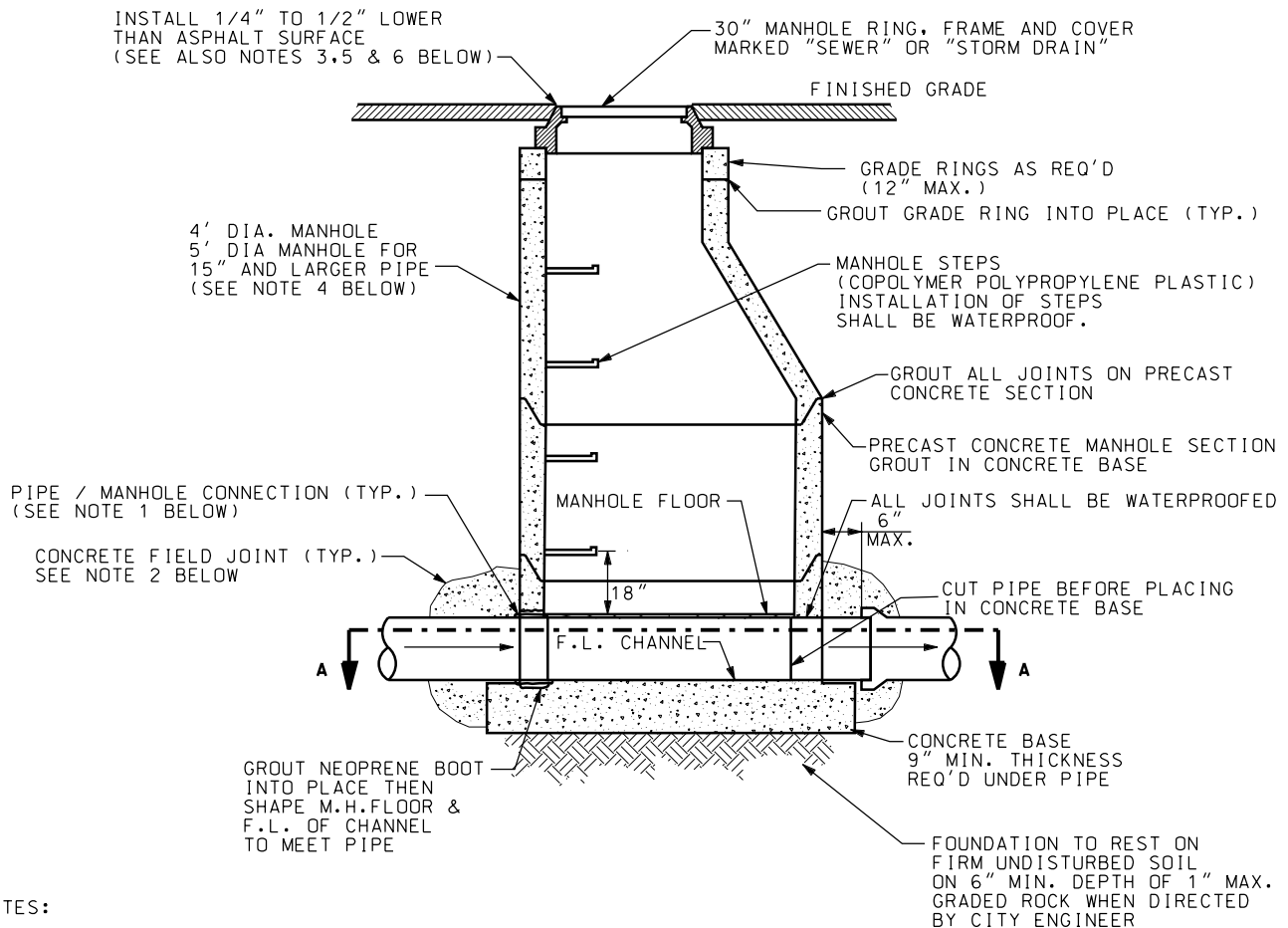


**SECTION A-A**

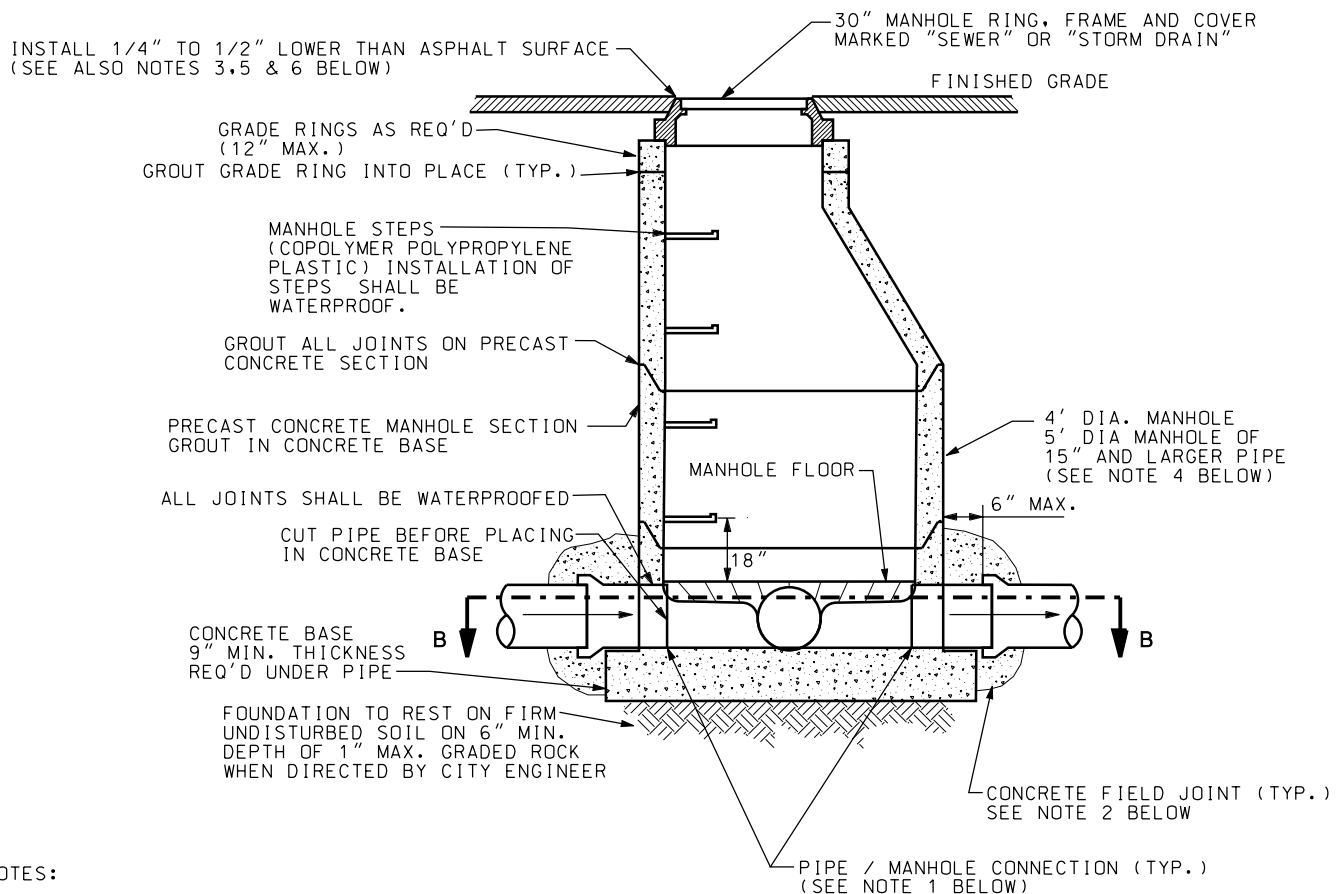
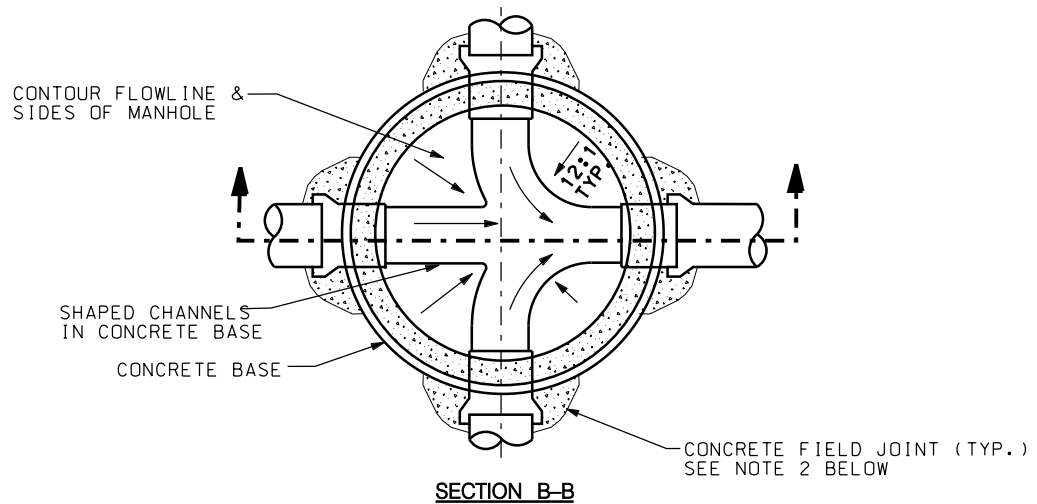


**NOTES:**

1. INSTALL NEOPRENE BOOT WITH STAINLESS STEEL BANDS & GROUT INSIDE OF MANHOLE FOR SANITARY SEWER PIPE CONNECTIONS. GROUT INSIDE & OUTSIDE PIPE CONNECTIONS FOR STORM DRAIN & OTHER DRAINAGE PIPES.
2. INSTALL 8" THICK CONCRETE FIELD JOINT AROUND ALL STORM DRAINAGE PIPES (TYP.).  
INSTALL AROUND ALL CONCRETE SEWER PIPES 18" DIA. & LARGER.
3. MANHOLE RING & COVER SHALL MATCH GRADE & CROSS SLOPE OF ROADWAY. ("TWIST", ROTATING OR ADJUSTABLE MANHOLE RING & COVER MAY BE REQUIRED).
4. LARGER MANHOLES MAY BE REQUIRED DEPENDING ON PIPE SIZINGS AND ORIENTATION WITHIN MANHOLE.
5. TOP OF MANHOLE COVER SHALL BE SET TO FINAL GRADE PRIOR TO PAVING. CONCRETE COLLARS MAY BE ALLOWED, BUT ONLY AFTER PRIOR APPROVAL OF LEHI CITY STREET DEPARTMENT. IF APPROVED, CONCRETE COLLARS SHALL BE 12" MIN. WIDE (FROM EDGE OF MANHOLE RING) AND 12" MIN. THICKNESS.
6. IN NON-PAVED AREAS, A 12" THICK BY 12" WIDE (FROM EDGE OF MANHOLE RING) CONCRETE COLLAR SHALL BE PROVIDED FLUSH WITH THE TOP OF THE MANHOLE COVER.



**STANDARD DETAIL  
LINE MANHOLE  
(SEWER AND STORM  
DRAIN)**

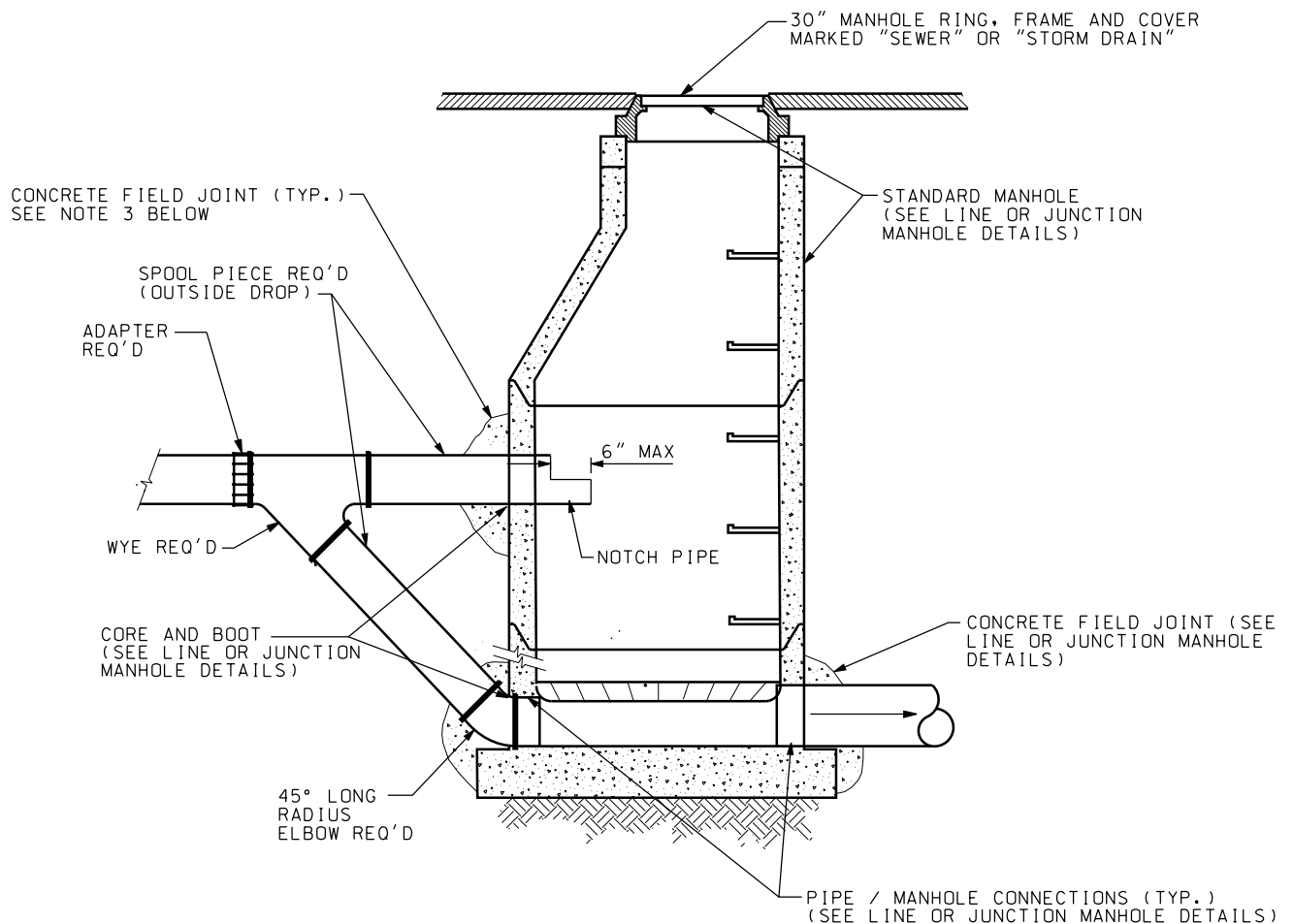


NOTES:

1. INSTALL NEOPRENE BOOT WITH STAINLESS STEEL BANDS & GROUT INSIDE OF MANHOLE FOR SANITARY SEWER PIPE CONNECTIONS. GROUT INSIDE & OUTSIDE PIPE CONNECTIONS FOR STORM DRAIN & OTHER DRAINAGE PIPES.
2. INSTALL 8" THICK CONCRETE FIELD JOINT AROUND ALL STORM DRAINAGE PIPES (TYP.). INSTALL AROUND ALL CONCRETE SEWER PIPES 18" DIA. & LARGER.
3. MANHOLE RING & COVER SHALL MATCH GRADE & CROSS SLOPE OF ROADWAY. ("TWIST", ROTATING OR ADJUSTABLE MANHOLE RING & COVER MAY BE REQUIRED).
4. LARGER MANHOLES MAY BE REQUIRED DEPENDING ON PIPE SIZINGS AND ORIENTATION WITHIN MANHOLE.
5. TOP OF MANHOLE COVER SHALL BE SET TO FINAL GRADE PRIOR TO PAVING. CONCRETE COLLARS MAY BE ALLOWED, BUT ONLY AFTER PRIOR APPROVAL OF LEHI CITY STREET DEPARTMENT. IF APPROVED, CONCRETE COLLARS SHALL BE 12" MIN. WIDE (FROM EDGE OF MANHOLE RING) AND 12" MIN. THICKNESS.
6. IN NON-PAVED AREAS, A 12" THICK BY 12" WIDE (FROM EDGE OF MANHOLE RING) CONCRETE COLLAR SHALL BE PROVIDED FLUSH WITH THE TOP OF THE MANHOLE COVER.



**STANDARD DETAIL  
JUNCTION MANHOLE  
(SEWER AND STORM  
DRAIN)**

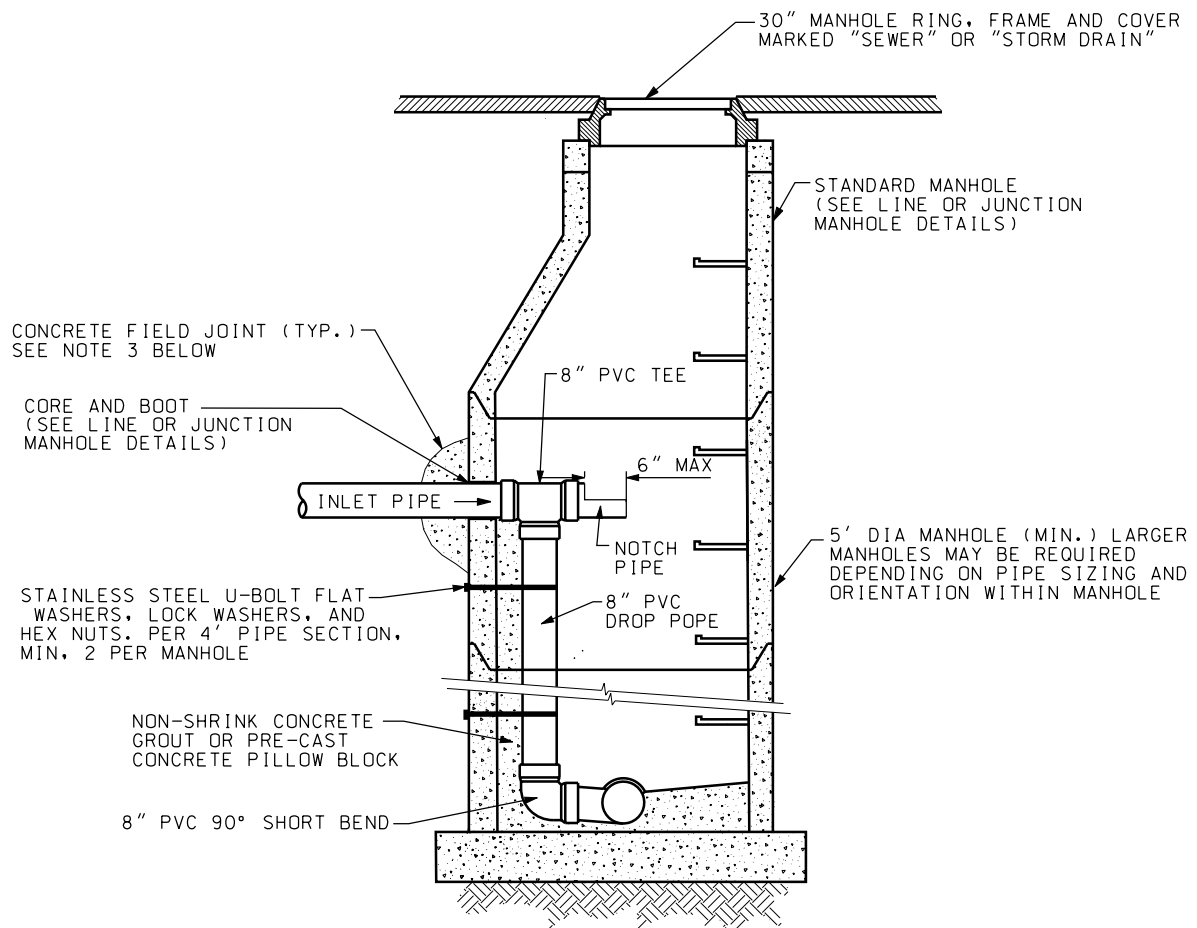


NOTES:

1. DROP MANHOLES MAY BE REQUIRED FOR PIPES ENTERING 24" OR MORE ABOVE THE INVERT OF THE MANHOLE. EXTERNAL DROP MANHOLES MAY BE USED ONLY AS APPROVED BY WATER AND WASTEWATER SUPERINTENDENT.
2. LATERAL SHALL NOT ENTER MANHOLES UNLESS OTHERWISE APPROVED BY CITY ENGINEER AND CITY PUBLIC WORKS DIRECTOR.
3. INSTALL 8" THICK CONCRETE FIELD JOINT AROUND PIPE (TYP.)



STANDARD DETAIL  
SEWER /STORM DRAIN  
EXTERNAL DROP  
MANHOLE DETAIL

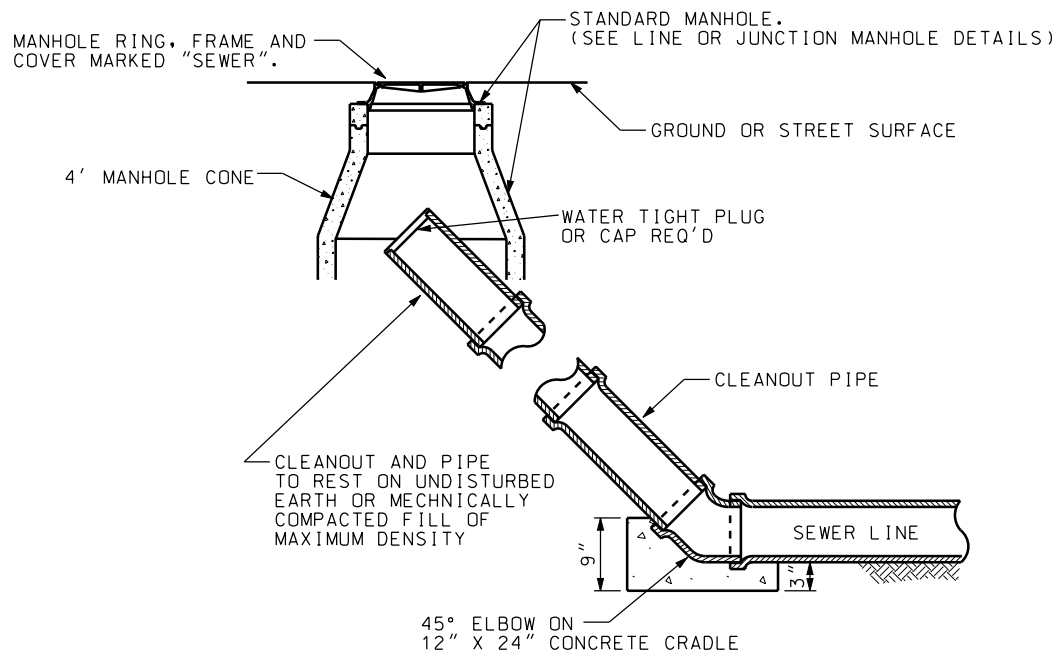


NOTES:

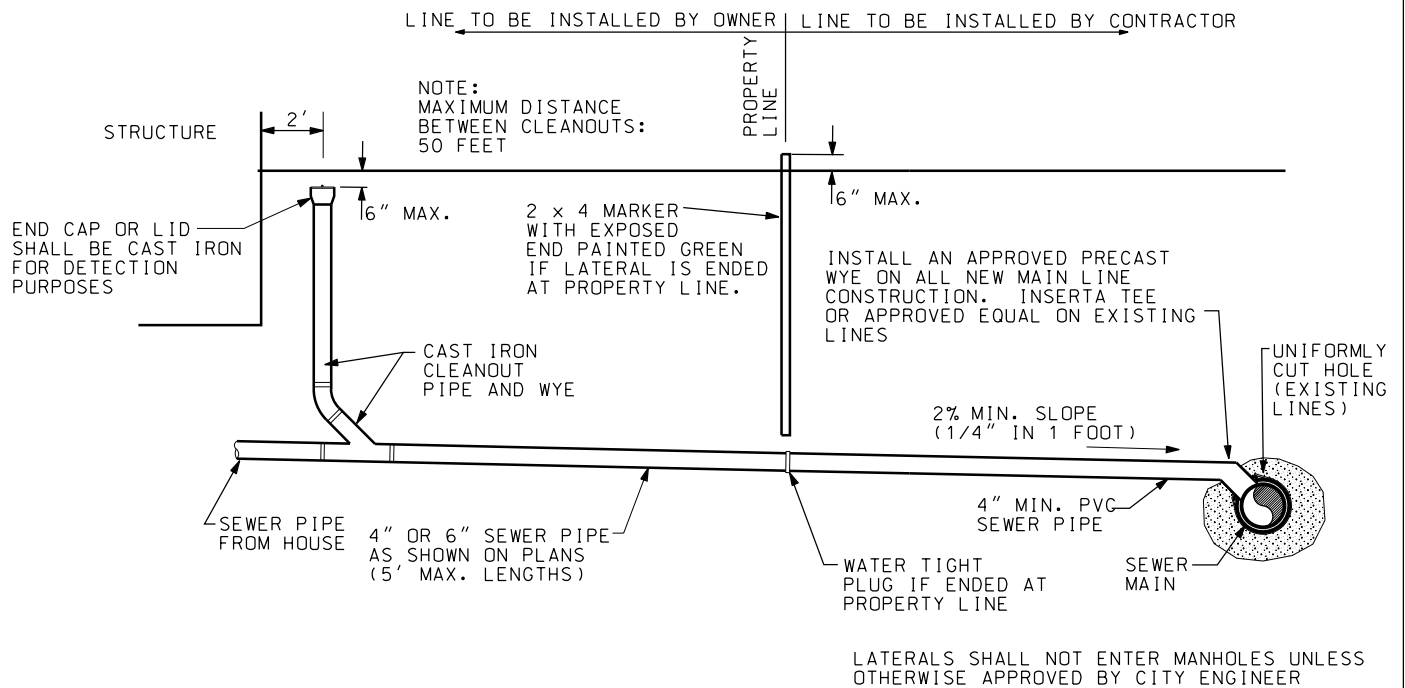
1. INTERNAL DROP MANHOLES MAY BE USED ON 8" OR 10" PIPES ONLY AS APPROVED BY WATER AND WASTEWATER SUPERINTENDENT.
2. LATERAL SHALL NOT ENTER MANHOLES UNLESS OTHERWISE APPROVED BY CITY ENGINEER AND CITY PUBLIC WORKS DIRECTOR.
3. INSTALL 8" THICK CONCRETE FIELD JOINT AROUND STORM DRAINAGE PIPE (TYP.).



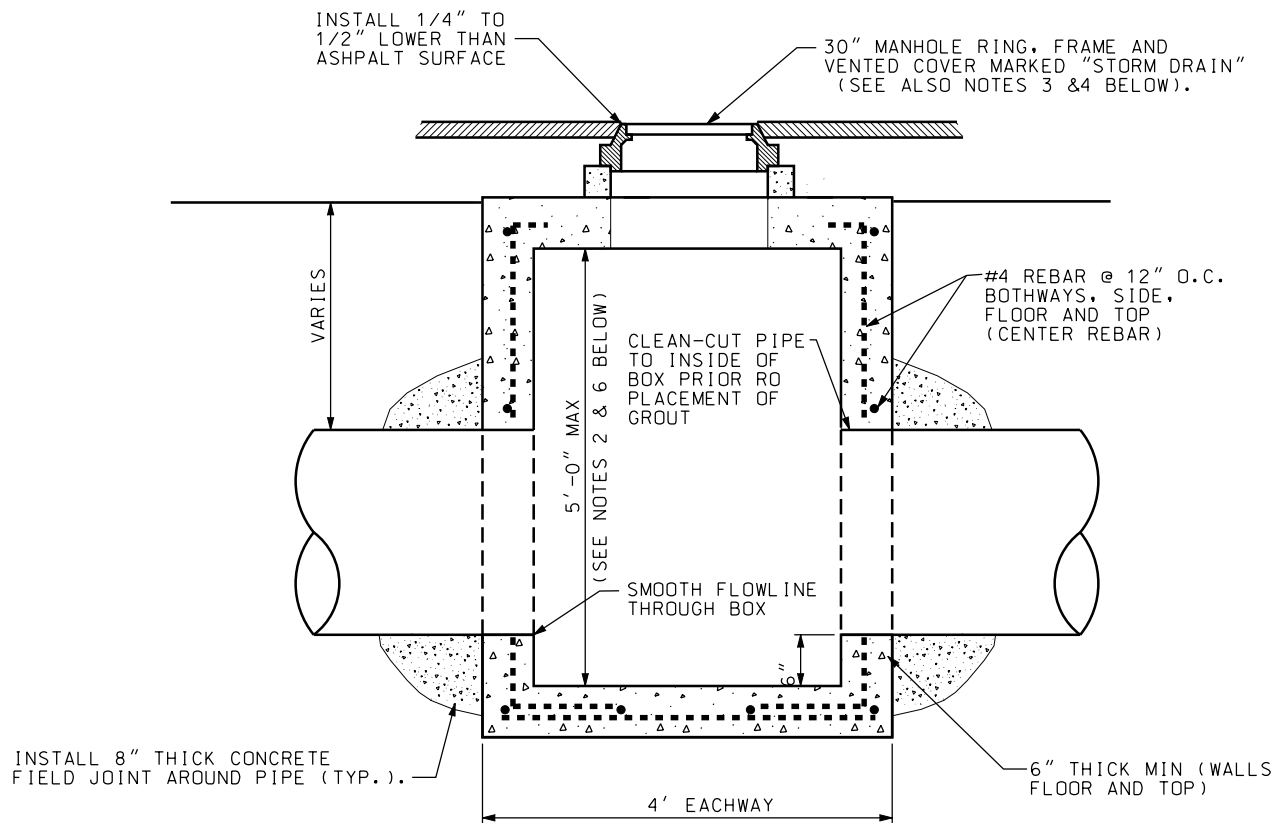
STANDARD DETAIL  
SEWER / STORM DRAIN  
INTERNAL DROP  
MANHOLE DETAIL



STANDARD DETAIL  
"TEMPORARY" SEWER  
MAIN CLEANOUT



STANDARD DETAIL  
SEWER LATERAL DETAIL



NOTES:

1. AN ENGINEERED PRECAST BOX MAY BE ALLOWED AS APPROVED BY THE CITY
2. FOR DEPTHS NOT TO EXCEED 5', OTHERWISE USE STANDARD LINE OR JUNCTION MANHOLE
3. MANHOLE RING & COVER SHALL MATCH GRADE & CROSS SLOPE OF ROADWAY.  
(TWIST, ROTATING OR ADJUSTABLE MANHOLE RING & COVER MAY BE REQUIRED).
4. VENTED RING, COVER & BOX SHALL BE CAPABLE OF SUPPORTING TRAFFIC LOADS. RING & COVER MAY BE SUBSTITUTED WITH A GRATED LID WHEN OUTSIDE OF PAVED ROADWAY AREAS (AS APPROVED BY THE CITY ENGINEER OR PUBLIC WORKS DIRECTOR), BUT SHALL ALSO BE CAPABLE OF SUPPORTING TRAFFIC LOADS.
5. 3'X3' I.D. CLEANOUT BOX MAY BE REQUIRED IF MORE THAN ONE PIPE ENTERS / EXITS BOX.
6. BMP "SNOUT" MAY BE REQUIRED WITHIN STORM DRAINAGE BOXES TO MEET STORM WATER QUALITY REQUIREMENT. CLEAN OUT BOX DEPTH SHALL BE MODIFIED TO MEET "SNOUT" MANUFACTURER'S GUIDELINES. ORIFICE PLATES SHOULD NOT BE INSTALLED BEHIND "SNOUT" HOODS.

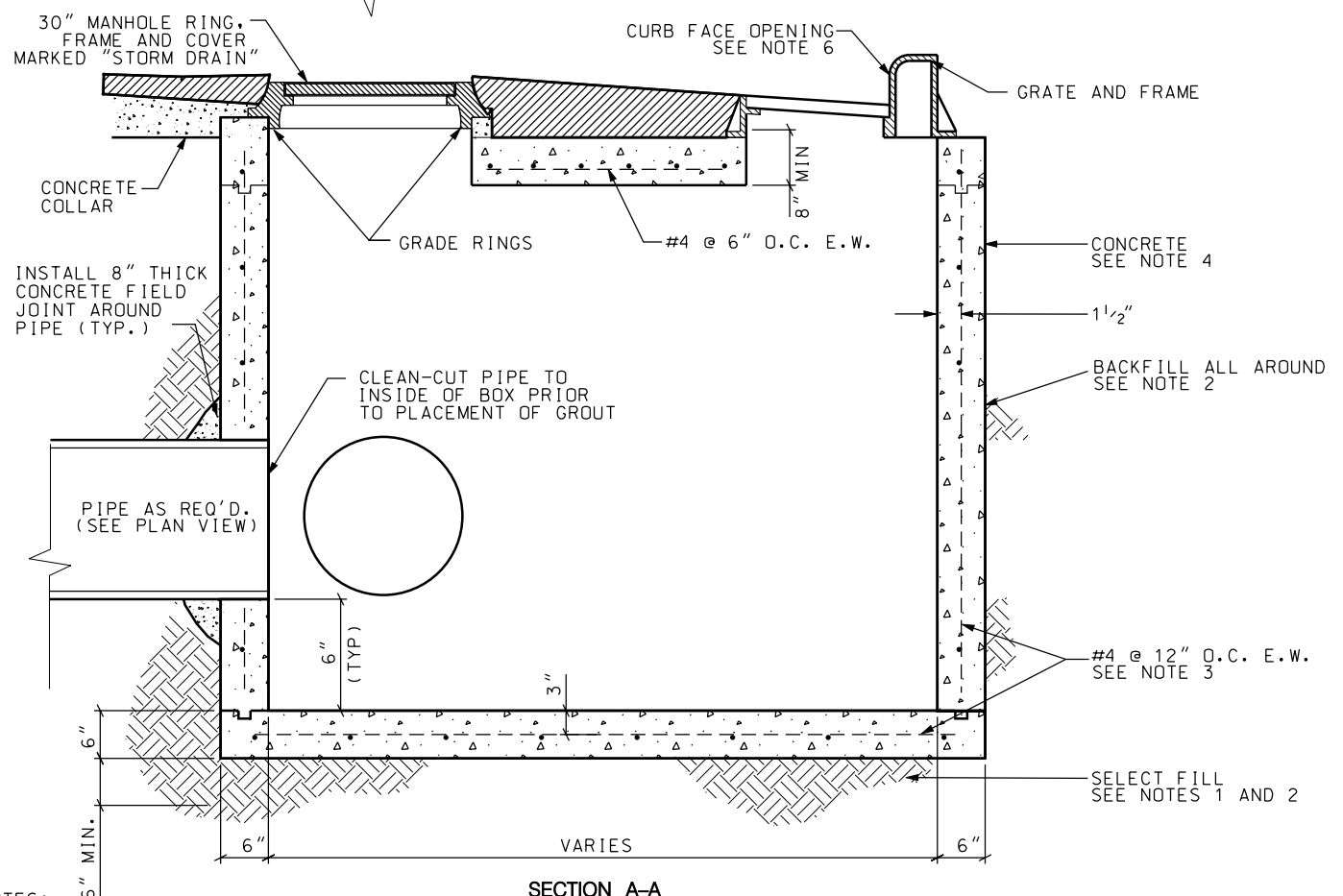
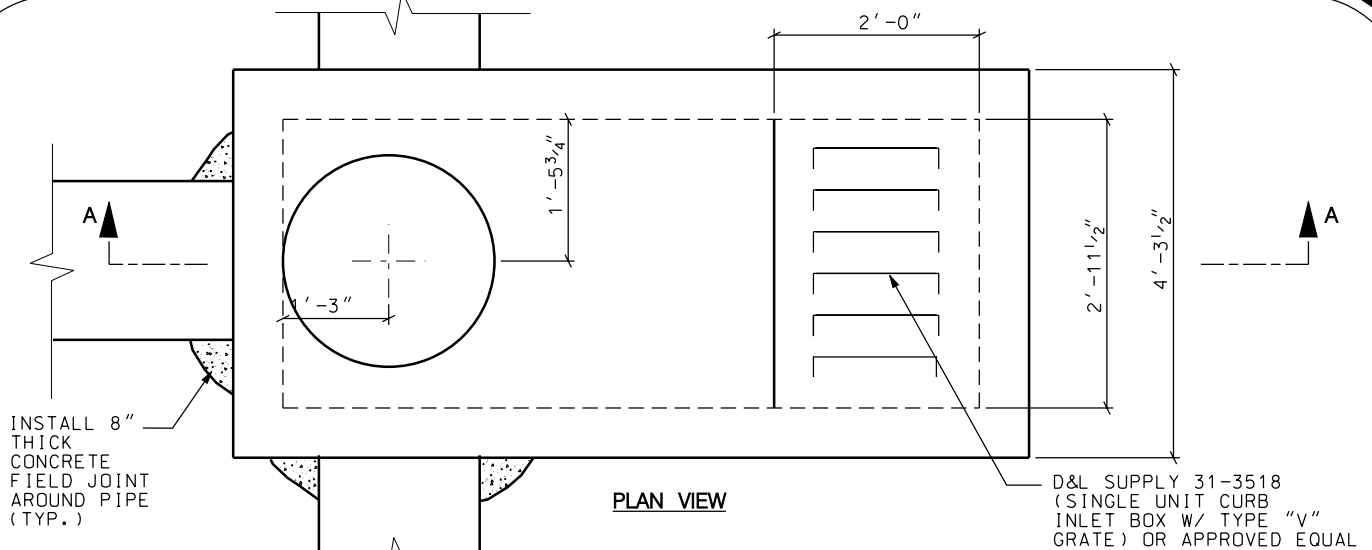


STANDARD DETAIL  
DRAIN  
CLEAN-OUT BOX



INLET BOX





#### NOTES:

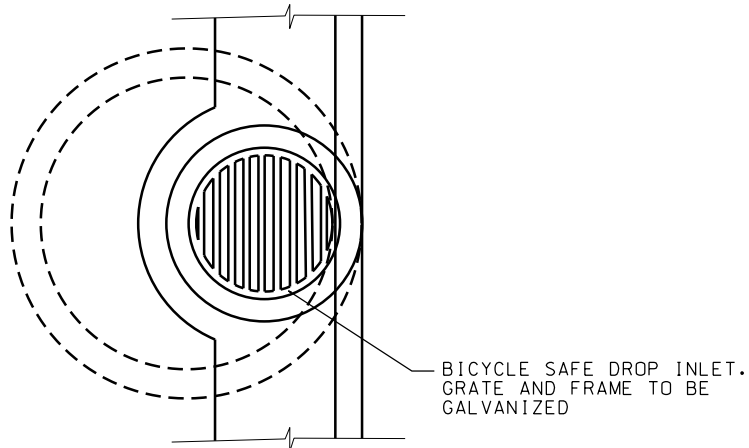
1. UNTREATED BASE COURSE: PROVIDE MATERIAL SPECIFIED IN APWA SECTION 02060. DO NOT USE GRAVEL OR SEWER ROCK. PLACE PER APWA SECTION 02321 ON ALL SIDES OF BOX. COMPACT PER APWA SECTION 02324 TO A MODIFIED PROCTOR DENSITY OF 95% OR GREATER. MAXIMUM LIFT THICKNESS IS 8 INCHES BEFORE COMPACTION.
2. BACKFILL: PROVIDE AND PLACE PER APWA SECTION 02321 ON ALL SIDES OF BOX. COMPACT PER APWA SECTION 02324 TO A MODIFIED PROCTOR DENSITY OF 95% OR GREATER. MAXIMUM LIFT THICKNESS IS 8-INCHES BEFORE COMPACTION.
3. REINFORCEMENT: ASTM A 615, GRADE 60, DEFORMED STEEL. SEE APWA SECTION 03200 REQUIREMENTS.
4. CONCRETE: CLASS 4000 PER APWA SECTION 03304. PLACE PER APWA SECTION 03310. CURE PER APWA SECTION 03390.
5. MANHOLE STEPS: PROVIDE COPOLYMER POLYPROPYLENE PLASTIC COATED MANHOLE STEPS IN BOXES OVER FOUR FEET DEEP. PLACE BOTTOM STEP SIX INCHES ABOVE BOTTOM OF FLOOR. INSTALLATION OF STEPS SHALL BE WATERPROOFED.
6. CURB FACE OPENING: MAKE OPENING AT LEAST 4 INCHES HIGH. PROVIDE AT LEAST A 2 INCH DROP FROM THE CONCRETE GUTTER FLOWLINE TO THE TOP OF THE GRATE AT THE CURB FACE OPENING.
7. BMP "SNOOT" MAY BE REQUIRED WITHIN STORM DRAINAGE BOXES TO MEET STORM WATER QUALITY REQUIREMENTS. COMBO BOX DEPTH SHALL BE MODIFIED TO MEET "SNOOT" MANUFACTURER'S GUIDELINES. ORIFICE PLATES SHOULD NOT BE INSTALLED BEHIND "SNOOT" HOODS.

#### SECTION A-A

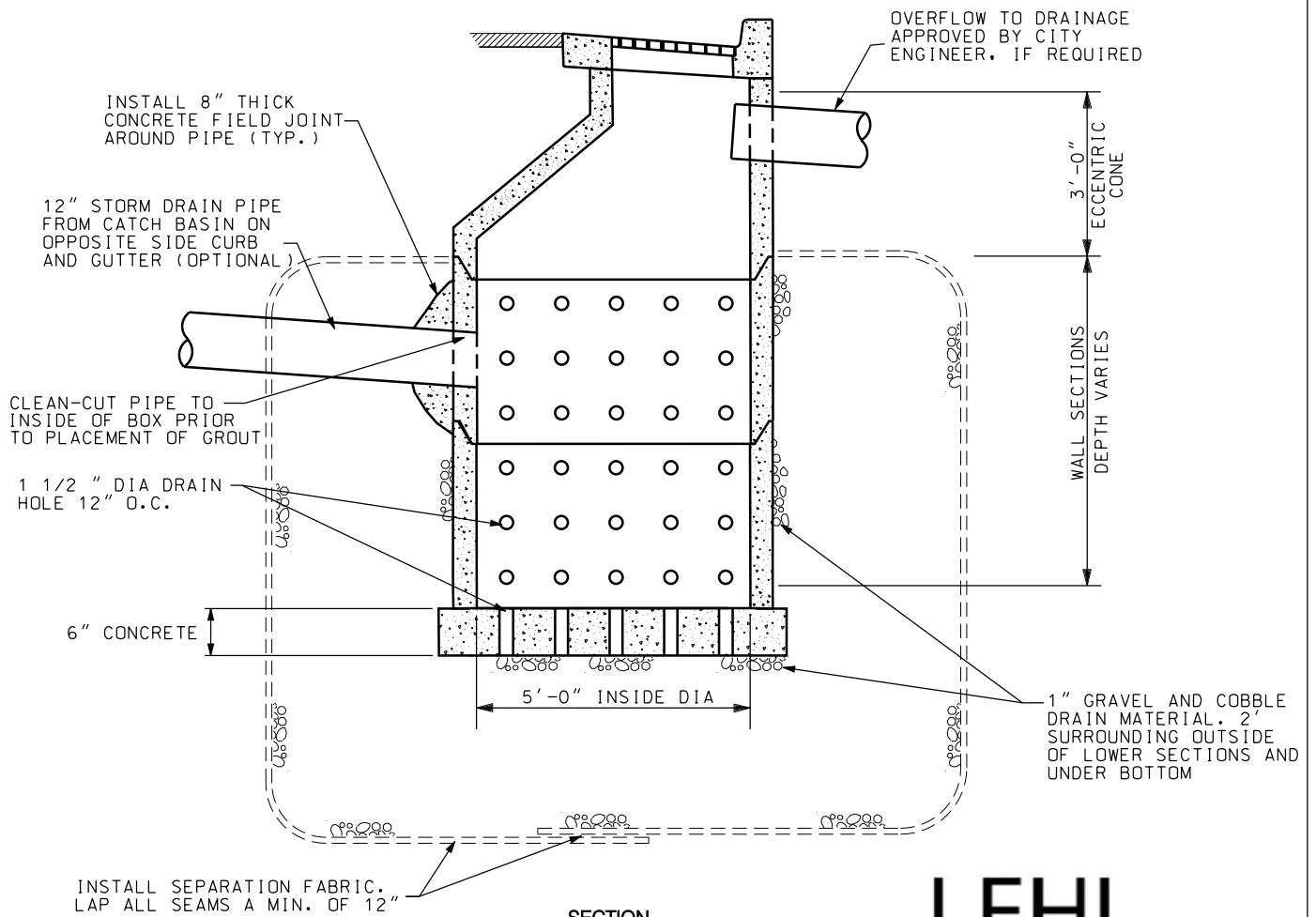


STANDARD DETAIL

COMBO BOX DETAIL



PLAN



SECTION

NOTE:

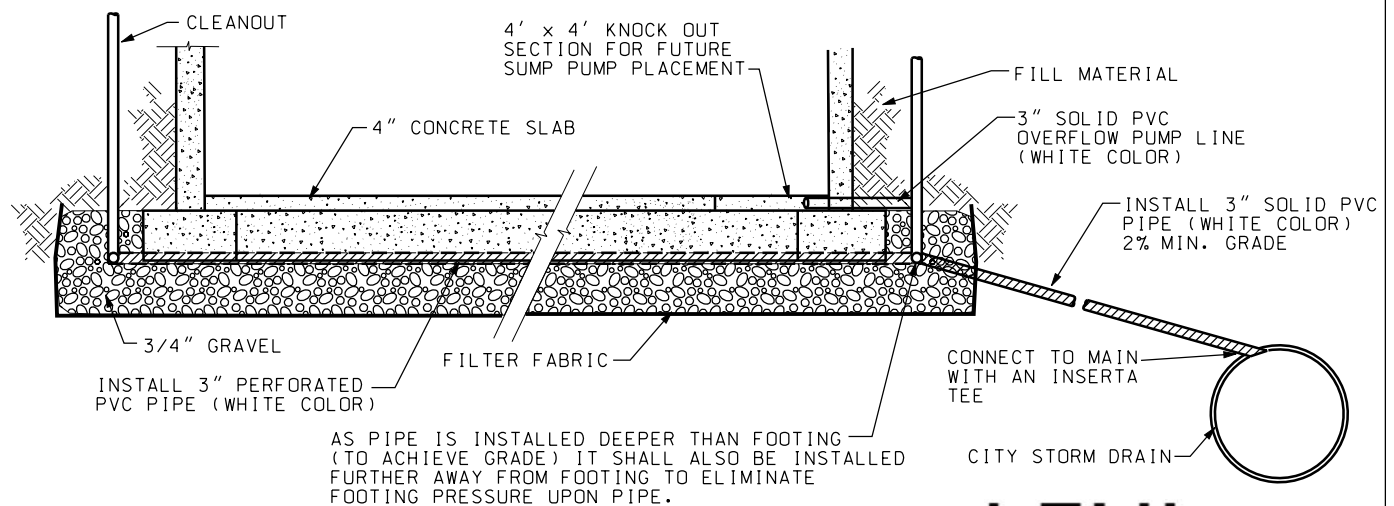
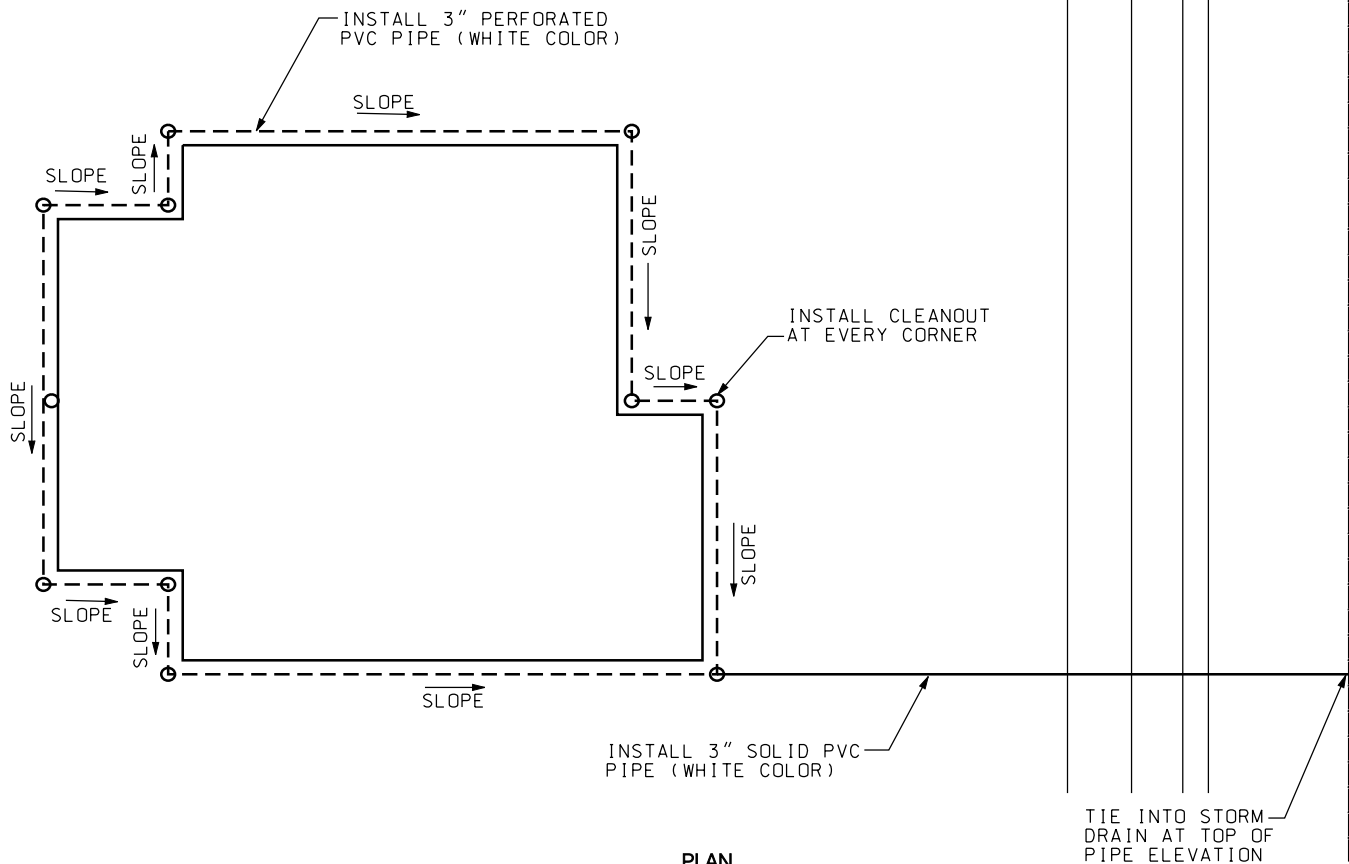
1. ALTERNATIVE SUMP DESIGNS MAY BE REQUIRED DEPENDING ON GROUND WATER TABLE.

NOTE:

NOT ALLOWED EXCEPT AS INDICATED  
IN DESIGN STANDARDS AND  
SPECIFICATIONS



STANDARD DETAIL  
STORM WATER SUMP  
CONCRETE METER BOX



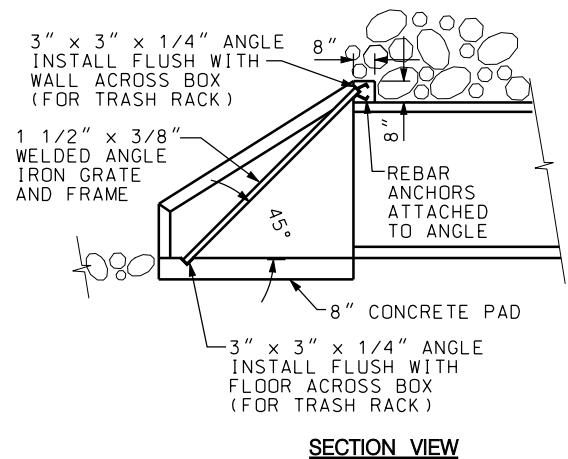
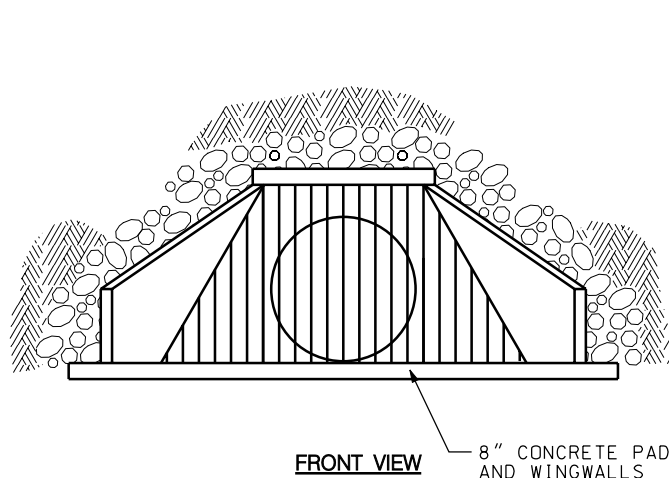
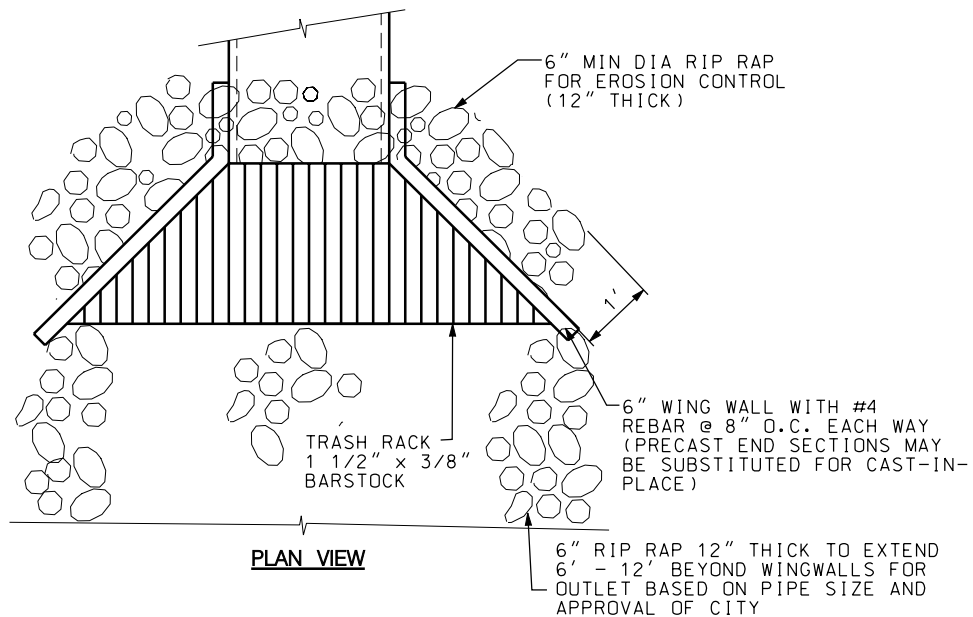
**NOTE:**

1. SUBSURFACE DRAIN FIGURES SHOWN ABOVE ARE FOR REFERENCE ONLY. A SITE-SPECIFIC GEOTECHNICAL REPORT SHALL BE SUBMITTED SHOWING THE DEPTHS, SIZES, AND LOCATIONS OF ALL PROPOSED SUBSURFACE DRAINAGE PIPNG.

**NOTE: ONLY ALLOWED AS AUTHORIZED  
OR DIRECTED BY THE PUBLIC WORKS  
DEPARTMENT**



**STANDARD DETAIL  
BUILDING  
SUBSURFACE  
DRAINS**



**NOTES:**

1. USE TRASH RACK FOR INLETS ONLY, NOT REQUIRED ON OUTLETS.
2. OPENING BETWEEN THE BARS SHALL NOT EXCEED 2".
3. HYDRAULIC DESIGN CALCULATIONS MAY BE REQUIRED FOR HEADWALL / RIP-RAP DESIGN APPROVALS.
4. HEADWALL, GRATING, RIP-RAP SIZING AND FLOW CALCULATIONS MUST BE APPROVED BY LEHI CITY ENGINEER PRIOR TO CONSTRUCTION.



STANDARD DETAIL  
HEADWALL DETAIL