

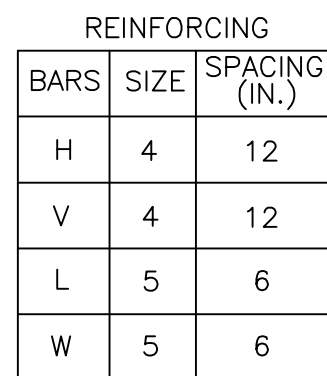
**LANDROCK
DEVELOPMENT, LLC**

STATE OF MISSOURI
AARON J. BRETTE
NUMBER
PE-000609883
PROFESSIONAL ENGINEER
4/20/17

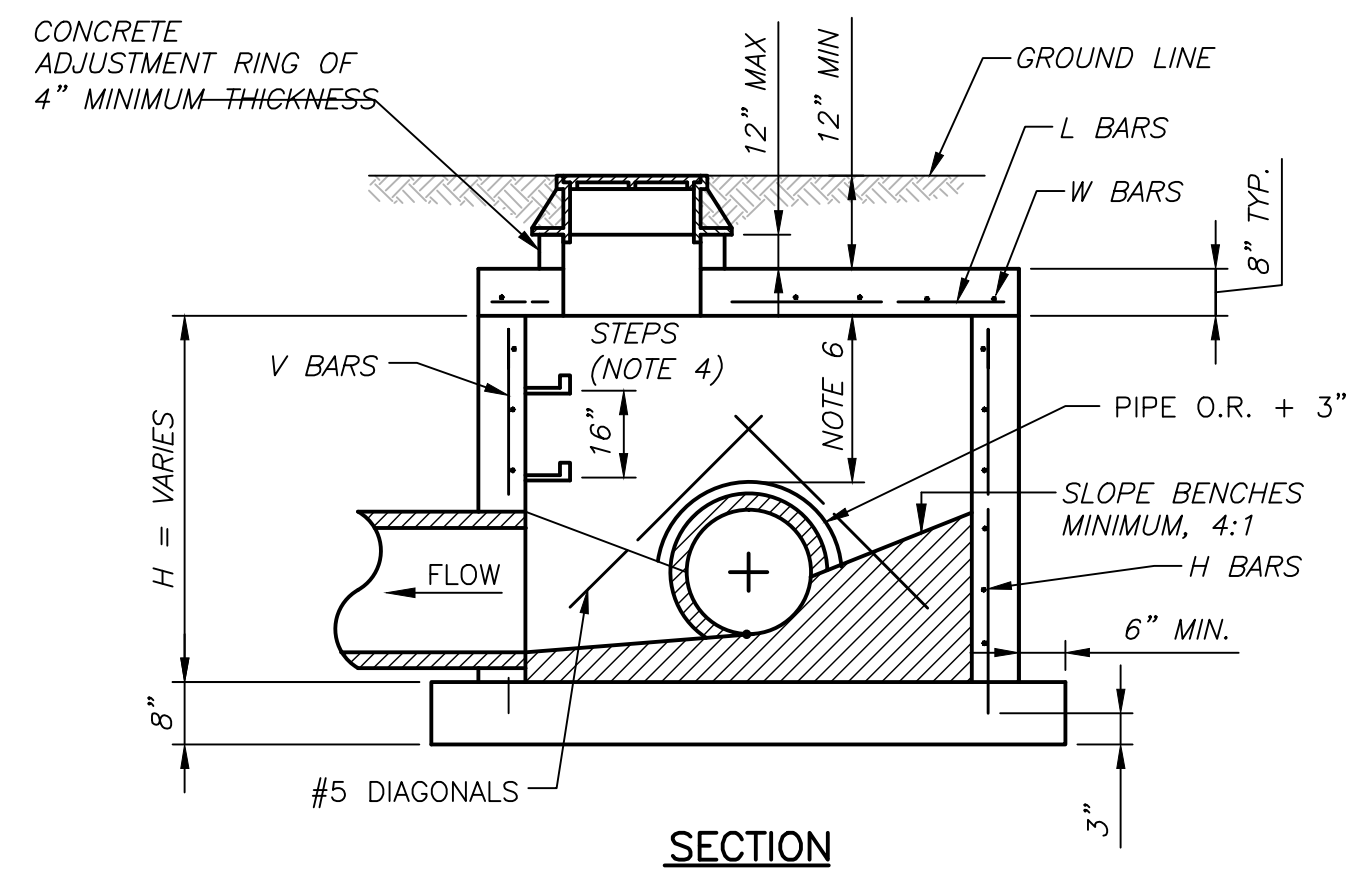
STORM SEWER DETAILS

01C-CR-20

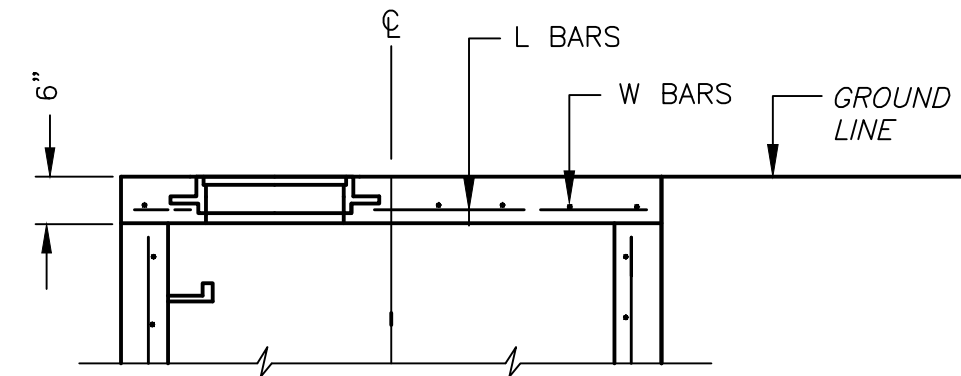
PERMIT REVIEW DRAWINGS



CORNER DETAIL

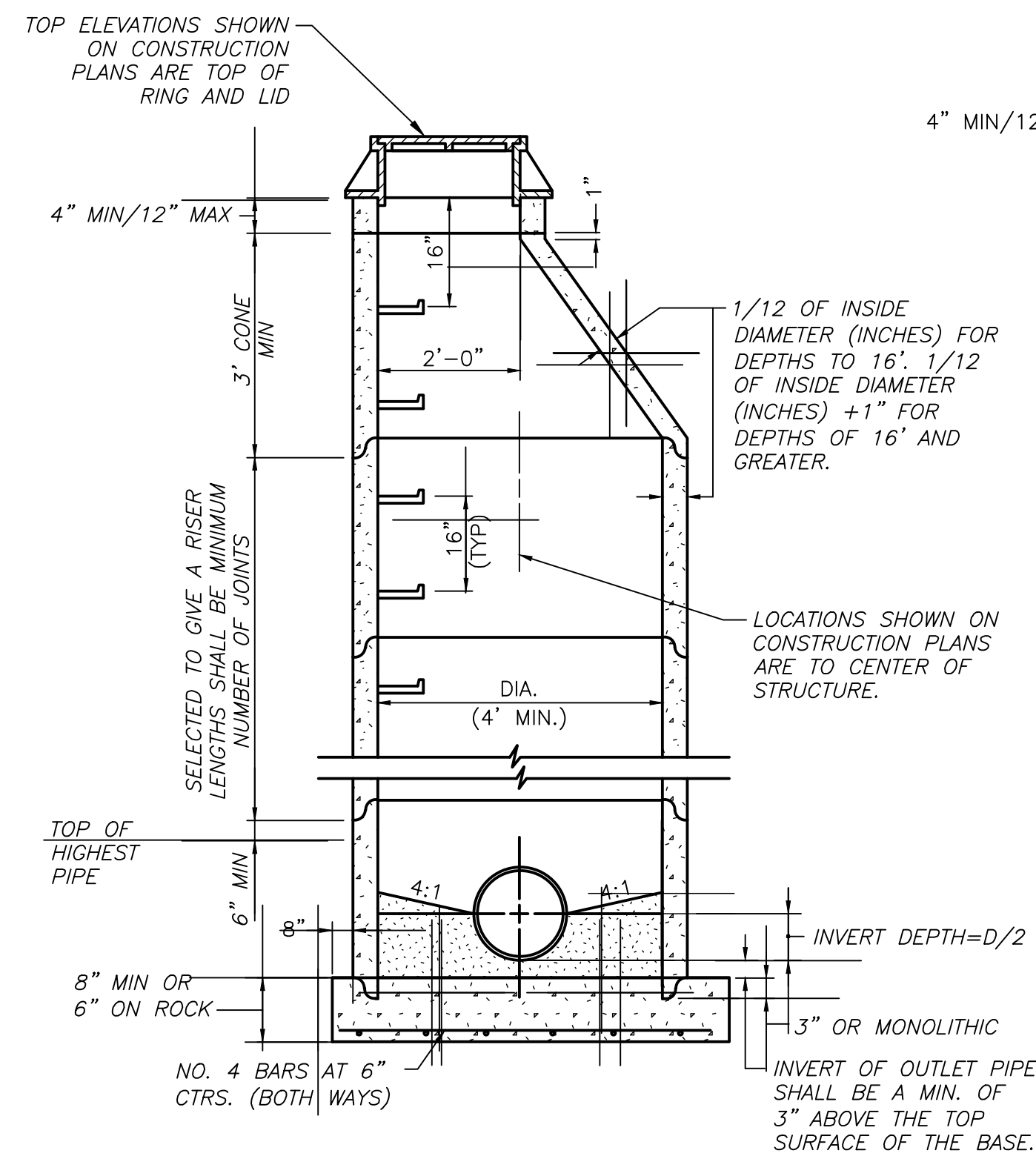
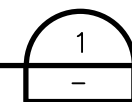


SECTION

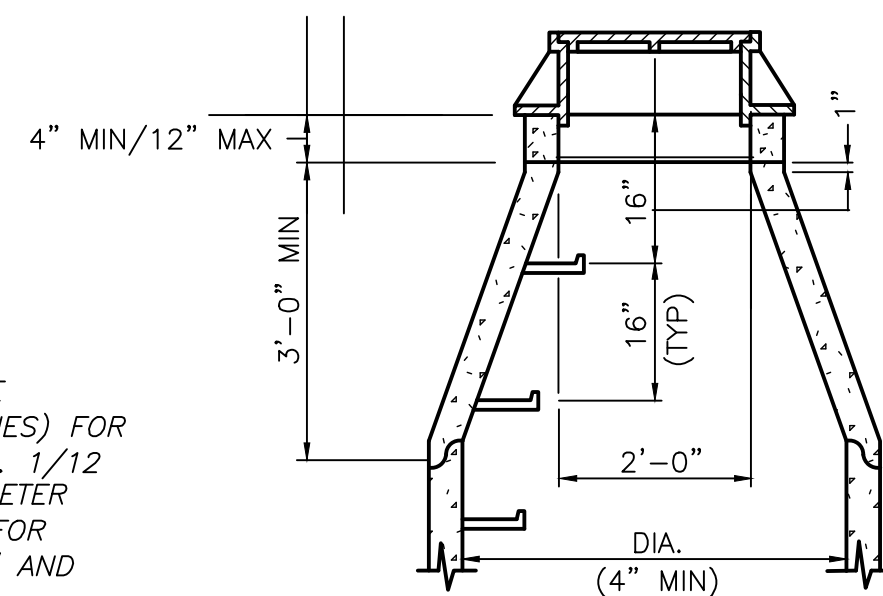


SLAB TOP ALTERNATE FOR
JUNCTION BOX (SHALLOW)

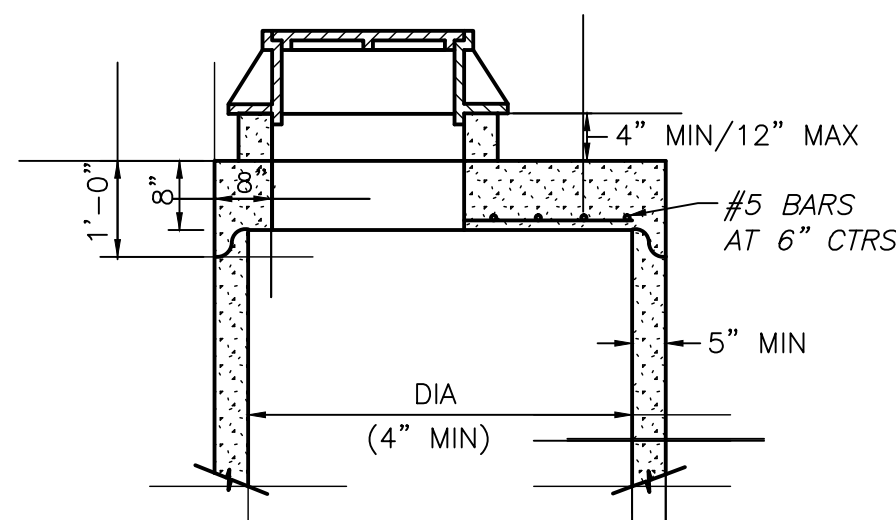
JUNCTION BOX DETAIL



STANDARD PRECAST MANHOLE (ECCENTRIC CONE)

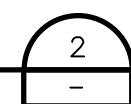


STANDARD PRECAST MANHOLE
(CONCENTRIC CONE)
(SEE ECCENTRIC CONE FOR OTHER DETAILS)



STANDARD PRECAST MANHOLE
(SHALLOW TYPE)
(SEE ECCENTRIC CONE FOR OTHER DETAILS)

PRECAST MANHOLE DETAIL



GENERAL MANHOLE NOTES:

1. ALL MANHOLES ARE TO BE PRECAST CONCRETE AND OF ECCENTRIC CONE TYPE UNLESS OTHERWISE SPECIFIED.
2. MANHOLE TOP ADJUSTMENTS SHALL BE ACCOMPLISHED BY THE USE OF CONCRETE ADJUSTMENT RINGS.
3. TOP OF MANHOLE CASTING SHALL BE SET FLUSH AND ON SAME SLOPE AS FINISHED SURFACE OR AS DIRECTED BY THE ENGINEER.
4. REINFORCEMENT IN ALL SECTIONS SHALL EQUAL OR EXCEED A.S.T.M. C-478 SPECIFICATIONS.
5. THE ENGINEER SHALL DESIGNATE MODIFICATIONS FOR MANHOLES WITH SPECIAL DESIGNS.
6. THE INSIDE DIAMETER OF THE MANHOLE SHALL BE 4'-0" FOR PIPE DIAMETERS FROM 12" - 24", 5'-0" FOR PIPE DIAMETERS FROM 27" - 36", AND 6'-0" FOR PIPE DIAMETERS 42" - 48", UNLESS OTHERWISE NOTED ON THE DRAWINGS.
7. CLEARANCE TOLERANCE OF PIPE OPENINGS: THE MAXIMUM ALLOWABLE PIPE OPENING ON A HORIZONTAL AXIS SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 12". THE MAXIMUM ALLOWABLE PIPE OPENING ON VERTICAL AXIS SHALL BE THE OUTSIDE DIAMETER PLUS 8". THE MINIMUM CLEARANCE BETWEEN THE OUTSIDE SURFACE OF AN INSTALLED PIPE AND THE CONCRETE OF THE MANHOLE SHALL BE 2".
8. INSTALLATION OF PIPE OPENINGS: ALL REQUIRED PIPE OPENINGS SHALL BE PLANT CAST IN MANHOLE JOINTS. FIELD ALTERATIONS OF OPENINGS WILL BE PERMITTED PROVIDED WALLS ARE SCORED WITH A MASONRY SAW TO A DEPTH SUFFICIENT TO SEVER REINFORCING STEEL. A CHIPPING HAMMER MAY THEN BE USED TO REMOVE THE CONCRETE. MINIMUM DISTANCE BETWEEN ANY TWO ADJACENT PIPES SHALL BE 4".
9. NO DIRECT PAYMENT FOR SHAPING FLOOR OR CONNECTING PIPES AS SHOWN ON PLANS.
10. RING & COVER SHALL BE DEETER #1258, EAST JORDAN IRON WORKS #2420Z RING W/#2408A COVER OR APPROVED EQUAL.
11. SANITARY SEWERS SHALL BE COATED AND CONFORM TO CITY STANDARDS.