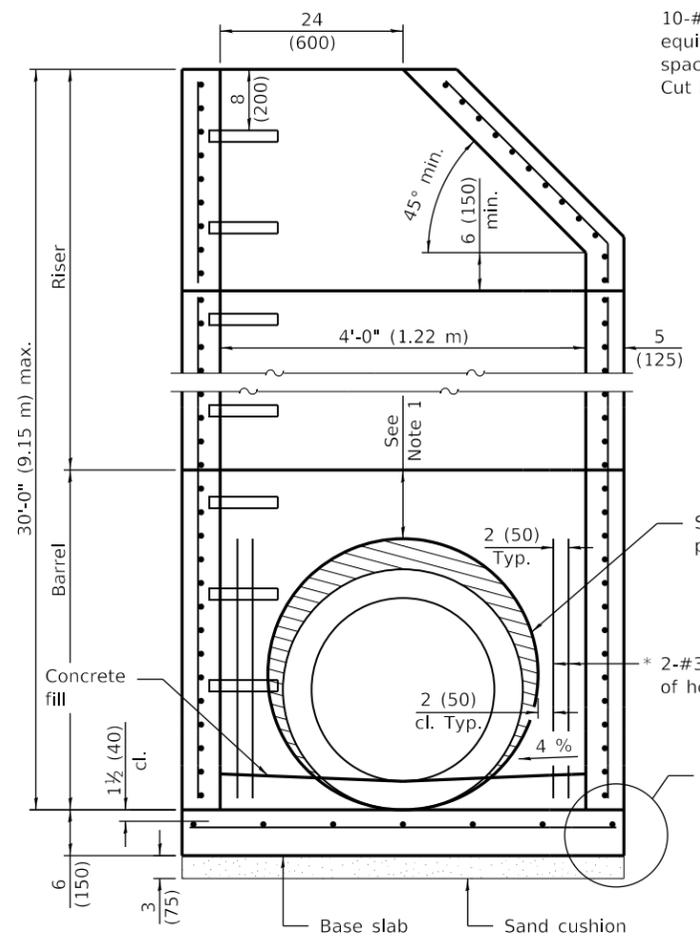


SECTION PARALLEL TO PIPE
(Without conical top riser)

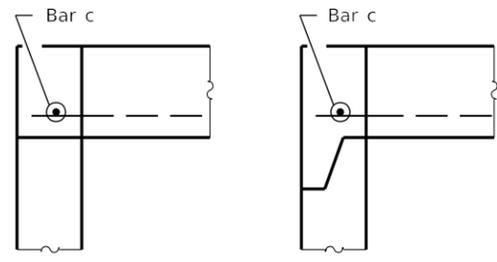


SECTION PERPENDICULAR TO PIPE
(With conical top riser)

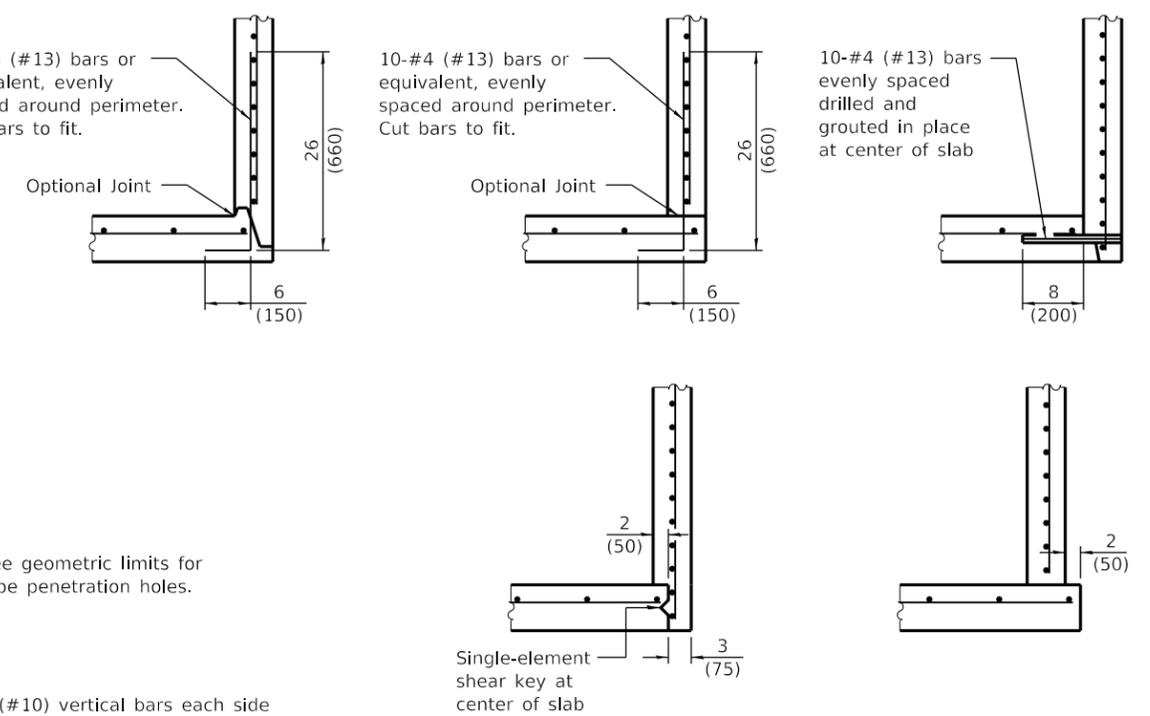
* As an alternate, the barrel wall reinforcement may be reduced to riser wall reinforcement with #3 (#10) bars placed around the pipe penetration holes as shown. This option may be utilized when the pipe penetration holes are formed as opposed to cored.

GEOMETRIC LIMITS FOR PIPE PENETRATION HOLES

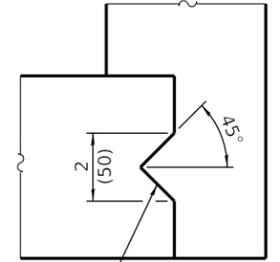
- Note 1: A minimum of 9 (230) of monolithic reinforced concrete shall be maintained above pipe penetration holes > 24 (600).
- Note 2: A minimum 12 (300) inside arc length of reinforced concrete shall be maintained between pipe penetration holes > 15 (380).
- Note 3: A maximum of 60 percent of the inside perimeter of the reinforced concrete manhole walls may be removed.
- Note 4: Horizontal joints that intersect pipe penetration holes > 15 (380) shall have one joint splice for every location around the perimeter of the joint where the inside arc length between pipe penetration holes is < 24 (600). See joint splice detail.
- Note 5: The recommended pipe penetration hole is equal to the O.D. of the pipe plus 4 (100).
- Note 6: Only pipe penetration holes ≤ 15 (380) are allowed in riser sections.



FLAT SLAB TOP JOINT CONFIGURATIONS
(Shown at access hole)



BASE SLAB JOINT CONFIGURATIONS



Single-element shear key at center of slab
SHEAR KEY GEOMETRY
(Reinforcement not shown for clarity)

GENERAL NOTES

The manufacturer shall ensure that all precast manhole sections are additionally reinforced where required to resist damage from handling, shipping and installation stresses.

Lifting holes shall be located in the sections as per the manufacturer's recommendations.

See Standard 602701 for details of manhole steps.

All dimensions are in inches (millimeters) unless otherwise noted.

DATE	REVISIONS
1-1-21	Revised Note 1 and lifting hole general note.
3-1-19	Moved wall reinforcement from inside face to middle.

PRECAST MANHOLE TYPE A
4' (1.22 m) DIAMETER
(Sheet 1 of 2)

STANDARD 602401-07

Illinois Department of Transportation

PASSED January 1, 2021

 ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2021

 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

