

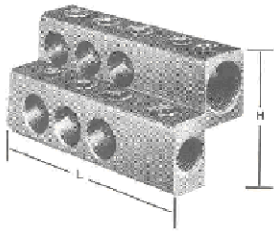
# 1700

## UNDERGROUND SECONDARY

12/19/2022

~	UB30-UB60	Basic Units - Underground Secondary
~	UBDR	120/240 Temporary Pedestal Mounted BDR
C	UE18,UE38	Secondary J-Box 17" x 30" x 18" Deep (Light Duty) Secondary J-Box 24" x 36" x 18"
C	UED6	Secondary Pedestal Assembly
~	US-1	UG Secondary Splice
~	US6	Padmount Transformer Assembly 1Ø Secondary
~	US35-US38	Secondary Connectors 3Ø Padmount Transformer

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



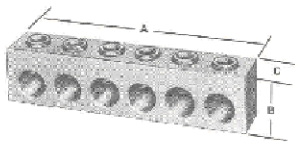
### Single Phase Padmount Transformer Terminal

UB30's	Material Descriptions	TDM #	Const. Spec.
	Connector PTL 4-250 UG Al/Cu 6 to 4/0	1439	UB30
	Connector PTL 4-350 UG Al/Cu 6 to 350	539	UB31
	Connector PTL 6-250 UG Al/Cu 6 to 4/0	540	UB32
	Connector PTL 6-350 UG Al/Cu 6 to 350	541	UB33
	Connector PTL 6-500 UG Al/Cu 2 to 500	542	UB34



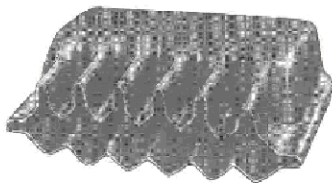
### Three Phase Padmount Transformer Terminal

See US35 through US40 for Three Phase Padmount Transformer Terminals



### Pedestal and Junction Box Connector

UB50's	Material Descriptions	TDM #	Const. Spec.
	Connector PTL 4-250 UG Al/Cu 6 to 4/0	527	UB50
	Connector PTL 4-350 UG Al/Cu 6 to 350	528	UB51
	Connector PTL 4-500 UG Al/Cu 2 to 500	529	UB52
	Connector PTL 6-250 UG Al/Cu 6 to 4/0	530	UB53
	Connector PTL 6-350 UG Al/Cu 6 to 350	531	UB54
	Connector PTL 6-500 UG Al/Cu 2 to 500	532	UB55
	Connector PTL 6-750 UG Al/Cu 350 to 750	533	UB56
	Connector PTL 8-500 UG Al/Cu 2 to 500	534	UB57
	Connector PTL 8-750 UG Al/Cu 2 to 750	535	UB58



### PTL, PET, PED Cover

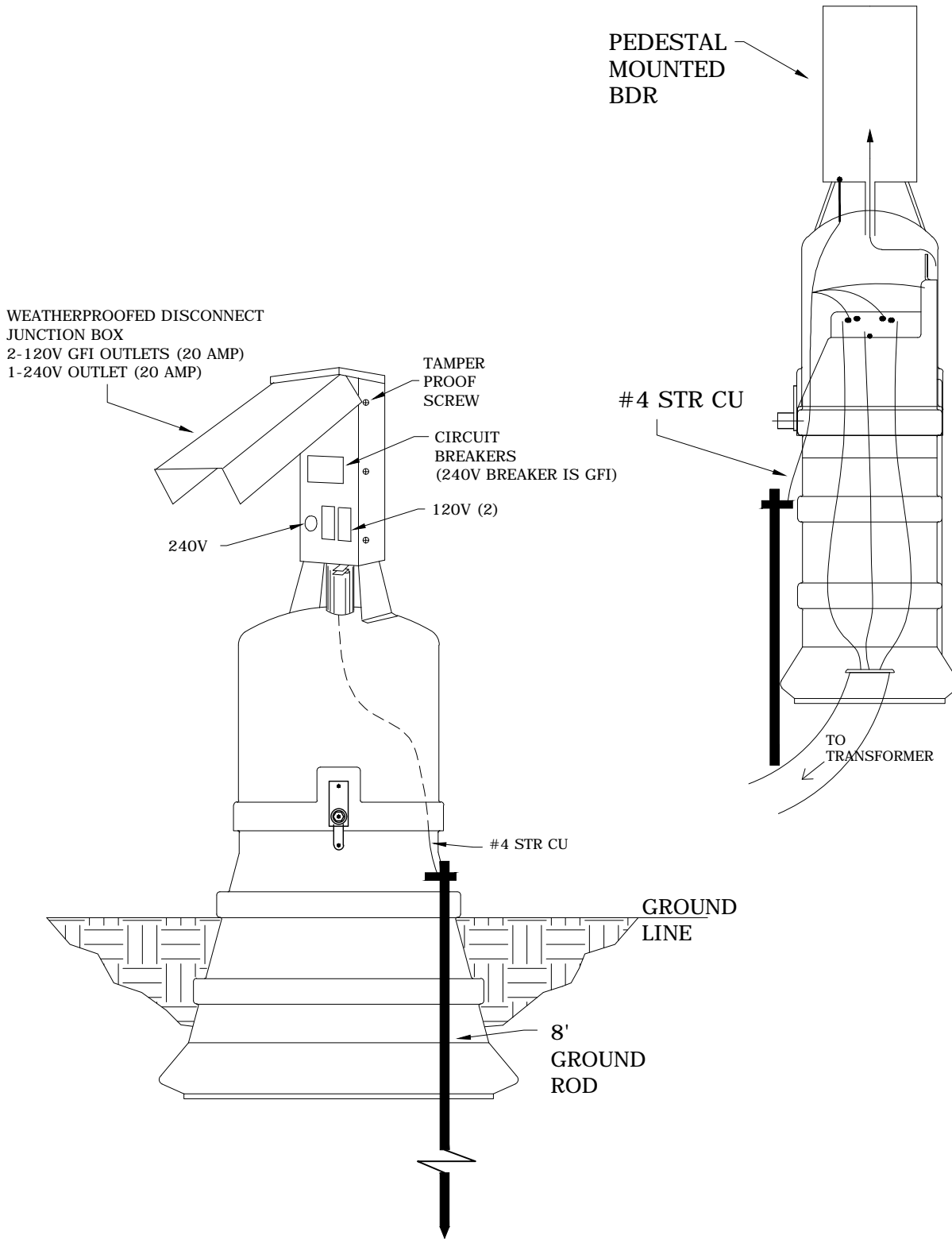
UB60's	Material Descriptions	TDM #	Const. Spec.
	Cover, Connector 4-350 UG	573	UB60
	Cover, Connector 6-500 UG	574	UB61
	Cover, Connector 8-500 UG	575	UB62
	Cover, Connector 8-750 UG	576	UB63



## CONSTRUCTION STANDARDS

### BASIC UNITS UNDERGROUND SECONDARY

REVISIONS			
Δ	DATE	ENGR	OPS
3	8/16/02		
Δ REDRAWN IN CAD			
APP:	ELM	SECTION	
DATE:	1/22/80	1700	



### CONNECTION DIAGRAM

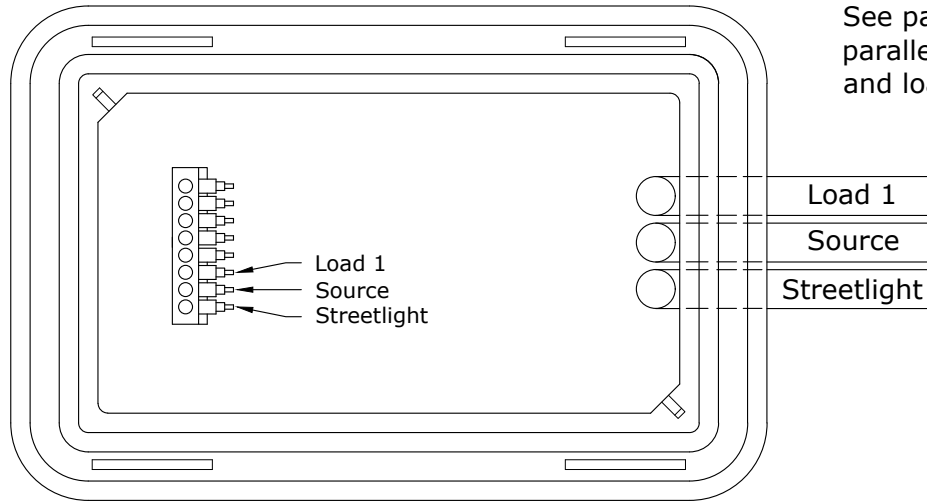
REV 2: Removed note



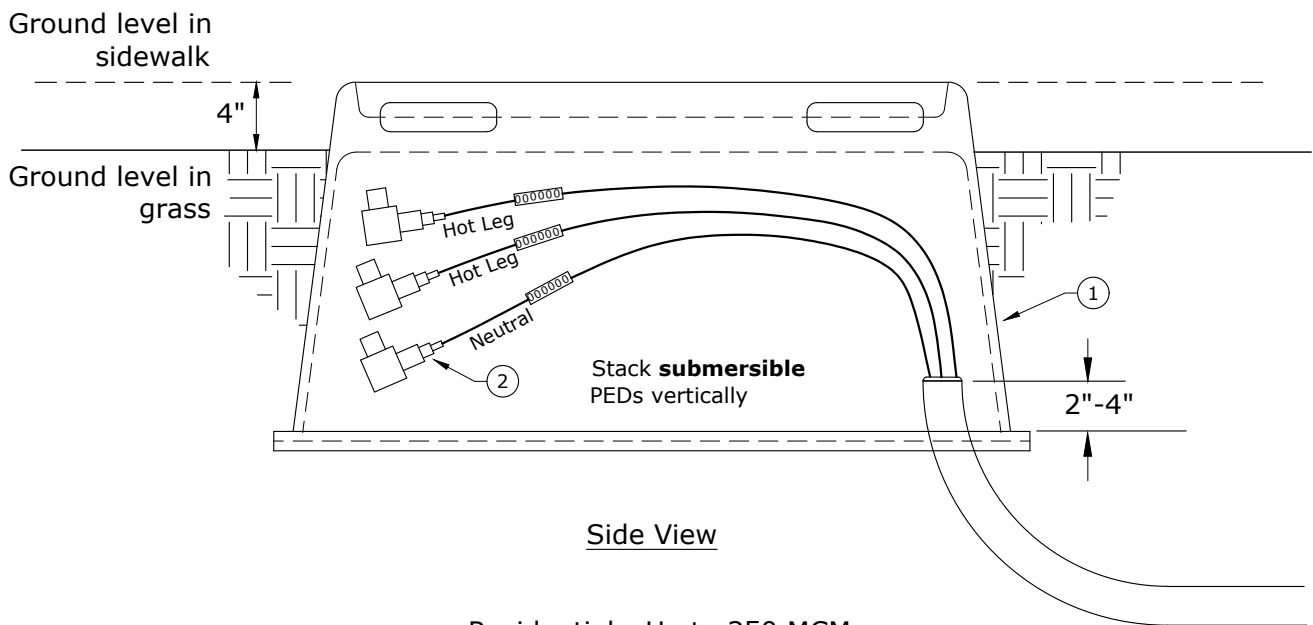
## CONSTRUCTION STANDARDS

120/240 TEMPORARY  
PEDESTAL MOUNTED BDR

REVISIONS											
REV	DATE	ENGR	OPS								
0	2/23/00	HWH	MA								
1	4/26/04	LB	AH								
2	5/30/07	LB	AH								
<table border="1"> <tr> <td>APP:</td> <td>JEH</td> <td colspan="2">SECTION</td> </tr> <tr> <td>DATE:</td> <td>2/22/00</td> <td colspan="2">1700</td> </tr> </table>				APP:	JEH	SECTION		DATE:	2/22/00	1700	
APP:	JEH	SECTION									
DATE:	2/22/00	1700									



Top View



Side View

Residential - Up to 350 MCM  
Commercial - Up to 500 MCM

**Notes:**

1. Do not install S/N 2556 in streets, alleys, or highways.
2. Cut all cables long enough to allow makeup to be done above the box top with cables in an approximately vertical position.
3. Bend cables down after makeup so that lid can be installed.
4. Use silicone grease on all allen wrench plugs and cable boots (both ends).
5. If additional depth is needed, place one box upside down, bolt the 2 boxes together and salvage one lid. (S/N 2556 only).

Rev. 7 - Added drawing for parallel source and loads.



**CONSTRUCTION STANDARDS**

SECONDARY JUNCTION BOX  
17" x 30" x 18" DEEP (LIGHT DUTY)  
24" x 36" x 18" DEEP (HEAVY DUTY)

PAGE:  
1 of 2

**UE18,UE38**

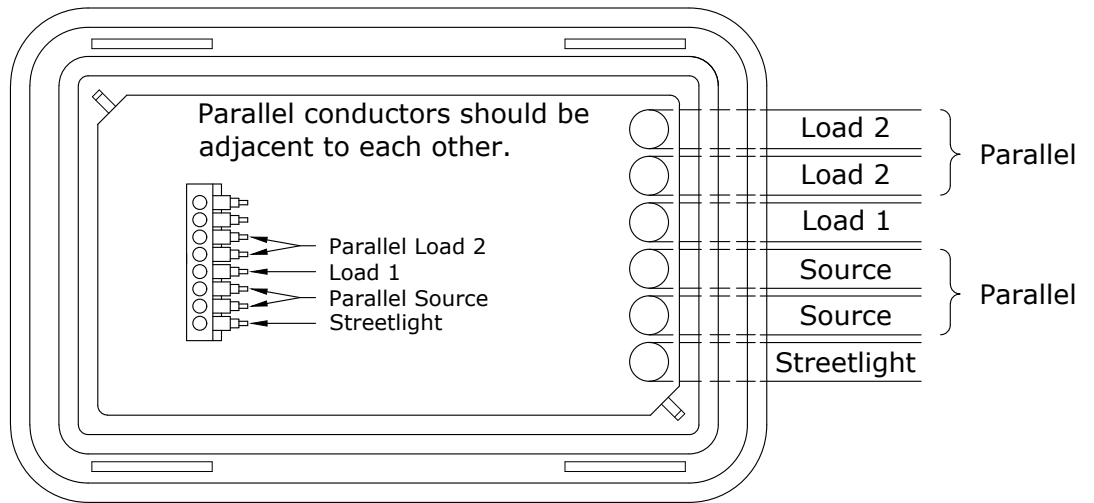
CAD FILE:  
UE18

REVISIONS			
Δ	DATE	ENGR	OPS
4	10/29/18	KJP	
5	6/24/19	JDK	
6	12/2/19	KJP	
7	12/9/22	CRM	GM

APP: GGW/RWG	SECTION
DATE: 4/92	<b>1700</b>

Zip tie ONE tag around each set of parallel cables.



Top View  
**Parallel Source and Loads**

Occasional Traffic Areas (S/N 2556):

- Rated 10,000 pounds
- This box is NOT for use in streets, alley or highways. Do NOT use in driveways if location is part of the normal traveled way

Heavier Traffic Areas (S/N 2608):

- Rated 20,000 pounds
- This box is 24" x 36" x 18"
- May be used in alleys or driveways-only rated 20k
- Do NOT use in streets or highways

Rev. 7 - Added drawing for parallel source and loads.

ITEM NO	DESCRIPTION	UE18	
		QTY	S/N
1	Box, Junction, Secondary, Composite, Light Duty (10k lb) with Cover, 17" x 30" x 18" with Pentabolts	1	2556
2	Connector, Submersible, Sec., 8 Position, #12 to 500 MCM Al/Cu	3	2264
ITEM NO	DESCRIPTION	UE18H	
		QTY	S/N
1	Box, Junction, Secondary, Composite, Heavy Duty (20k lb) with Cover, 24" x 36" x 18" with Pentabolts	1	2608
2	Connector, Submersible, Sec., 8 Position, #12 to 500 MCM Al/Cu	3	2264
ITEM NO	DESCRIPTION	UE38	
		QTY	S/N
1	Box, Junction, Secondary, Composite, Light Duty (10k lb) with Cover, 17" x 30" x 18" with Pentabolts	1	2556
2	Connector, Submersible, Sec., 8 Position, #12 to 500 MCM Al/Cu	4	2264
ITEM NO	DESCRIPTION	UE38H	
		QTY	S/N
1	Box, Junction, Secondary, Composite, Heavy Duty (20k lb) with Cover, 24" x 36" x 18" with Pentabolts	1	2608
2	Connector, Submersible, Sec., 8 Position, #12 to 500 MCM Al/Cu	4	2264



**CONSTRUCTION STANDARDS**

SECONDARY JUNCTION BOX  
17" x 30" x 18" DEEP (LIGHT DUTY)  
24" x 36" x 18" DEEP (HEAVY DUTY)

PAGE:  
2 of 2

**UE18,UE38**

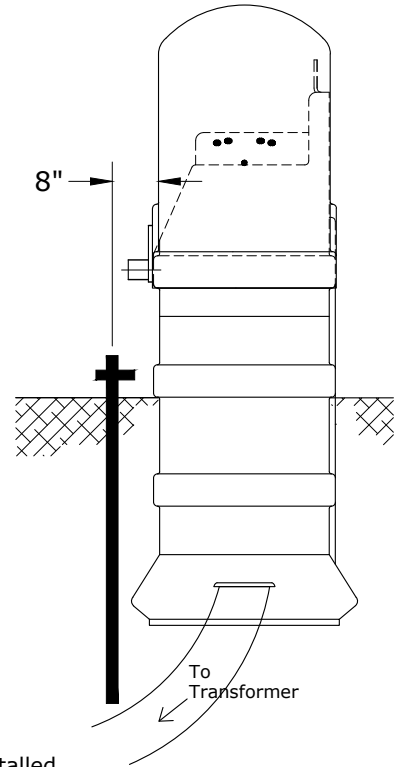
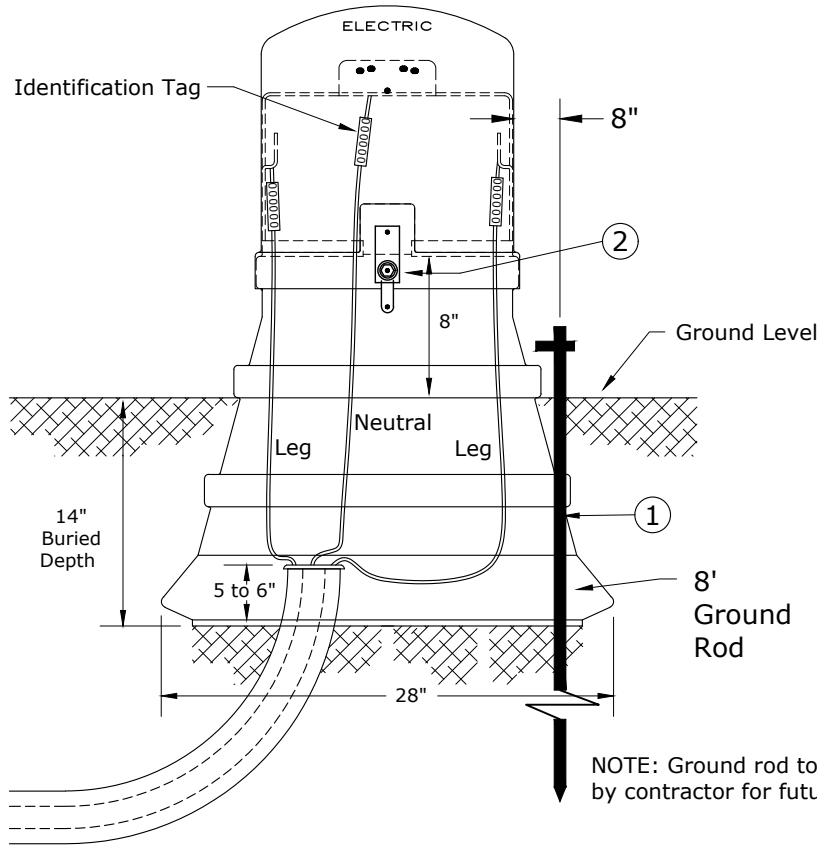
CAD FILE:  
UE18

REVISIONS			
Δ	DATE	ENGR	OPS
4	10/29/18	KJP	
5	6/24/19	JDK	
6	12/2/19	KJP	
7	12/9/22	CRM	GM

APP: GGW/RWG	SECTION
DATE: 4/92	<b>1700</b>

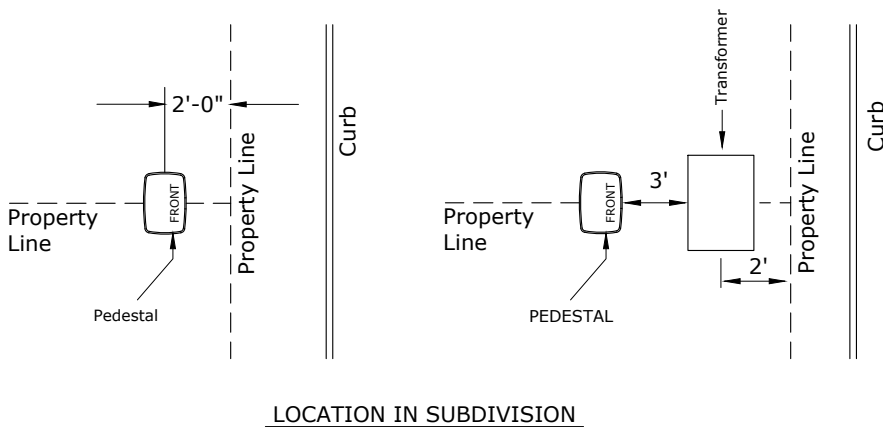
**FRONT VIEW**

**SIDE VIEW**



NOTE: Ground rod to be installed by contractor for future BDR.

- Notes: 1.) Leave slack in wire to allow for settling.  
 2.) Recommended torque for connectors: 23-38 ft-lb



LOCATION IN SUBDIVISION

**FOR 480V SERVICE**

<p><b>WARNING</b></p> <p>Hazardous voltage inside. Will shock, burn, or cause death.</p> <p>If unlocked or open immediately call Clark Public Utilities 360-892-3000.</p> <p><b>480Volts</b></p>	<p><b>NOTICE</b></p> <p>We need room to work safely on this electrical supply device. Please keep shrubs and structures 3 ft. away from all sides. Obstructions cause delays when restoring electric service.</p> <p><b>CAUTION</b></p> <p>UNRESPONDED POWER CABLES ARE LOCATED IN THIS AREA CALL BEFORE YOU DIG</p>
--	--

Add S/N 794 "480 VOLTS" Label to "WARNING" label when pedestal is used for 480 V service.

Rev. 3 - Added drawing for parallel source and load.



**CONSTRUCTION STANDARDS**  
 SECONDARY PEDESTAL ASSEMBLY

PAGE:  
1 of 3

**UED6**

CAD FILE:  
UED6

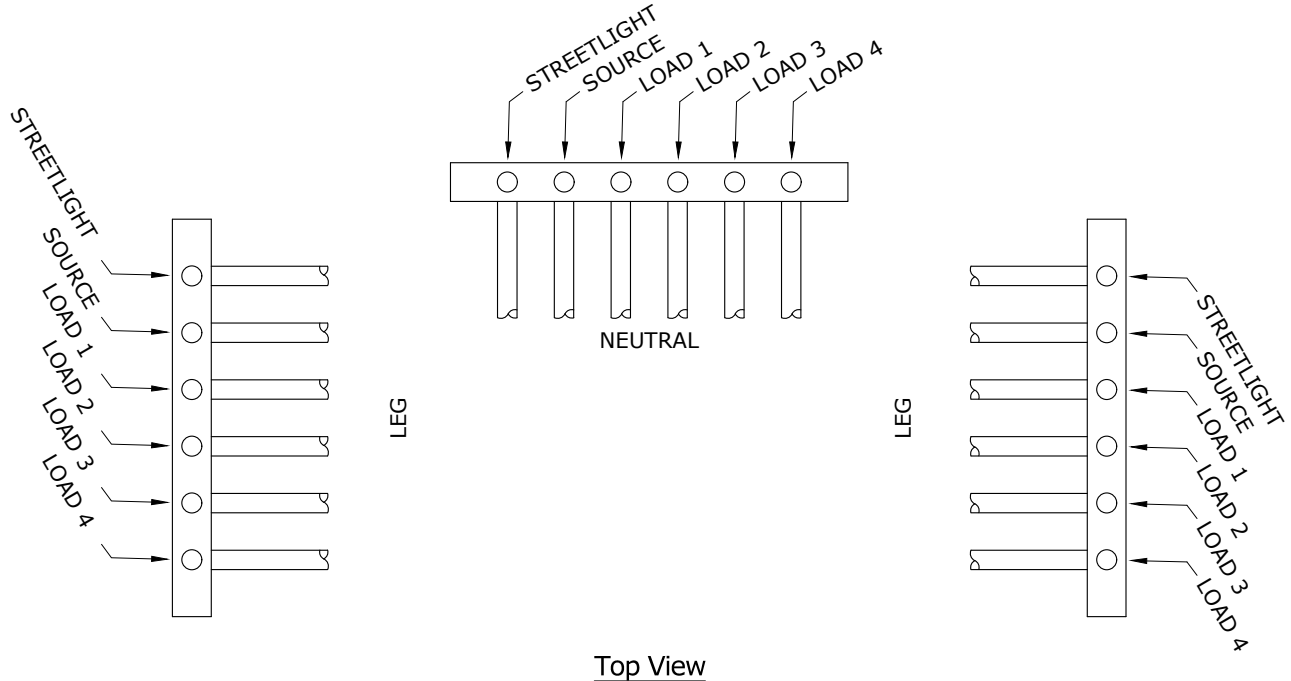
REVISIONS			
Δ	DATE	ENGR	OPS
	2/23/00	HWH	MA
1	4/26/04	LB	AH
2	3/12/20	KJP	
3	12/9/22	CRM	GM

APP: HWH/ELM	SECTION
DATE: 1980	1700

**DO NOT Cut Zip Ties off Plastic PED Covers**  
**Zip Ties MUST Be Reinstalled**

Back of Pedestal



Top View

**Recommended torque: 23-38 ft-lb**  
**Do NOT Use Impact Driver/Wrench**

- Notes: 1.) Maximum cable size is 350 MCM.  
 2.) Minimum cable size is #10.  
 3.) Maximum of 6 triplex cables.

Rev. 3 - Added drawing for parallel source and load.

ITEM NO	DESCRIPTION	UED6	
		QTY	S/N
1	Pedestal, Secondary, Above Ground, W/ Connectors and Covers *	1	2562
2	Lock, Equipment *	1	837



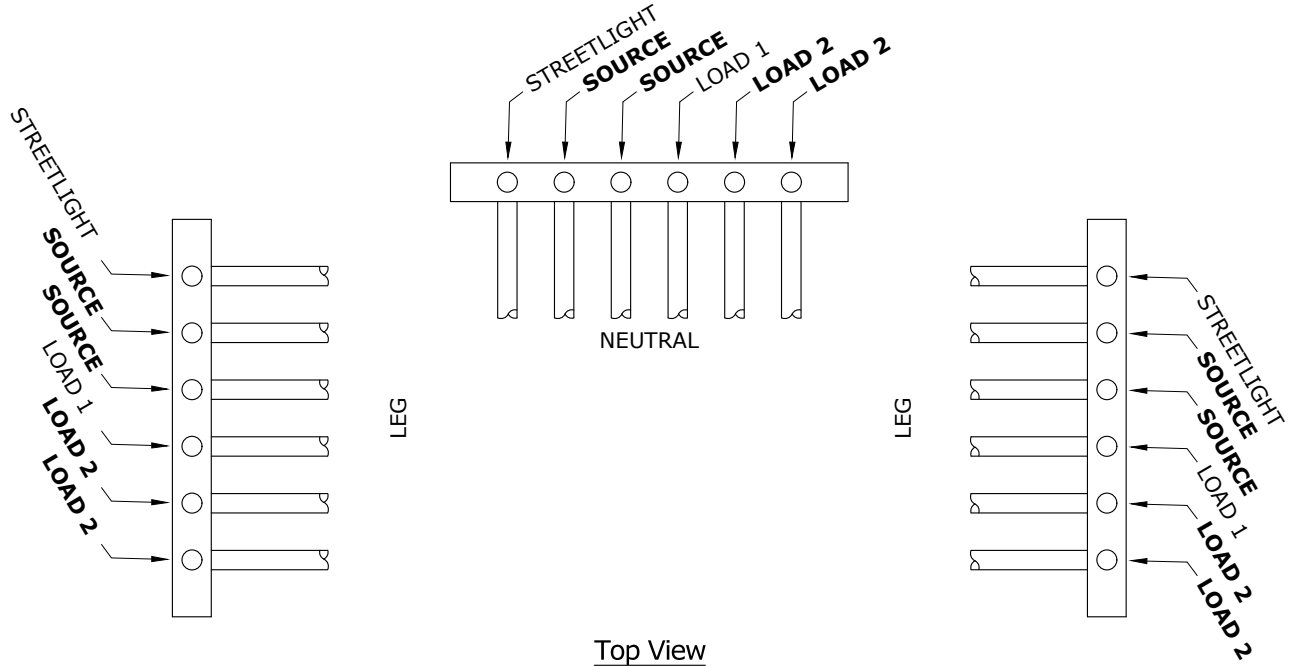
**CONSTRUCTION STANDARDS**  
 SECONDARY PEDESTAL ASSEMBLY

REVISIONS			
DATE	ENGR	OPS	
2/23/00	HWH	MA	
4/26/04	LB	AH	
3/12/20	KJP		
12/9/22	CRM	GM	

**DO NOT Cut Zip Ties off Plastic PED Covers**  
**Zip Ties MUST Be Reinstalled**

Zip tie ONE tag around each set of parallel cables

Back of Pedestal



Top View

**Parallel Source and Loads**



**Recommended torque: 23-38 ft-lb**  
**Do NOT Use Impact Driver/Wrench**

- Notes: 1.) Maximum cable size is 350 MCM.  
 2.) Minimum cable size is #10.  
 3.) Maximum of 6 triplex cables.

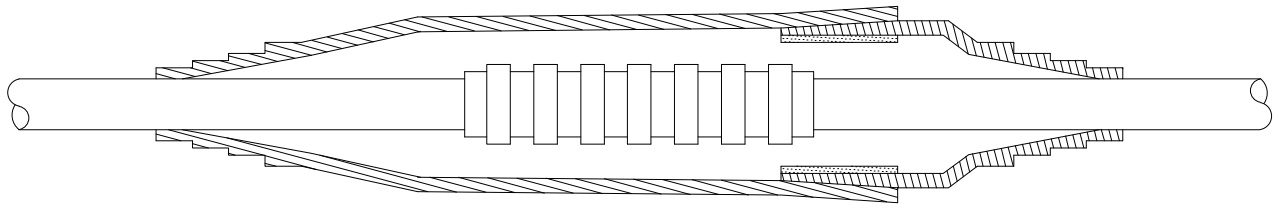
Rev. 3 - Added drawing for parallel source and load.

ITEM NO	DESCRIPTION	UED6	
		QTY	S/N
1	Pedestal, Secondary, Above Ground, W/ Connectors and Covers *	1	2562
2	Lock, Equipment *	1	837

	<b>CONSTRUCTION STANDARDS</b>			<b>REVISIONS</b>			
	SECONDARY PEDESTAL ASSEMBLY PARALLEL SOURCE AND LOADS				DATE	ENGR	OPS
				0	2/23/00	HWH	MA
				1	4/26/04	LB	AH
				2	3/12/20	KJP	GM
			3	12/9/22	CRM	GM	
PAGE: 3 of 3	<b>UED6</b>		CAD FILE: UED6	APP: HWH/ELM DATE: 1980	SECTION <b>1700</b>		





APPLY SILICONE GREASE TO CABLES FOR EASE OF ASSEMBLY.

NOTES:

1. THIS SPLICE IS FOR ANY 600 VOLT OR LESS APPLICATION.
2. THIS SPLICE CAN BE DIRECTLY BURIED OR USED IN A HAND HOLE OR VAULT.
3. OTHER SIZES ARE AVAILABLE FOR SPECIAL APPLICATIONS.

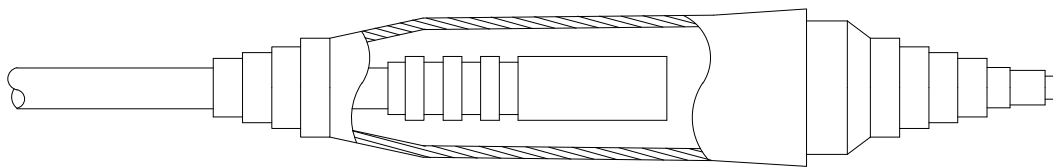
MATERIAL LIST

US-1

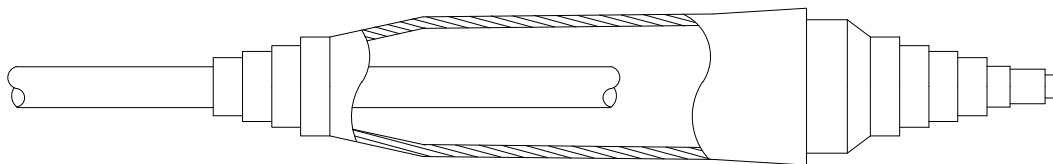
ITEM	QTY.	DESCRIPTION	SIN
1	1	SPLICE KIT, 600V, U.G.	1215
2	1	CONNECTOR, SLEEVE	#

WIRE SIZE	#SIN
2/0 AL	1166
4/0 AL	1167
350 AL	1169
2/0-4/0 AL	1454
4/0-350 AL	1455

OTHER USES



HALF-READY SPLICE



CABLE CAP



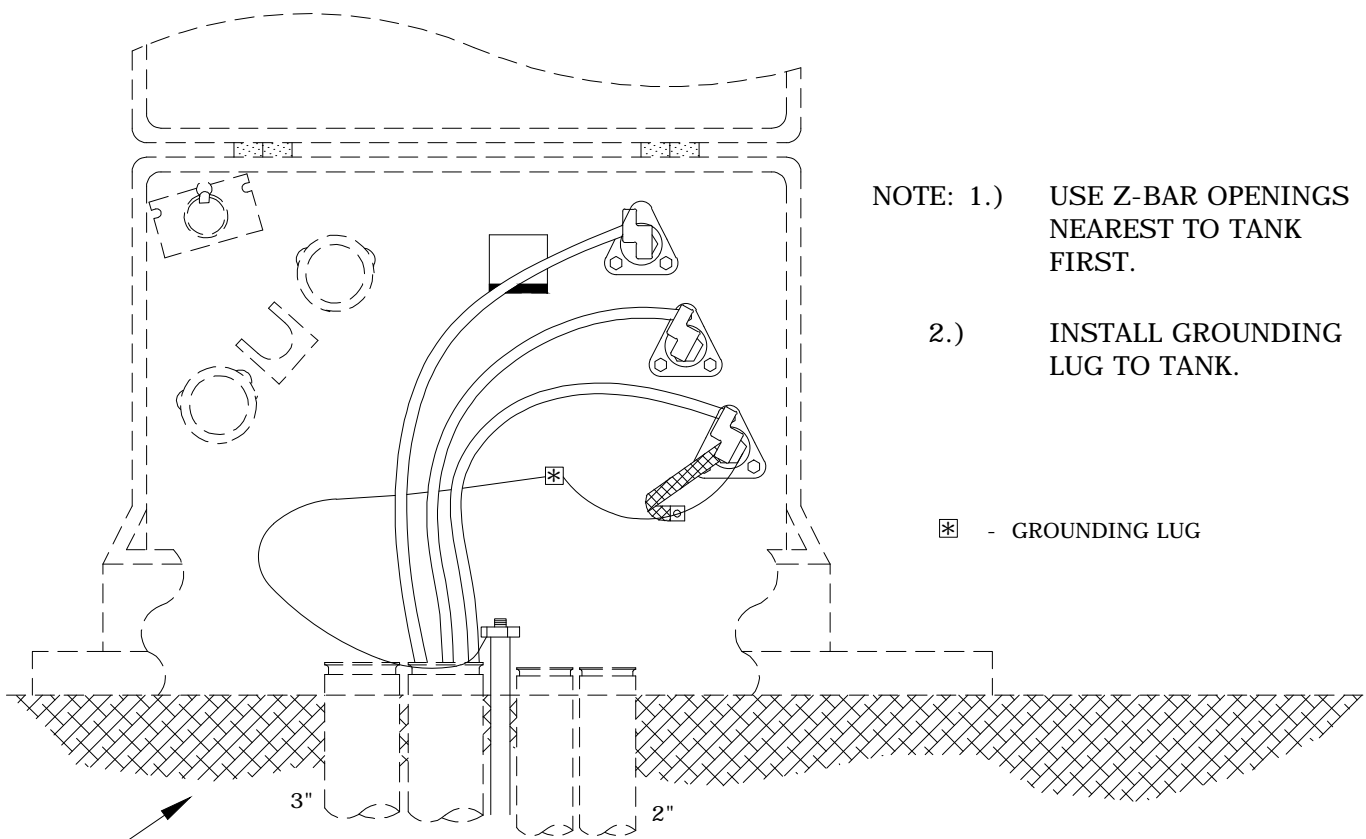
**CONSTRUCTION STANDARDS**  
UNDERGROUND SECONDARY  
SPLICE

REVISIONS

REV	DATE	ENGR	OPS
0	2/23/00	HWH	MA

APP:	SECTION
JEH	1700
DATE: 2/22/00	

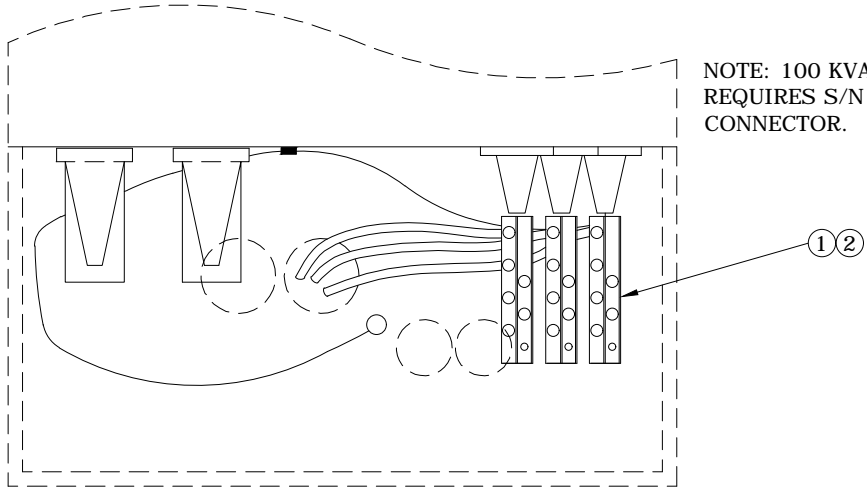


- NOTE: 1.) USE Z-BAR OPENINGS NEAREST TO TANK FIRST.
- 2.) INSTALL GROUNDING LUG TO TANK.

⊛ - GROUNDING LUG

SECONDARY CONDUITS AS NEEDED (MAXIMUM 6)

FRONT VIEW OF TRANSFORMER



NOTE: 100 KVA TRANSFORMER REQUIRES S/N #2318 FOR Z-BAR CONNECTOR. \*

TOP VIEW OF PAD WINDOW (SHOWING CONDUIT AND CONDUCTOR LOCATION)

REV 1 - ADDED GROUNDING LUG; CHANGED Z-BAR POSITION  
 REV 2 - UPDATED FOR ALL-CONDUIT SYSTEM AND ADDED "NOTE" FOR 100KVA Z-BAR CONNECTORS.

ITEM NO.	DESCRIPTION	REVISIONS	
		QTY.	S/N
1	Connector, Z-Bar #2-500KCM + St. Lt.	3	2265
2	Cover, Connector, U.G.	3	2266

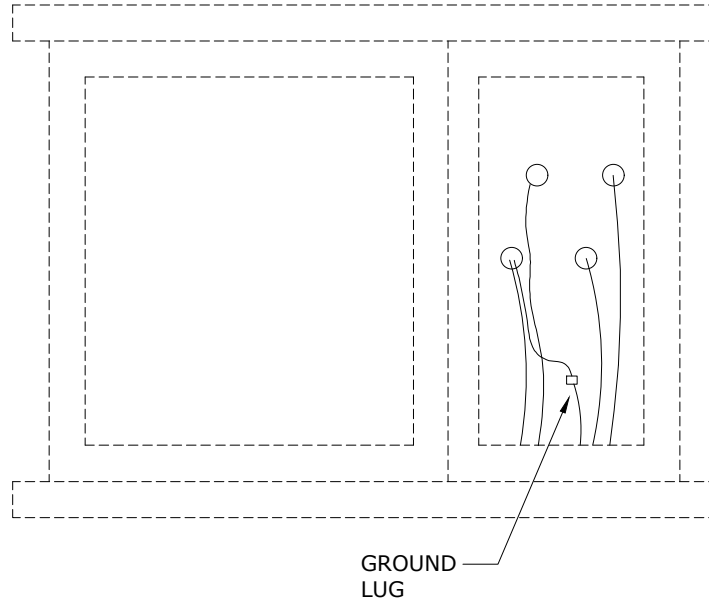


**CONSTRUCTION STANDARDS**  
 PADMOUNT TRANSFORMER ASSEMBLY  
 SINGLE PHASE SECONDARY

REV	DATE	ENGR	OPS
1	2/23/00	HWH	MA
2	12/29/04	LB	AH

⚠ ADDED GROUNDING LUG

APP: JEH	SECTION
DATE: 2/22/00	1700



US35  
US36

**Notes:**

1. This specification covers 3ø padmounted transformers 75 through 1500 kVA, 120/208 V and 277/480 V.
2. Conductor size range is 1/0 through 750 kcmil.
3. See Std UT30-UT32 - Underground Transformers - Section 1400 for mounting arrangement.

Rev. 2 - Removed US37 & 38 due to secondary bushing leaks and clearance problems in secondary compartment of transformer.

ITEM NO.	DESCRIPTION	US35	
		QTY.	S/N
1	Connector, PET, 6-750 Al/Cu 1/0 to 750	4	2129
2	1/2" Belleville Assembly, SS 2" Bolt and Washers W/ Bronze Nut	4	1389
3	Cover, Connector, 6-750	4	2176

ITEM NO.	DESCRIPTION	US36	
		QTY.	S/N
1	Connector, PET, 6-750 Al/Cu 1/0 to 750	4	2129
2	1/2" Belleville Assembly, SS 2 1/2" Bolt and Washers W/ Bronze Nut	4	2584
3	Cover, Connector, 6-750	4	2176



**CONSTRUCTION STANDARDS**  
SECONDARY CONNECTORS  
THREE PHASE PADMOUNT TRANSFORMERS

REVISIONS			
DATE	ENGR	OPS	
11/12/10	KJP		
9/21/21	JDK		

APP: HWH/MA	SECTION 1700
DATE: 2/23/00	