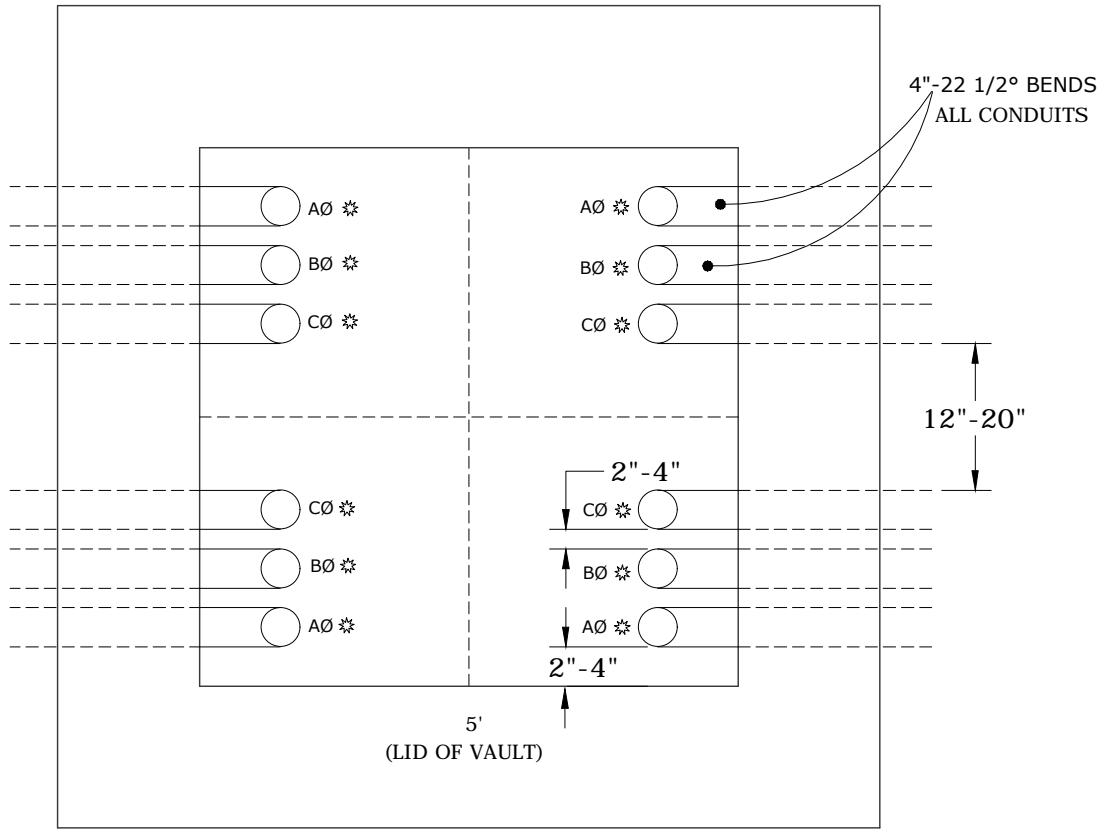
CONSTRUCTION STANDARDS
LIVEFRONT SWITCHGEAR

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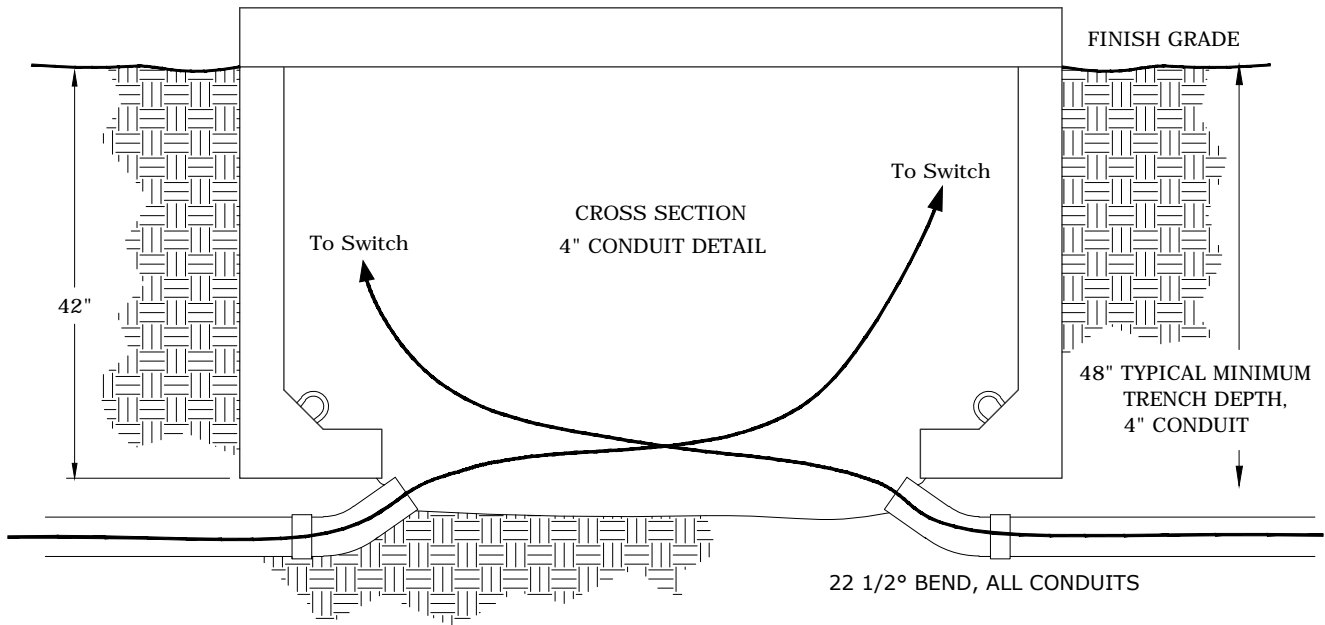
USG4

CAD FILE:
USG-4

REVISIONS			
△	DATE	ENGR	OPS
0	2/23/00	HWH	MA
1	1/11/04	LB	AH
2	10/7/05	LB	AH
△			
APP:	JEH	SECTION	
DATE:	2/22/00	1600	



VAULT PLAN VIEW
(CONDUIT SHOWN AS TYPICAL FOR 4" CONDUITS)



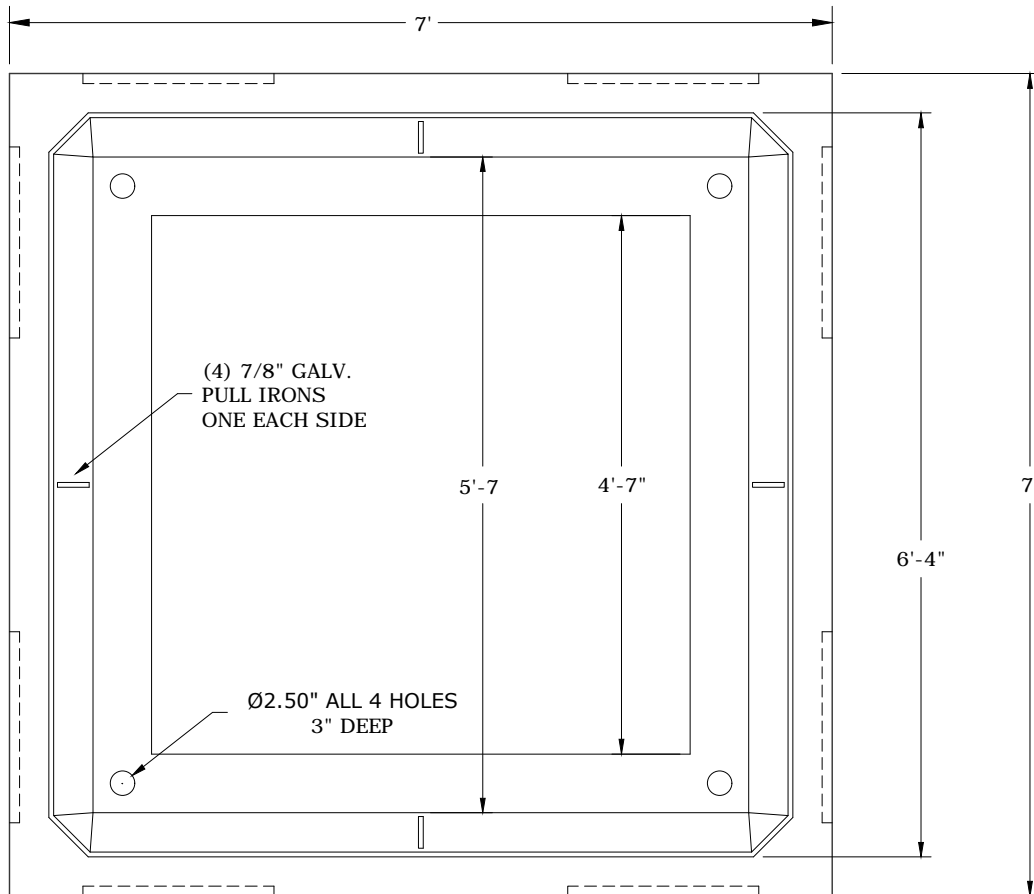
ITEM NO.	DESCRIPTION	QTY	S/N
1	VAULT, CONCRETE W/LID	1	1541
2	COVER, VAULT 71" X 77", FIBERGLASS	1	2495

REV 1: ADDED PHASING TO CONDUITS AND MATERIAL ISSUE.

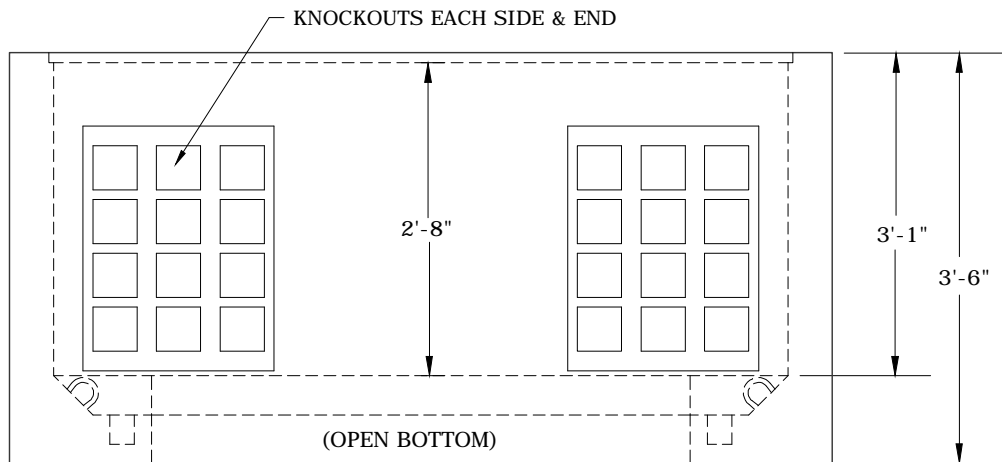


CONSTRUCTION STANDARDS
SWITCH VAULT DUCT ENTRY
FOR 1000MCM CABLE

REVISIONS			
DATE	ENGR	OPS	
2/23/00	HWH	MA	
1/11/04	LB	AH	
APP: JEH			
DATE: 2/22/00		SECTION 1600	



Top View (Vault)



Front View (Vault)

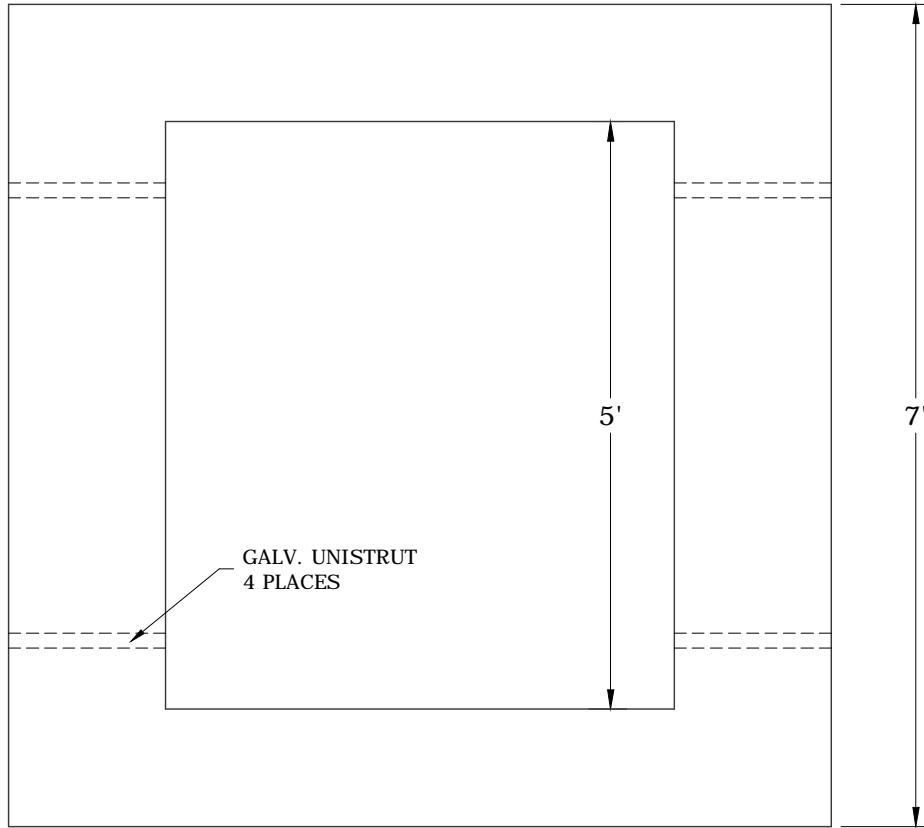
S/N 1541 - VAULT, CONCRETE, 600 AMP SW MOD
 (INCLUDES LID USG-7)
 BASE WIEGHT - 6,040 Lbs
 COLLAR WIEGHT - 2,740 Lbs

REV 1 - ADD S/N
 R2 - Minor drawing changes

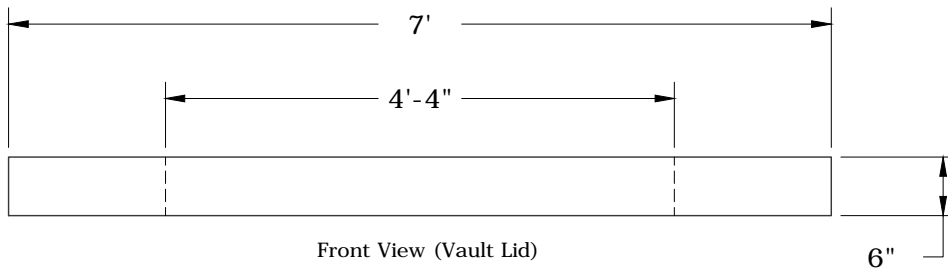


CONSTRUCTION STANDARDS
 SWITCH VAULT DETAIL
 VAULT BASE

REVISIONS			
NO.	DATE	ENGR	OPS
1	2/23/00	HWH	MA
2	7/15/02	JEH	TR
2 MINOR DRAWING CHANGES			
APP:		SECTION	
DATE: 11/94		1600	



Top View (Vault Lid)



Front View (Vault Lid)

S/N 1541 - VAULT, CONCRETE, 600 AMP SW MOD
 (INCLUDES VAULT USG-6)
 BASE WIEGHT - 6,040 Lbs
 COLLAR WIEGHT - 2,740 Lbs

S/N 2495 - COVER, VAULT, 71"x77" FIBERGLASS
 (TO BE USED WHEN SWITCHGEAR WILL BE INSTALLED LATER)
 TOTAL WIEGHT - 798 Lbs

R1 - Minor drawing changes



CONSTRUCTION STANDARDS
 SWITCH VAULT DETAIL
 VAULT COVER

PAGE:
1 of 1

USG-7

CAD FILE:
USG-7

REVISIONS			
△	DATE	ENGR	OPS
0	2/23/00	HWH	MA
1	7/15/02	JEH	TR
△ MINOR DRAWING CHANGES			
APP:	JEH	SECTION	
DATE:	2/22/00	1600	