



**NOTES:**

1. PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C478 EXCEPT AS MODIFIED BY THE SPECIFICATIONS.
2. BASES NOT BUILT MONOLITHIC WITH BOTTOM SECTION SHALL BE POURED OF 3000 PSI CONCRETE.
3. MANHOLE MAY BE TRANSITIONED TO 4'-0" DIA., 8' ABOVE F.L. OF OUTFALL FOR 5'-0" AND 6'-0" MANHOLES.
4. THE BOTTOM SECTION OF ALL PRECAST MANHOLES NOT BUILT MONOLITHIC WITH THE BASE SHALL BE SET INTO A STEEL REINFORCED POURED CONCRETE BASE A MINIMUM OF 4". (#4 @ 6" E.W.). IN THIS CASE, THE BASE THICKNESS SHALL BE INCREASED TO 12".
5. WATERPROOFING WILL BE REQUIRED ON THE OUTSIDE OF MANHOLES. THE BITUMEN SHALL CONSIST OF TWO (2) SIX (6) MILL COATS OF ASPHALT, COAL TAR PITCH, OR A COATING MEETING AMERICAN SOCIETY FOR TESTING MATERIALS (ASTM) D-41. ASPHALT SHALL CONFORM TO THE REQUIREMENTS OF ASTM D 449. COAL -TAR PITCH SHALL CONFORM TO THE REQUIREMENT OF ASTM C450.
6. THE COMPRESSIVE STRENGTH OF CONCRETE USED IN THE CONSTRUCTION OF PRECAST REINFORCED CONCRETE MANHOLES SHALL NOT BE LESS THAN 4000 PSI.
7. ONLY ECCENTRIC MANHOLE CONES WILL BE ALLOWED UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
8. ADDITIONAL BASE THICKNESS FOR MANHOLES GREATER THAN 20' DEEP SHALL BE APPROVED BY CITY ENGINEER WITH SUBMITTAL OF APPROPRIATE CALCULATIONS.
9. CONTRACTOR SHALL PROVIDE STEPS SPACED AT 1'-4" O.C. WHERE INLET OR MANHOLE DEPTH IS GREATER THAN 4'-0". STEPS SHALL BE M.A. INDUSTRIES, INC. MODEL PS-2-PF OR APPROVED EQUAL.
- \* 10. ADJUSTING RING(S) SHALL PROVIDE A MINIMUM ADJUSTMENT OF 4" AND A MAXIMUM ADJUSTMENT OF 12".
- \*\* ALL MANHOLES OVER 20' DEEP MUST BE PREAPPROVED BY CITY ENGINEER

GARDNER, KANSAS <b>PUBLIC WORKS/ ENGINEERING DIVISION</b>	APPROVED	REVISED	STANDARD PRECAST MANHOLE DETAIL	STANDARD DETAIL 31-1
	JRH CITY ENGINEER			
	2-1-07 DATE			