

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

BY	LDR.	MGR.	DATE	REV.
MLM	M. CAMPA	J.M. HORMELL	10/2020	8

**SUBSTRUCTURES
MANHOLE
STANDARD TRAFFIC BEARING
OCTAGON OF REINFORCED PRE-CAST CONCRETE**

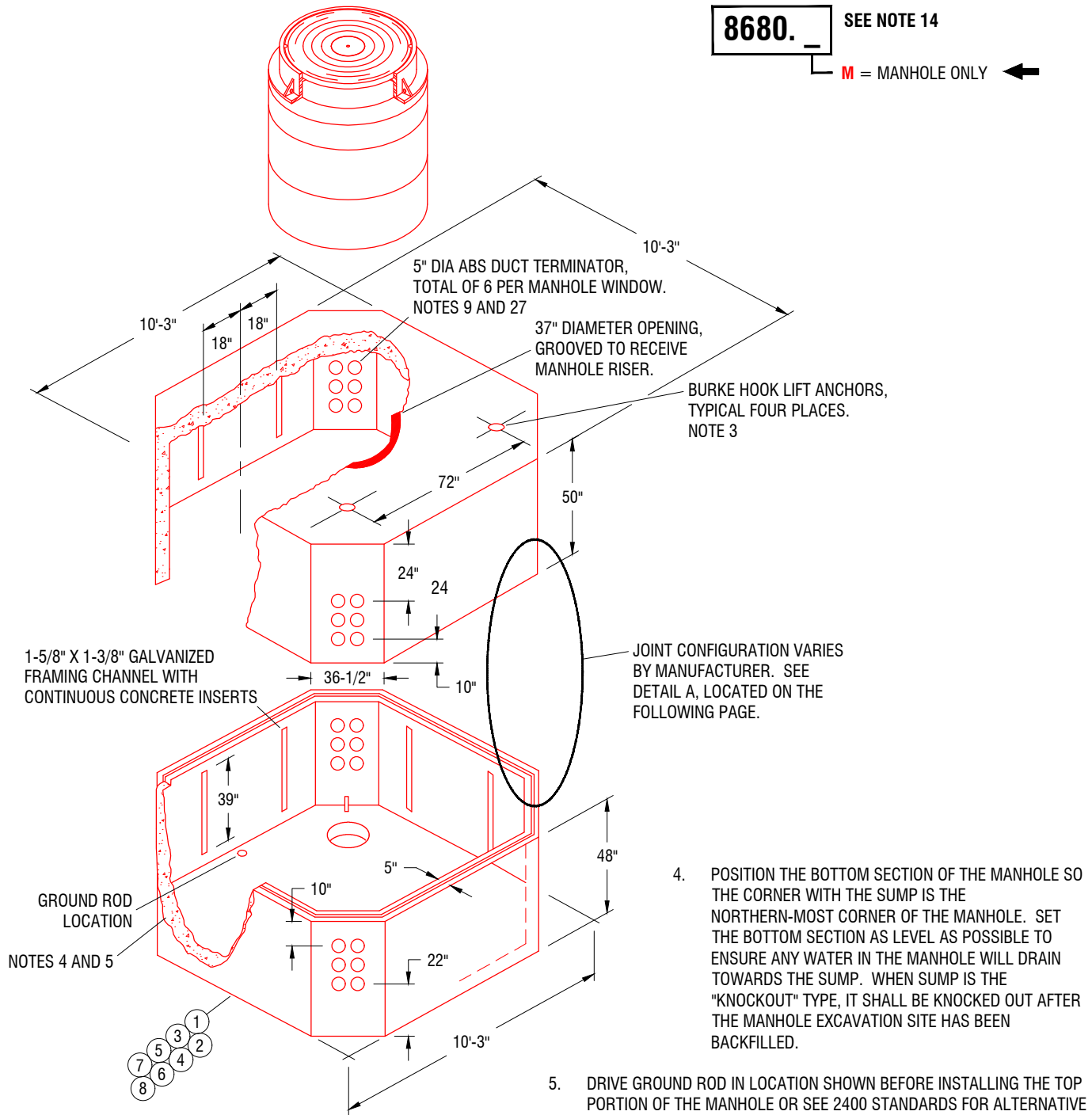
COVER

8680

8680.

SEE NOTE 14

M = MANHOLE ONLY

**NOTES:**

1. APPROXIMATE WEIGHT OF MANHOLE COMPONENTS:

	TOP SECTION	BOTTOM SECTION
PRE-CAST MFG CO	14,000 LBS	15,400 LBS
UTILITY VAULT CO	11,862 LBS	13,841 LBS

2. THE ALLOWABLE WORKING LOAD FOR EACH PULLING ANCHOR IS 16,800 LBS.
3. THE ALLOWABLE WORKING LOAD FOR LIFTING ANCHOR IS 5000 LBS.

4. POSITION THE BOTTOM SECTION OF THE MANHOLE SO THE CORNER WITH THE SUMP IS THE NORTHERN-MOST CORNER OF THE MANHOLE. SET THE BOTTOM SECTION AS LEVEL AS POSSIBLE TO ENSURE ANY WATER IN THE MANHOLE WILL DRAIN TOWARDS THE SUMP. WHEN SUMP IS THE "KNOCKOUT" TYPE, IT SHALL BE KNOCKED OUT AFTER THE MANHOLE EXCAVATION SITE HAS BEEN BACKFILLED.

5. DRIVE GROUND ROD IN LOCATION SHOWN BEFORE INSTALLING THE TOP PORTION OF THE MANHOLE OR SEE 2400 STANDARDS FOR ALTERNATIVE GROUNDING METHODS. DO NOT DRIVE GROUND ROD IN THE SUMP HOLE.
6. THE PARTY RESPONSIBLE FOR THE INSTALLATION OF THE MANHOLE SHALL BE RESPONSIBLE FOR INSTALLATION OF THE STEPS, LADDER, AND GROUND ROD OR AN APPROVED ALTERNATIVE.
7. CLEAN JOINT SURFACES WITH A BRUSH AND ENSURE JOINTS ARE DRY. FIRMLY PRESS JOINT FILLER ONTO SURFACE END-TO-END AROUND THE ENTIRE JOINT. ALLOW 1-INCH OVERLAPS WHEN ABUTTING.
8. PREFORMED BUTYL JOINT SEALER SUFFICIENT FOR SETTING THE MANHOLE SHALL BE SUPPLIED BY THE MANUFACTURER. THE APS PREFORMED BUTYL SEALER IS APN 32902568.



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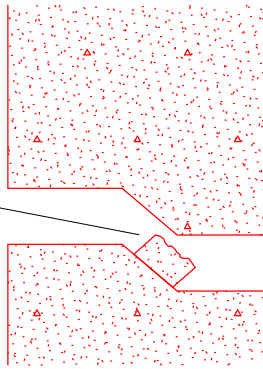
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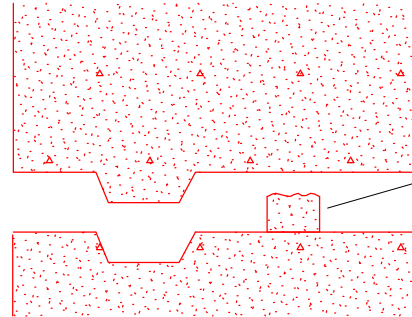
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8680

NOTES
7 AND 8



PRE-CAST MFG CO



NOTES
7 AND 8

UTILITY VAULT MFG CO

9. EACH MANHOLE WINDOW HAS 6-5" DUCT TERMINATORS. KNOCK OUT CENTER BAFFLE OF DUCT TERMINATOR BEFORE CONDUIT IS GLUED TO BACK OF DUCT TERMINATOR. IF 3" CONDUIT IS UTILIZED, REMOVE 5" DUCT TERMINATORS AND TERMINATE CONDUITS PER 8601 (ITEM 18.0), 8872, AND 8878.
10. THE EXACT MANHOLE DESIGN AND DIMENSIONS VARY BY MANUFACTURER. THE DIMENSIONS SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. SEE MS-8680, 8681, AND MS-8682 FOR DETAILED DESIGN, REINFORCEMENT AND DIMENSIONS UNIQUE TO EACH MANUFACTURER.
11. THE EXACT LOCATION AND ORIENTATION OF THE MANHOLE SHALL BE SPECIFIED ON THE CONSTRUCTION DRAWINGS.
12. ENGINEERING SHALL VERIFY THE STRENGTH OF THE MANHOLE WILL NOT BE ADVERSELY AFFECTED, PRIOR TO APPROVING ANY FIELD MODIFICATIONS SUCH AS CUTS TO FORM SLOTS OR HOLES.
13. THE MANHOLE PURCHASE PRICE INCLUDES NORMAL DELIVERY AND SET WITHIN 50 MILES OF MANUFACTURER'S FACILITY.
14. MANHOLE LADDER, GROUNDING, 36" DEEP NECK WITH STEPS AND CAST IRON MANHOLE COVER ARE INCLUDED WITH THIS STANDARD. MANHOLE NECK DEEPER THAN 36" MUST BE SPECIFIED SEPARATELY, SEE 8695. CABLE RACKING AND CONDUIT TERMINATORS SHALL BE SPECIFIED SEPARATELY. SEE NOTES 17 & 20.
15. MAXIMUM ALLOWABLE COVER OVER MANHOLE IS 11 FEET.
16. SEE 2400 STANDARDS FOR ALTERNATE GROUNDING METHODS.
17. SEE 8601 (ITEM 18.0), 8878, AND 8872 FOR DUCT TERMINATION DETAILS.
18. SEE 8695 FOR MANHOLE NECK WITH CAST-IRON FRAME AND COVER DETAILS.
19. SEE 8698 FOR INTERNAL MANHOLE GROUNDING DETAILS.
20. SEE 8800 AND 8801 FOR CABLE RACKING DETAILS.
21. SEE 8865 FOR MANHOLE LADDER DETAILS.
22. SEE 8601 FOR PROPER EXCAVATION, BEDDING, BACKFILL AND COMPACTION REQUIREMENTS.

23. SEE 8601 AND 8640 FOR EXCAVATION SAFEGUARDS.
24. SEE UNDERGROUND METHODS FOR MANHOLE AND FEEDER NUMBERING DETAILS.
25. SEE 8606 AND 8610 FOR THE MINIMUM REQUIRED BACKFILL COVER.
26. SEE 8872 FOR CONDUIT SPACING IN MANHOLE WINDOWS.
27. SEE 8601 FOR THE PRIMER AND CEMENT REQUIREMENTS WHEN JOINING PVC CONDUIT TO THE ABS TYPE DUCT TERMINATORS.

CODE	8680	8680.M	MATERIAL LIST 	
ITEM	QTY	QTY	DESCRIPTION	CU / APN
1	1	-	ASSY MANHOLE GROUNDING	8698.
2	2	2	GRADE RING 12" *	32902562
3	1	1	GRADE RING 6" *	32902564
4	1	1	CONCRETE FAST-SETTING	32900850
5	3	3	GRADE RING SEALER *	32902568
6	1	1	MANHOLE OCTAGON	32904615
7	3	3	STEP HOT DIP GALV *	00052071
8	1	1	LADDER 8-FOOT GALV HOOK *	00052070

* THIS MATERIAL AUTOMATICALLY COMES WITH MANHOLE FROM MANUFACTURER.



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