

ATTENTION: These documents are provided for informational purposes. They provide standard configurations, general requirements, and guidelines for trenching and standard customer interconnections for APS customers. These documents do not address every possible situation. It is the responsibility of the customer to ensure that the documents provided here are the most current version. APS reserves the rights to require modifications based on site specific or system conditions.



ARIZONA PUBLIC SERVICE COMPANY
T&D CONSTRUCTION STANDARDS

SUBSTRUCTURES
LIGHT DUTY PULLBOX, POLYMER OR FIBERGLASS
FOR 750 KCMIL FEEDER CABLE

COVER

8736
THRU
8738

BY	LDR.	MGR.	DATE	REV.
MLM	M. CAMPA	M. W. ADAMS	06/2022	11

SPLICING MATERIAL ONLY

3 = THREE 750 KCMIL SPLICES
6 = SIX 750 KCMIL SPLICES
X = WITHOUT 750 KCMIL SPLICES

1 = ONE #1/0 AL SPLICE
2 = TWO #1/0 AL SPLICES
3 = THREE #1/0 AL SPLICES
X = WITHOUT #1/0 AL SPLICES

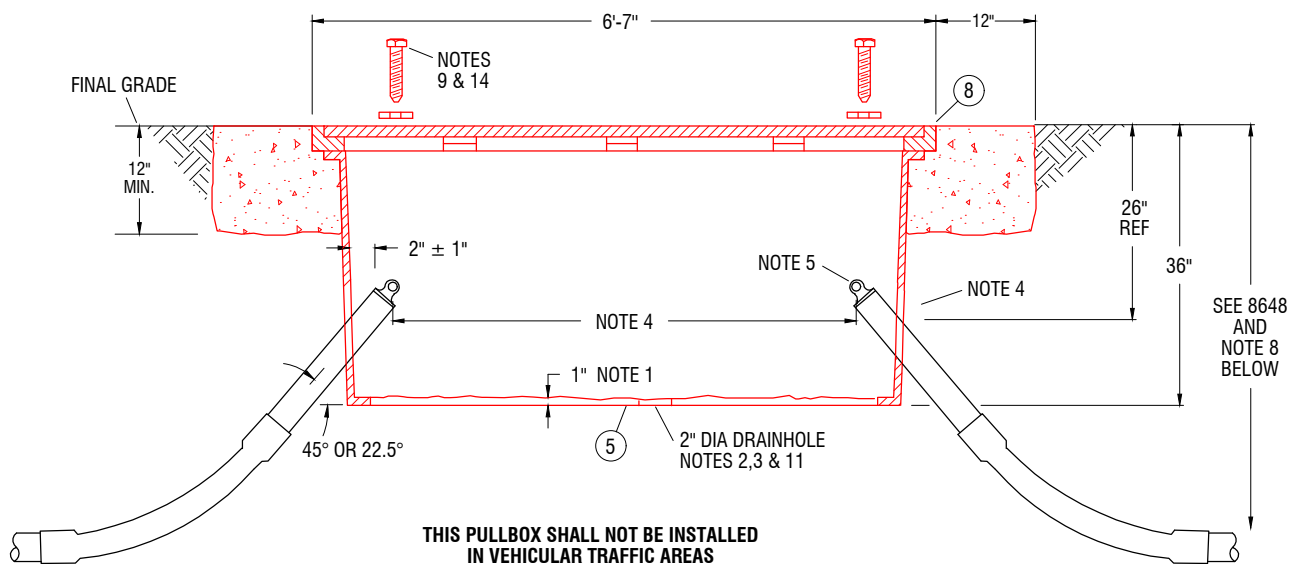
8738.A

SEE NOTE 24
WITH CONCRETE SUPPORT
PER NOTE 20 AND 21

IF APPLICABLE
G = APS GROUT PROVIDED

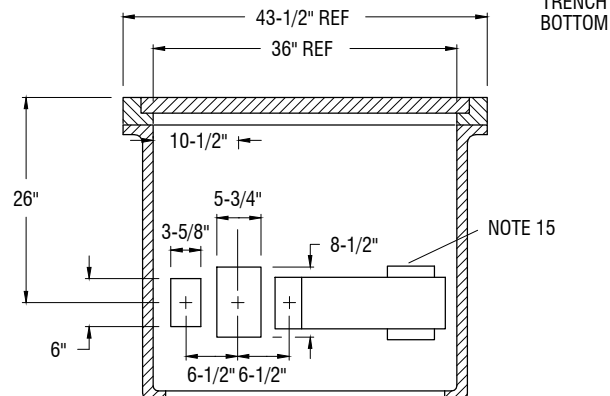
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NOTES:

1. USE PRE-MIX APN 71301280 TO GROUT THE BOTTOM OF THE PULLBOX, UNUSED MOUSEHOLES AND GAPS BETWEEN CONDUIT AND PULLBOX.
2. A 2-INCH MINIMUM DIAMETER DRAIN HOLE, INSTALLED IN THE AREA OF LOWEST ELEVATION, IS REQUIRED TO ENSURE PROPER DRAINAGE.
3. WHERE A GROUND ROD IS UTILIZED, IT SHALL BE DRIVEN THRU THE DRAIN HOLE TO PREVENT RODENT PENETRATION.
4. CONDUITS INSTALLED THROUGH THE SIDE OF THE PULLBOX SHALL BE INSTALLED AT A 45-DEGREE OR LESS ANGLE TO FACILITATE CABLE TRAINING. CONDUITS MAY ENTER THROUGH THE BOTTOM OF THE BOX AT A 45-DEGREE ANGLE. THE PREFERRED METHOD FOR INSTALLING CONDUIT SWEEPS INTO THE PULLBOX, IS THROUGH THE PULLBOX WINDOWS. THE SPACING SHALL BE 58 IN. MINIMUM.
5. CONDUIT SHALL BE CAPPED, SEALED AND/OR PLUGGED PER 8601 SECTION 18 AND 8881.
6. SLOTTED HOLES ON SIDE OF BOX CAN BE ELONGATED TO ADJUST BOX FOR FINAL ELEVATION. FOR FIELD MODIFICATIONS, T&D ENGINEERING & STANDARDS SHALL VERIFY THAT THE STRENGTH OF THE PULLBOX WILL NOT BE ADVERSELY AFFECTED. POLYMER CONCRETE / FIBERGLASS CAN BE CUT WITH A HOLE SAW. SEE NOTE 15.



7. COMPACTION BENEATH AND AROUND PULLBOX SHALL BE A MINIMUM OF 90 PERCENT OF THE MAXIMUM DENSITY AS DEFINED IN 8601.
8. ADDITIONAL TRENCH DEPTH IS USUALLY REQUIRED AT ALL EQUIPMENT LOCATIONS. SEE 8648 FOR THE MINIMUM TRENCH DEPTHS AND THE DEGREE OF SLOPE ALLOWED AS THE TRENCH DEPTH CHANGES.
9. PENTA-HEAD BOLTS SHALL BE INSTALLED PRIOR TO ENERGIZING NEW UNDERGROUND SYSTEMS. TORQUE BOLTS TO 40FT-LBS.

10. AN ELECTRONIC MARKER IS PROVIDED WITH THE PULLBOX. THE MARKER IS EMBEDDED IN THE PULLBOX LID.
11. THE PARTY RESPONSIBLE FOR THE INSTALLATION OF THE CONDUIT SYSTEM SHALL BE RESPONSIBLE FOR INSTALLATION OF THE GROUND ROD OR AN APPROVED ALTERNATE.
12. ALL SPLICES SHALL BE INSTALLED IN STRAIGHT PORTIONS OF THE CABLE.
13. WEIGHTS:
COVER = 244 LBS EACH (2 COVERS TOTAL)
BOX = 746 LBS
14. PULLBOX, COVER, PENTA-HEAD BOLTS AND WASHERS ARE INCLUDED WITH THIS STANDARD. BOLTS AND WASHERS ARE AVAILABLE AS REPLACEMENTS WHEN NEEDED THROUGH THE WAREHOUSE.
15. SPACE FOR ADDITIONAL CONDUIT(S) MAY BE OBTAINED BY CUTTING MORE SLOTS IN THE END OF THE BOX OR BY ENTERING THROUGH THE BOTTOM OF THE BOX. THE SLOTS SHALL NOT BE CUT THROUGH THE REINFORCEMENTS RIBS. POLYMER CONCRETE/FIBERGLASS CAN BE CUT WITH A HOLESAW. SEE NOTE 6.
16. CONDUIT FOR PRIMARY OR FEEDERS INSTALLED SHALLOWER THAN A 36-INCH DEPTH SHALL BE PARTIALLY ENCASED WITH A MINIMUM 4-INCH CONCRETE CAP ON TOP AND 2 IN. ON THE SIDES. PARTIAL CONCRETE ENCASEMENT SHALL INCLUDE TOP AND SIDES OF CONDUIT, BUT NOT THE BOTTOM (SEE 8601, 23.0).
17. UNLESS OTHERWISE SPECIFIED, INSTALL THE PULLBOX TO WITHIN 1/8-INCH OF FINAL GRADE. A DEPRESSION IS PREFERABLE TO A PROJECTION (BUMP) ABOVE FINAL GRADE.
18. A 12 IN. CONCRETE SUPPORT SURROUNDING THE PULLBOX IS REQUIRED FOR THE 8738.A INSTALLATION. THE CONCRETE SHALL HAVE A MINIMUM RATING OF 2000 PSI AT 24 HOURS. THE CONCRETE MAY BE 4000 PSI AT 28 DAYS (2000 PSI AT 72 HOURS) IF QUICK SET-UP IS NOT REQUIRED. THE CONCRETE IS NOT PROVIDED BY THIS STANDARD AND MUST BE SPECIAL ORDERED. THE CONCRETE MUST BE FORMED UP ON ALL SIDES AND THE SURFACE TROWELLED SMOOTH.
19. IN LATE 2010, PRY BAR SLOTS WERE ADDED TO EACH END OF THE BOX. WHEN POURING THE CONCRETE SUPPORT, KEEP CONCRETE OUT OF THOSE PRY BAR SLOTS.
20. THE SPREADER BARS AND LID(S) SHOULD BE INSTALLED PRIOR TO POURING THE CONCRETE SUPPORT AROUND THE BOX. THIS WILL PREVENT THE BOX WALLS FROM BOWING.
21. WHEN THE PULLBOX IS INSTALLED IN A SIDEWALK, 1/2 IN. BITUMINOUS TYPE PREFORMED EXPANSION JOINT FILLER PER ASTM D-1751 SHALL BE PLACED AROUND ALL SIDES OF THE BOX PRIOR TO POURING CONCRETE. THIS MATERIAL IS NOT STOCKED HOWEVER, IT CAN BE PURCHASED AT MOST HARDWARE STORES.
22. COVERS WITH 1 IN. X 4 IN. LIFTING SLOTS ARE RATED FOR 3000 LBS. OF TENSION.
23. ALWAYS INSTALL THIS PULLBOX WITH THE CONCRETE SUPPORT.
24. INSTALLATION OF THE PULLBOX WITH CONCRETE SUPPORT IS LIMITED TO AREAS SUBJECT TO OCCASIONAL LOAD SUCH AS IN SIDEWALKS ADJACENT TO STREETS AND RAISED ISLANDS IN THE CENTER OF STREETS. **THIS PULLBOX SHALL NOT BE INSTALLED IN VEHICULAR TRAFFIC AREAS.**
25. OFFSET PULLBOXES FROM JOINTLY USED TRENCHES TO AVOID BLOCKING THE TRENCH WHEREVER PRACTICAL. SEE 1286.
26. THE EXACT LOCATION AND ORIENTATION OF THE PULLBOX SHALL BE SPECIFIED ON THE WORK ORDER CONSTRUCTION DRAWINGS. PULLBOX SHALL BE POSITIONED OUTSIDE DRAINAGE AREAS WHEREVER PRACTICAL.
27. THIS PULLBOX IS SUITABLE FOR TANGENT APPLICATIONS ONLY. CABLE DIRECTION CHANGES INSIDE PULLBOX ARE UNACCEPTABLE.
28. THIS PULLBOX IS SUITABLE FOR USE AS A TRIFURCATION BETWEEN SINGLE CONDUITS AND MULTIPLE CONDUITS.
29. THIS PULLBOX IS NORMALLY USED FOR A SINGLE-CIRCUIT FEEDER, BUT MAY BE USED FOR A MAXIMUM OF SIX SPLICES, ANY COMBINATION OF PRIMARY 1/0 AL OR 750 KCMIL AL FEEDERS. THE SEPARATION BETWEEN SPLICES SHOULD BE AS SHOWN IN THE EXAMPLES ON THE FOLLOWING PAGES. SEE NOTE 15.
30. WHERE IT IS NECESSARY TO INSTALL A FEEDER PULLBOX IN THE LINE, ALL FEEDER CIRCUITS SHOULD UTILIZE (PASS THROUGH) THE PULLBOX WHEREVER PRACTICAL. IF ANY PRIMARY (1/0 AL) CIRCUITS UTILIZE THE PULLBOX THEN ALL PRIMARY SHOULD PASS THROUGH THE PULLBOX WHEREVER PRACTICAL. THIS GREATLY FACILITATES TROUBLE SHOOTING BY REDUCING CONFUSION. THIS ALSO HELPS PREVENT A POSSIBLE DIG-IN WHILE DIGGING IN OR AROUND A PULLBOX WHICH HAS ADDITIONAL CIRCUITS IN THE IMMEDIATE VICINITY.
31. HIGH AND LOW-VOLTAGE CIRCUITS SHALL NOT BE INSTALLED IN THE SAME PULLBOX.
32. PULLBOX AND LID COLOR IS SIMILAR TO THE COLOR OF CONCRETE.
33. THIS STANDARD WILL NOT AUTOMATICALLY SUPPLY GROUT FROM APS. THE LETTER "G" MUST BE PLACED AT THE END OF THE CODE FOR THE GROUT TO BE SUPPLIED BY APS AND TO BE ORDERED ON THE BILL OF MATERIALS.

CODE	8736	8738	MATERIAL LIST 	
ITEM	QTY	QTY	DESCRIPTION	CU / APN
1	VAR	VAR	SPLICE 1/0, 4/0	2531.
2	VAR	VAR	SPLICE 750, 1100	2551.
3	VAR	VAR	CABLE, #2/7 STRD CU BARE	31001415
4	1	1	CLAMP GROUND ROD 5/8"	33002580
5	-	VAR	CONCRETE PRE-MIX 30#	71301280
6	VAR	VAR	CONN CU "H" 2-1/0 2-1/0	33101345
7	-	1	ROD COPPERCLAD GRD 5/8" X 8"	33004805
8	-	1	SPLICE BOX 36 X 72 X 36 H-20	32907225
9	-	VAR	TIE CABLE MAX 2 IN OD	00103864



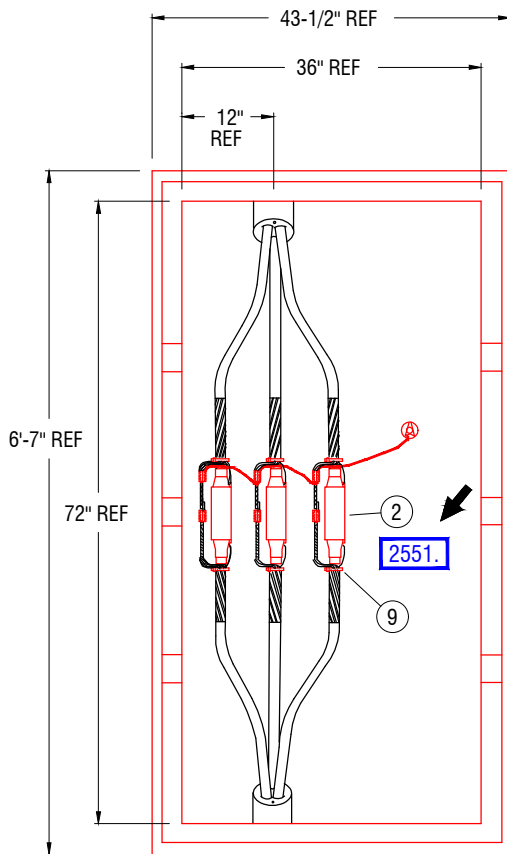
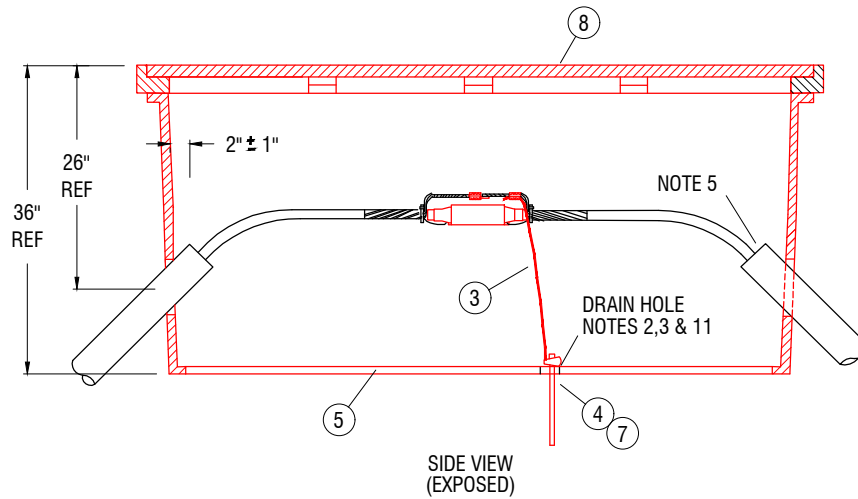
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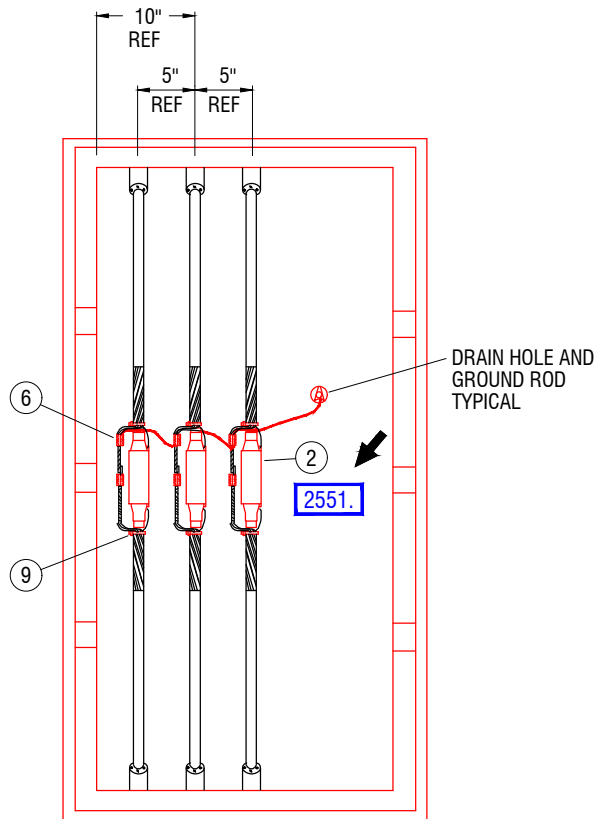
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LIGHT DUTY PULLBOX, POLYMER OR FIBERGLASS
FOR 750 KCMIL FEEDER CABLE

SH 2 OF 4

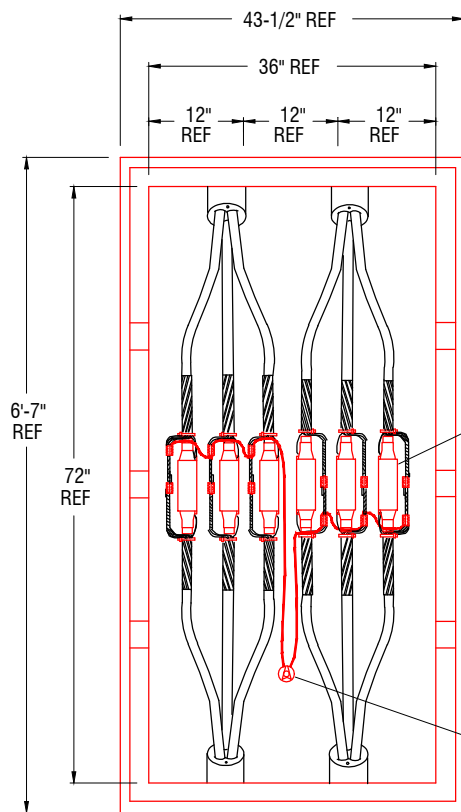
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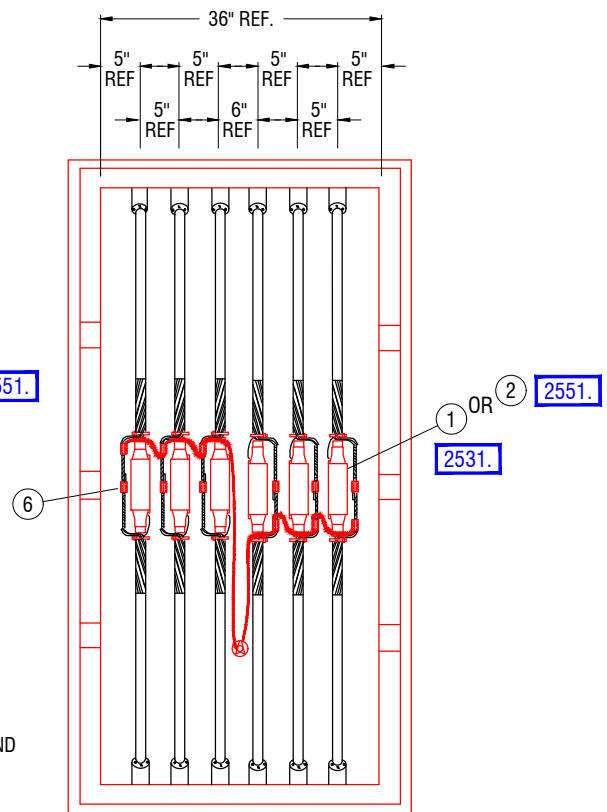
TOP VIEW - EXAMPLE A
3-750A IN A SINGLE 5 IN. CONDUIT



TOP VIEW - EXAMPLE B
3-750A IN SEPARATE 3 IN. CONDUITS



TOP VIEW
SIX SPLICE EXAMPLE C



TOP VIEW
SIX SPLICE EXAMPLE D

DRAIN HOLE AND
GROUND ROD
TYPICAL



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