



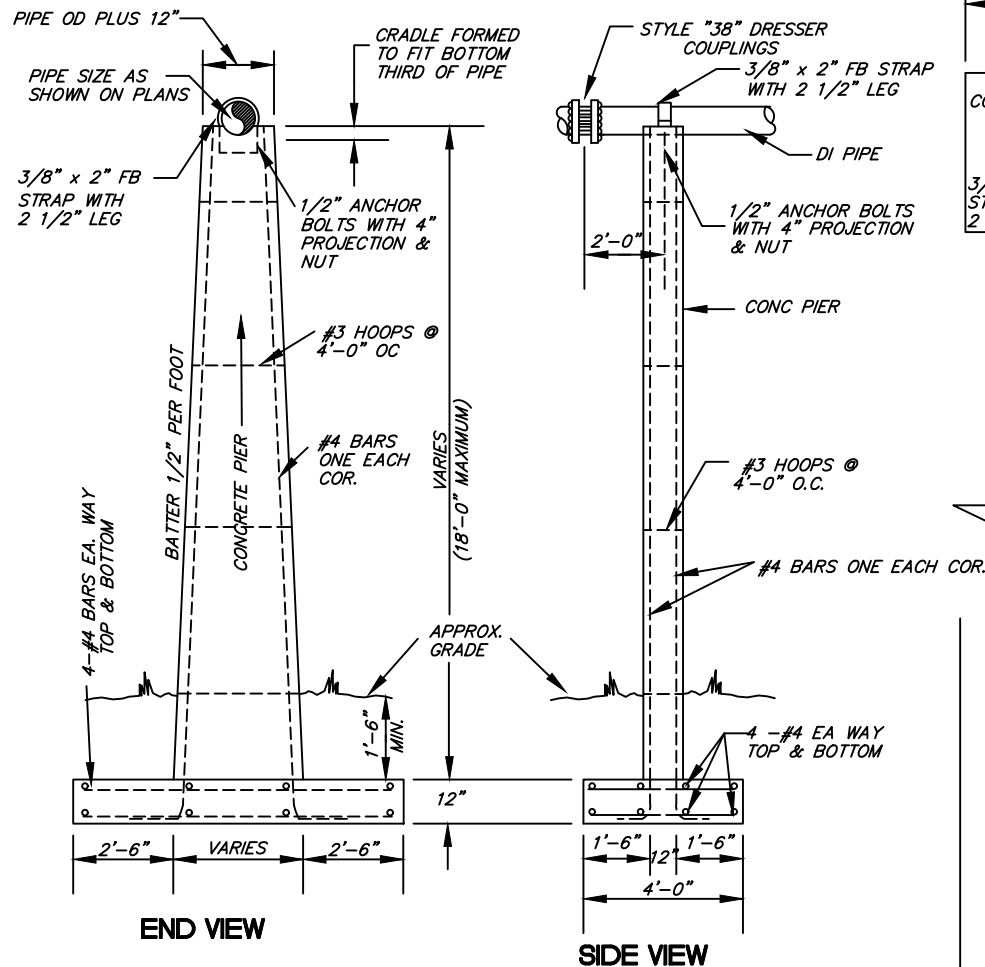
1. EMBEDMENT MATERIAL MUST BE CLASS I (NO. 67 OR NO. 78M WASHED STONE IS TYPICALLY USED).
2. EMBEDMENT MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 90% STANDARD PROCTOR DENSITY FOR CLASS I MATERIAL.
3. ALL SANITARY SEWER LINES LESS THAN 3' AND OVER 20 FEET IN DEPTH MUST BE D.I.P.

BEDDING FOR FLEXIBLE AND SEMI-RIGID SANITARY SEWER PIPE

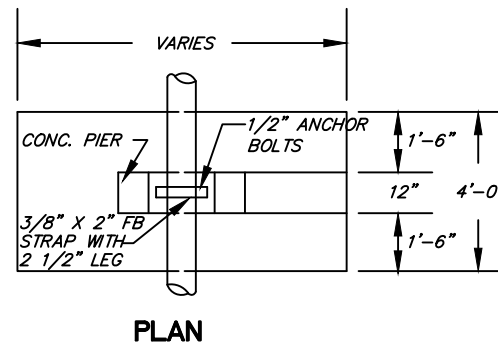
STANDARD DETAIL NUMBER: HS703



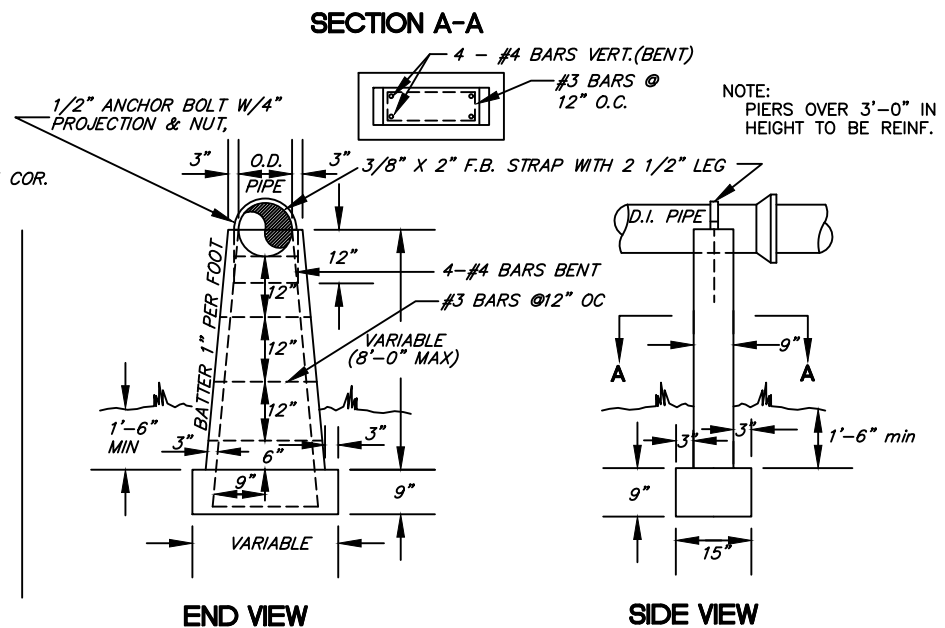
Holly Springs
Discover The Source.



TYPE II CONC. PIER FOR EXPOSED PIPE



NOTE: CONCRETE SHALL BE 3000 PSI
STEEL SHALL BE GRADE 40



TYPE I CONC. PIER FOR EXPOSED PIPE

DRAWING NOT TO SCALE

STANDARD AERIAL CROSSING

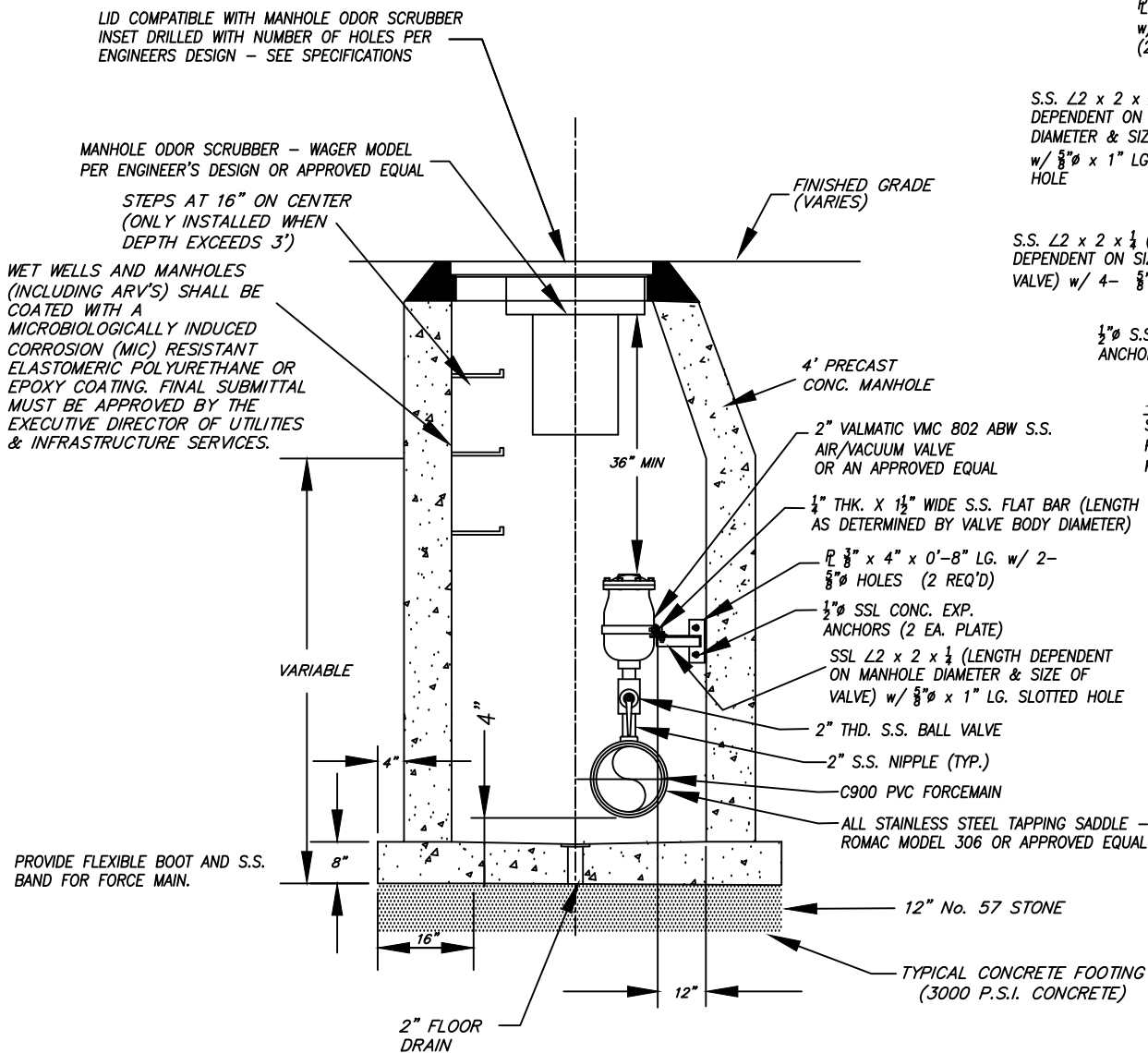
TOWN OF HOLLY SPRINGS ENGINEERING DEPARTMENT

STANDARD DETAIL NUMBER: HS704

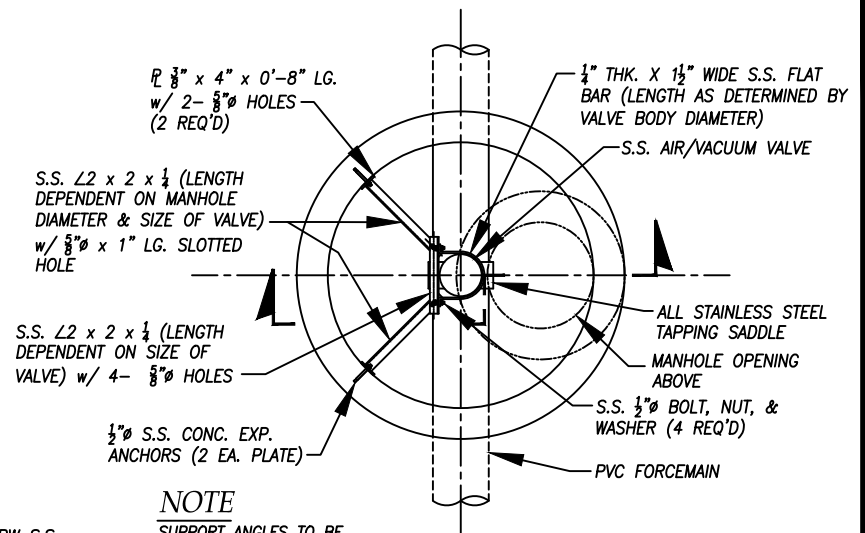
DATE REVISIONS

8/30/19





TYPICAL SECTION



NOTE

SUPPORT ANGLES TO BE
POSITIONED OPPOSITE
MANHOLE OPENING.

PLAN

NOTES:

MANHOLE STEPS SHALL BE PLACED
16" O.C. INSTALLED ONLY WHEN DEPTH EXCEEDS 3 FEET.

SEWAGE COMBINATION AIR VALVE MUST BE PRESSURE
VALVE WITH BACKFLUSHING ATTACHMENTS.

DRAWING NOT TO SCALE

COMBINATION SEWAGE AIR VALVE MANHOLE
WITH ODOR SCRUBBER

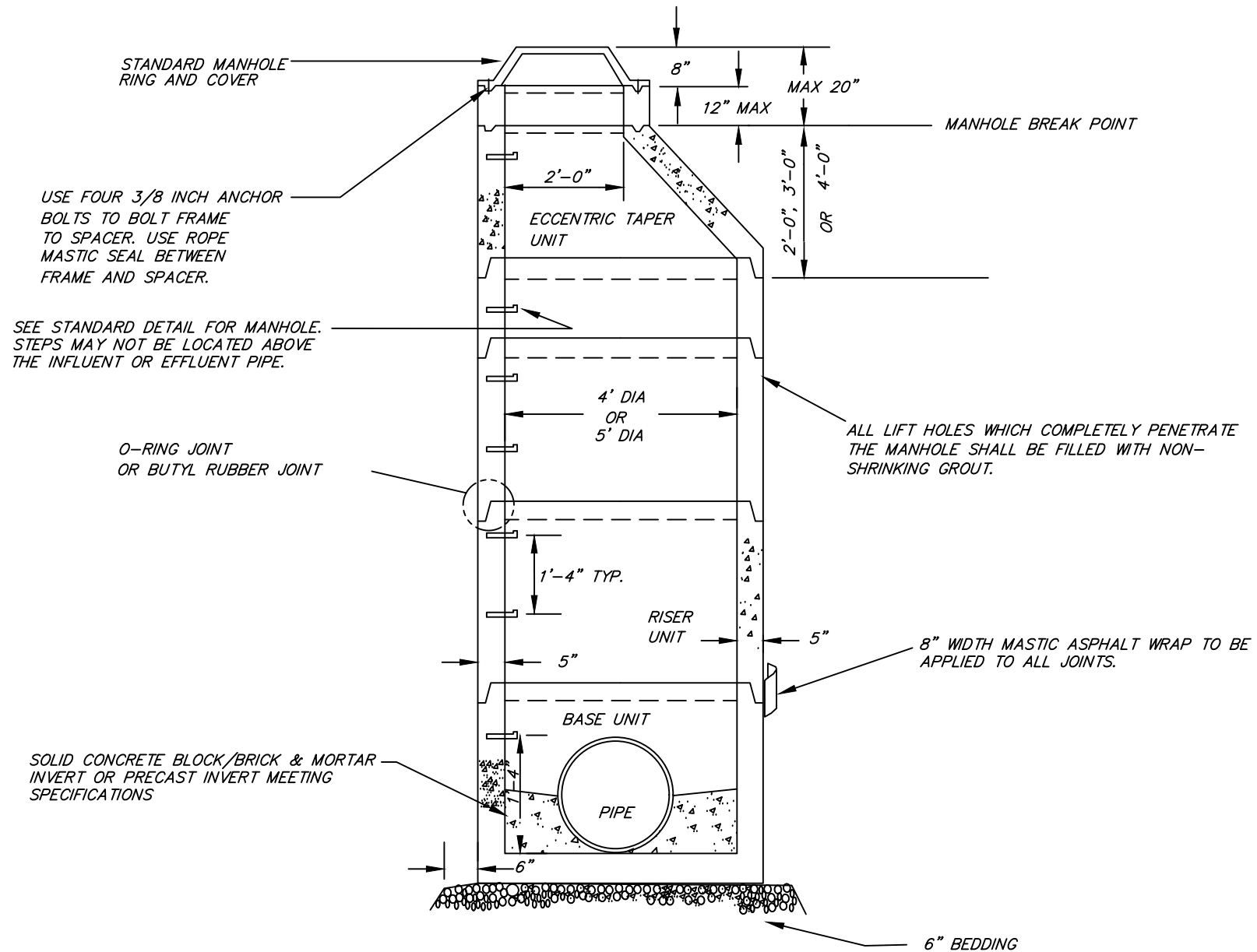
TOWN OF HOLLY SPRINGS ENGINEERING DEPARTMENT

STANDARD DETAIL NUMBER: HS705

DATE REVISIONS

1/4/22





NOTES:

1. ANY MANHOLE OVER 20' IN DEPTH SHALL BE 5' IN DIAMETER.
2. NO FLAT TOPS ALLOWED.

DRAWING NOT TO SCALE

STANDARD PRECAST CONCRETE MANHOLE

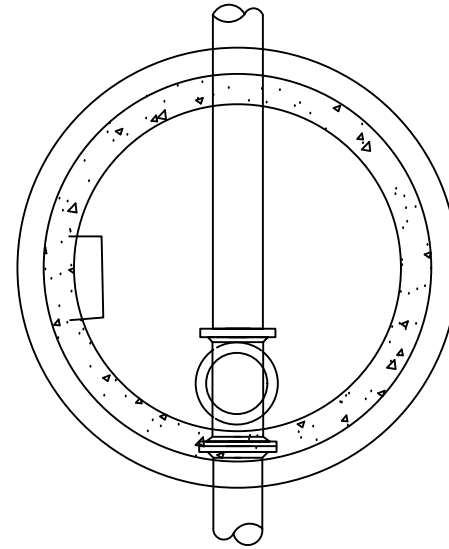
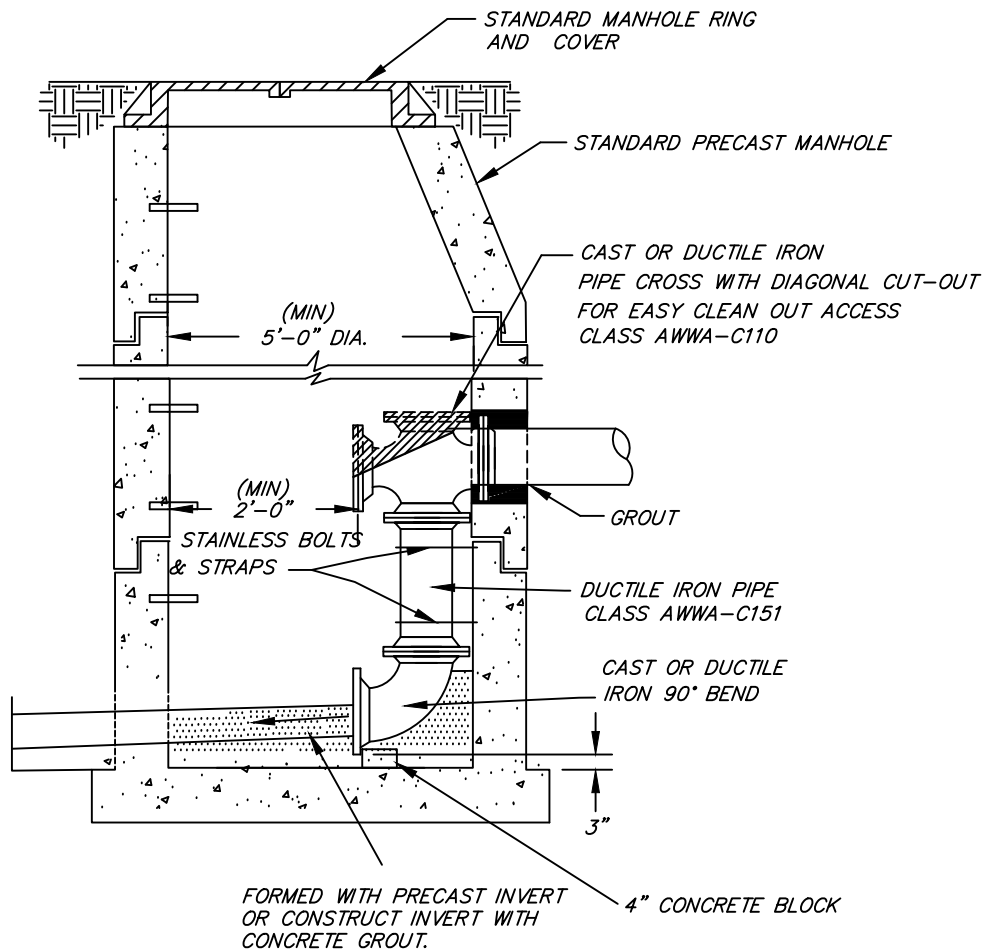
TOWN OF HOLLY SPRINGS ENGINEERING DEPARTMENT

STANDARD DETAIL NUMBER: HS706

DATE REVISIONS

8/30/19





NOTES:

1. PIPE SIZE FOR DROP TO EQUAL TO INFLOW SEWER PIPE SIZE.
2. MECH. JOINT OR PUSH- ON FITTINGS, ALL BELL, TO BE USED.
3. CORE OR DRILL ALL HOLES FOR PIPE AND BOLTS.
4. DROP MANHOLE MANDATORY WHEN DIFFERENTIAL BETWEEN INVERTS IS GREATER THAN 12".
5. STAINLESS STEEL STRAPS SHALL BE USED ON ALL DROPS GREATER THAN 5 FEET AT 18 INCH INTERVALS.

DRAWING NOT TO SCALE

STANDARD INSIDE DROP MANHOLE

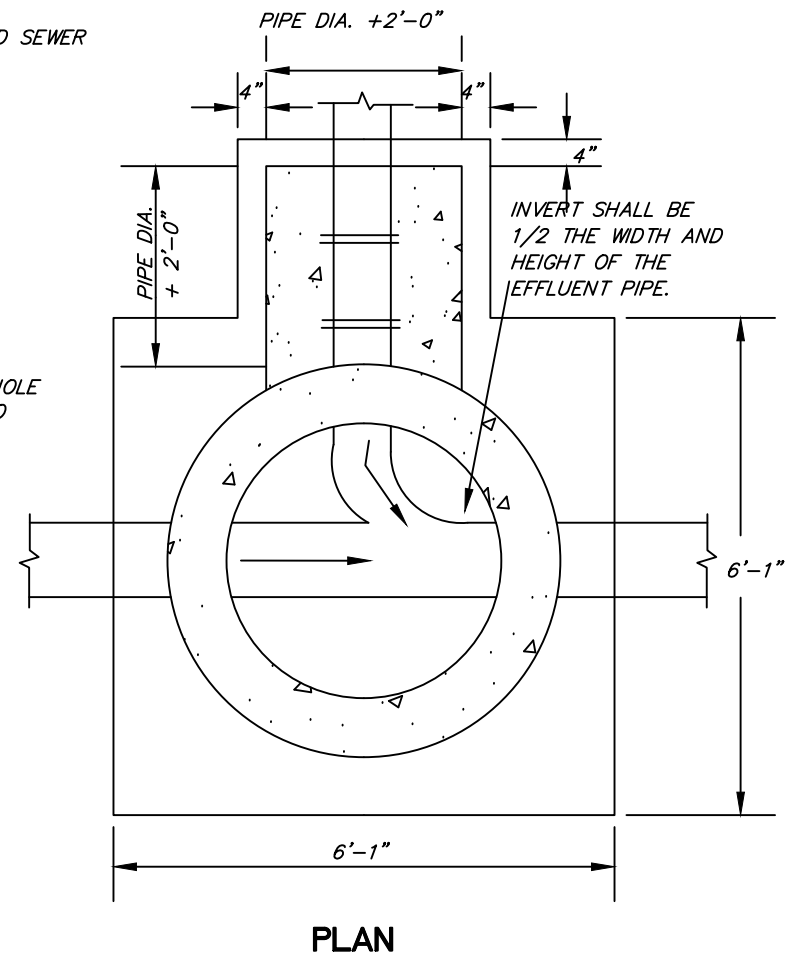
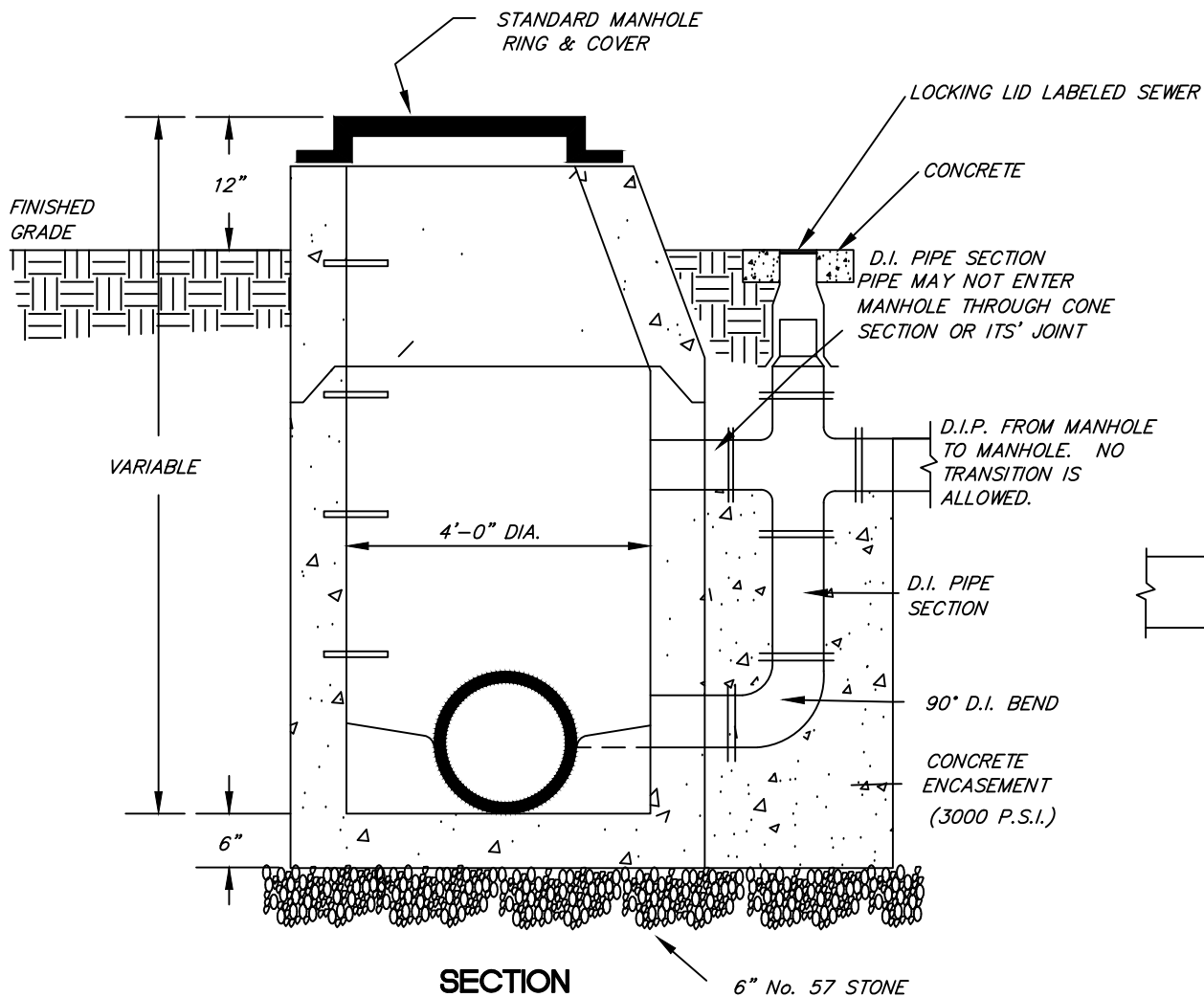
TOWN OF HOLLY SPRINGS ENGINEERING DEPARTMENT

STANDARD DETAIL NUMBER: HS707

DATE REVISIONS

5/6/15





NOTE:

OUTSIDE DROP TO BE USED ONLY WITH APPROVAL BY DIRECTOR OF ENGINEERING.

DRAWING NOT TO SCALE

STANDARD OUTSIDE DROP MANHOLE

TOWN OF HOLLY SPRINGS ENGINEERING DEPARTMENT

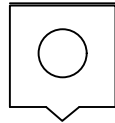
STANDARD DETAIL NUMBER: **HS708**

DATE REVISIONS

8/30/19



CORROSION
RESISTANT MATL

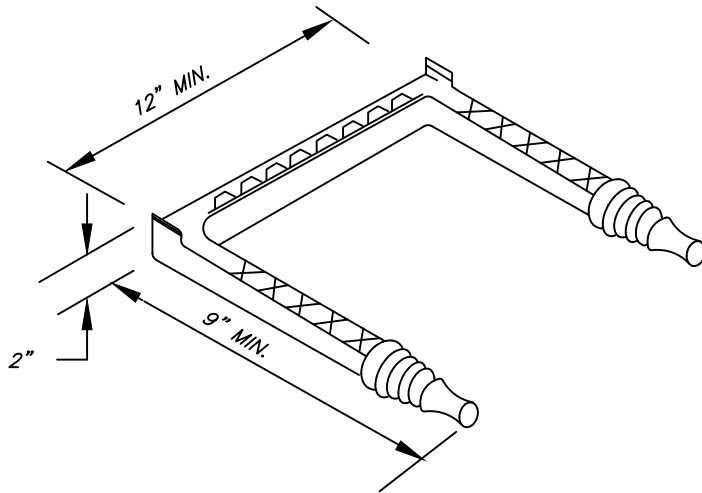


1/2" DIA.
STEEL ROD

SECTION

NOTES:

1. VERTICAL SPACING — 16" O.C.
2. STEPS TO PROTRUDE 5" FROM FACE OF STRUCTURE WALL, AND SHALL WITHSTAND A VERTICAL LOAD OF 400 LBS. AND A HORIZONTAL PULL OUT LOAD OF 1000 LBS.



ENCAPSULATED STEEL STEP

DRAWING NOT TO SCALE

MANHOLE STEPS

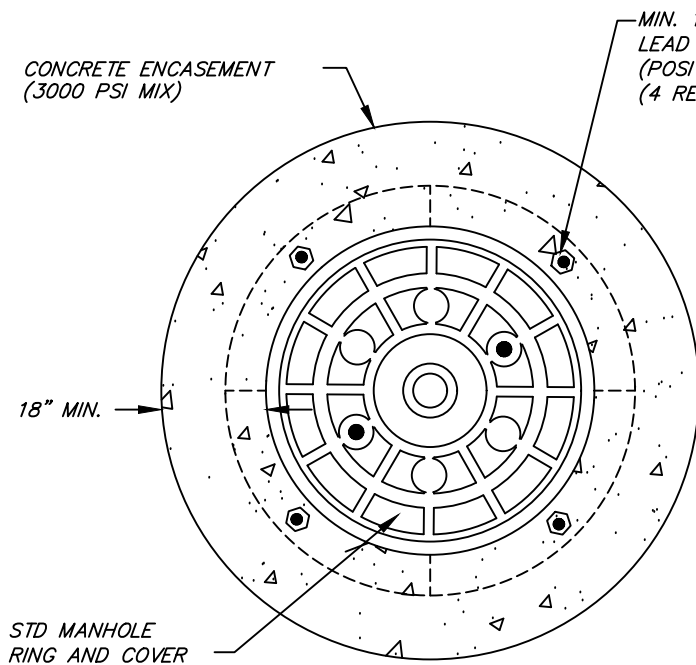
STANDARD DETAIL NUMBER: **HS709**

DATE REVISIONS

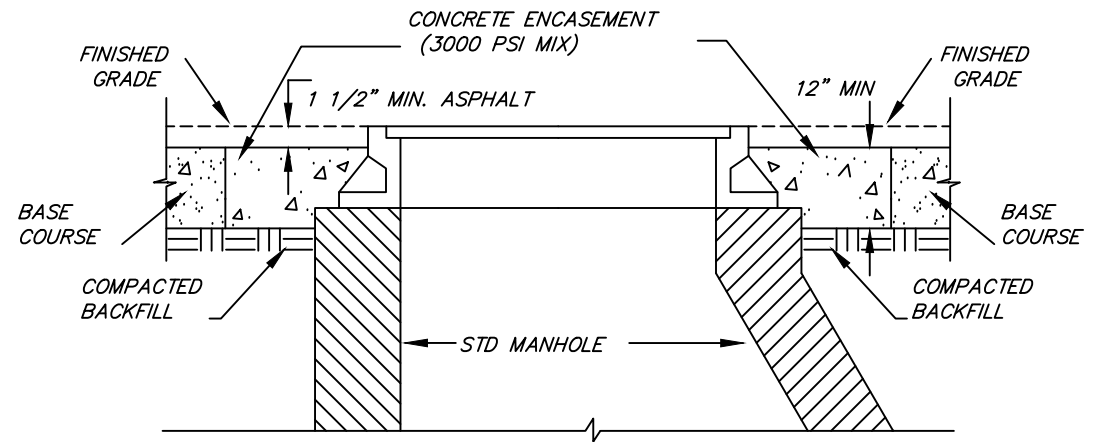
8/30/19

TOWN OF HOLLY SPRINGS ENGINEERING DEPARTMENT





PLAN



SECTION

NOTES:

1. ALL MANHOLE COVERS TO HAVE 2 HOLES ONLY.
2. USE SOLID LID ON ALL MANHOLES LOCATED IN LOW AREAS OF ROAD PROFILE.
3. MANHOLE RING TO BE BOLTED AS SHOWN W/ROPE MASTIC SEAL BETWEEN FRAME AND SPACER.
4. DOMESTIC MADE IN USA AND MEET H2O LOADING NCDOT NO 840.54.

DRAWING NOT TO SCALE

**STANDARD MANHOLE RING AND COVER ENCASEMENT
FOR MANHOLES LOCATED IN PAVED AREAS**

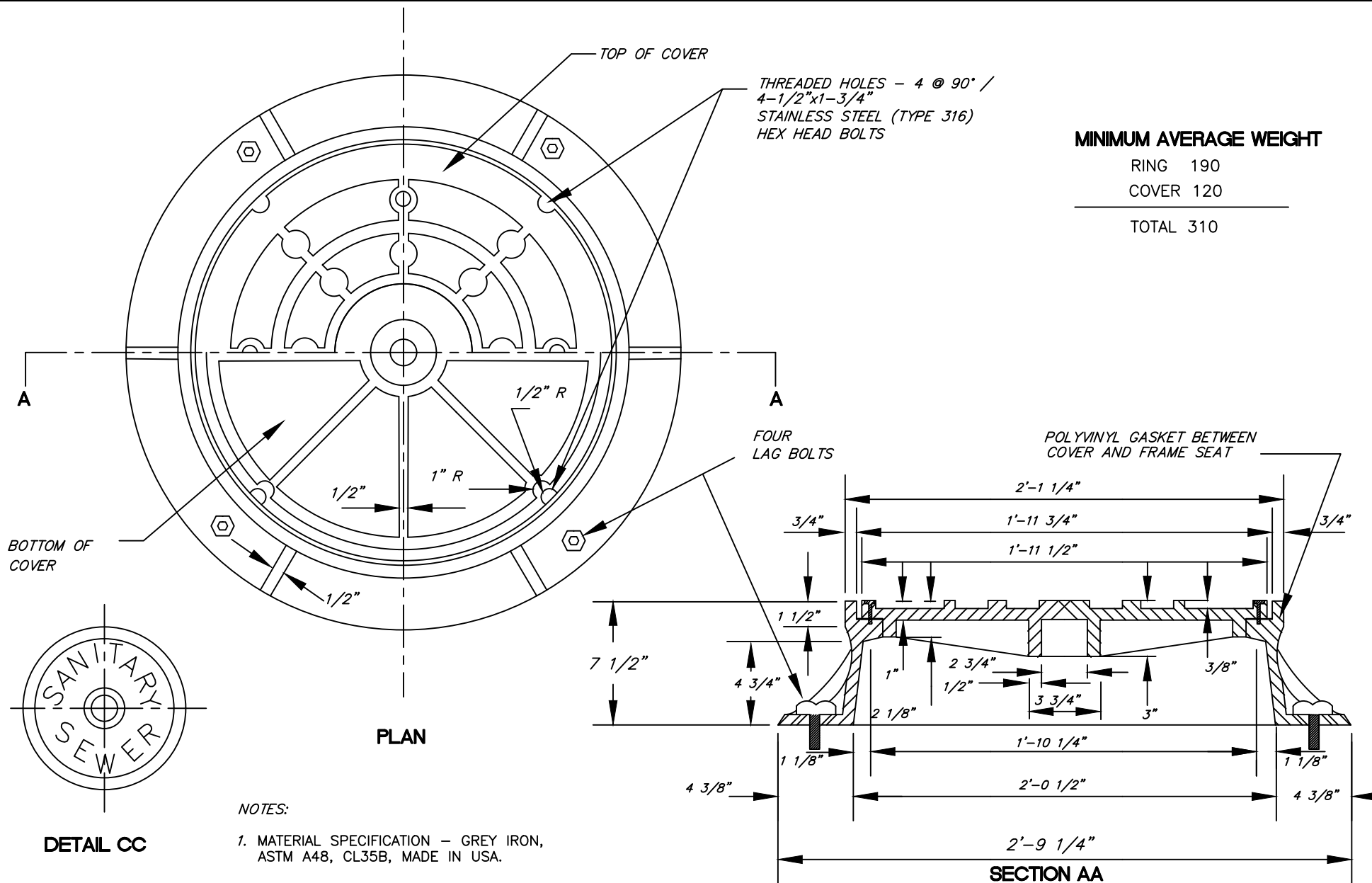
TOWN OF HOLLY SPRINGS ENGINEERING DEPARTMENT

STANDARD DETAIL NUMBER: HS710

DATE REVISIONS

7/24/09





DRAWING NOT TO SCALE

STANDARD MANHOLE RING AND COVER FOR WATERTIGHT MANHOLES

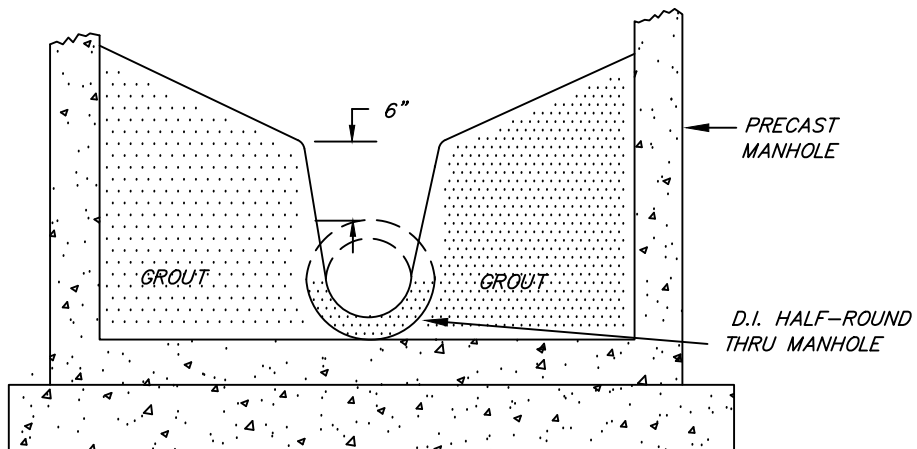
STANDARD DETAIL NUMBER: HS712

DATE REVISIONS

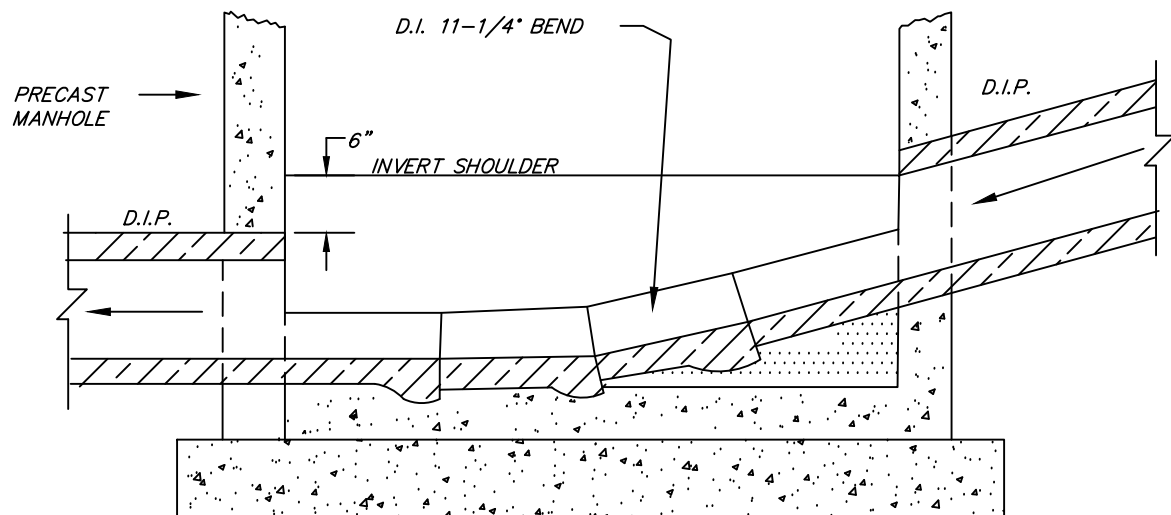
7/24/09

TOWN OF HOLLY SPRINGS ENGINEERING DEPARTMENT





TOP HALF OF PIPE
IN MANHOLE CUT OUT



NOTES:

1. NO HORIZONTAL ALIGNMENT CHANGE CAN BE MADE WITHIN THIS MANHOLE TYPE. USE ON GRADES 10% OR GREATER.
2. EACH JOINT OF PIPE BETWEEN HIGH VELOCITY MANHOLE & MANHOLE UPSTREAM SHALL HAVE CONCRETE COLLARS.

DRAWING NOT TO SCALE

STANDARD HIGH VELOCITY MANHOLE INVERT

TOWN OF HOLLY SPRINGS ENGINEERING DEPARTMENT

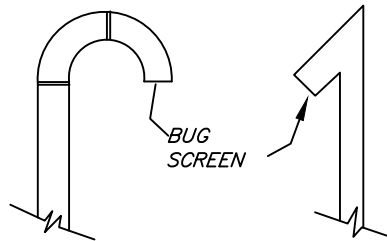
STANDARD DETAIL NUMBER: HS713

DATE

REVISIONS

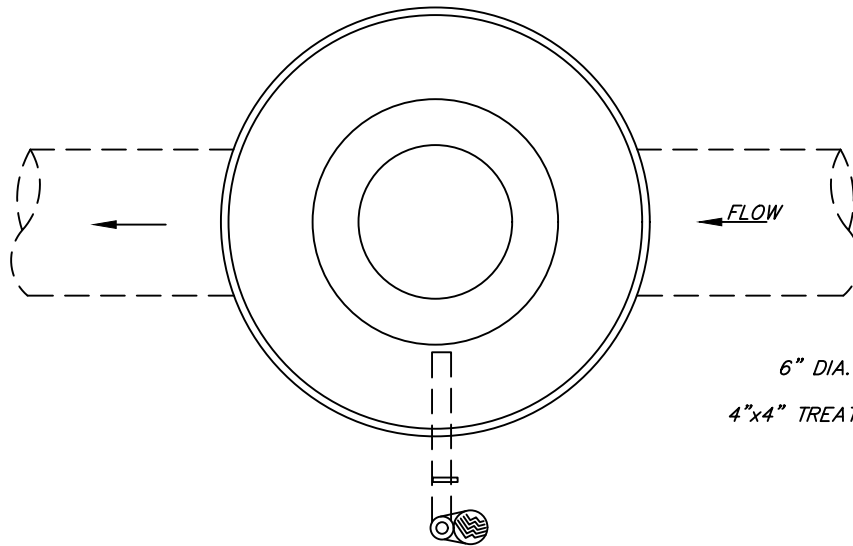
7/24/09





VENT

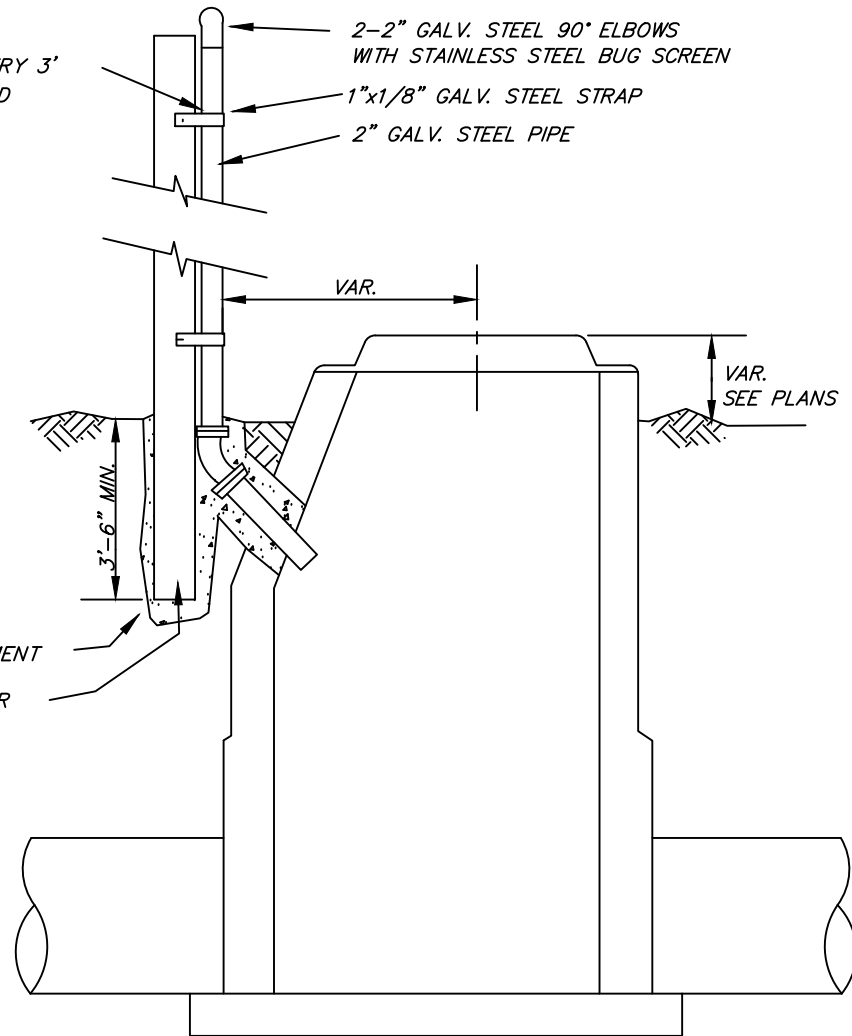
STRAP SPACING 1 EVERY 3'
MINIMUM OF 2 REQUIRED



PLAN

NOTES:

1. LOCATION OF VENT PIPE SHALL BE AS DIRECTED BY THE CONSTRUCTION INSPECTOR WITH WATERTIGHT RING AND COVER VENT TO BE 2' ABOVE 100 YR. FLOOD PLAIN ELEVATION.
2. VENT PIPE MUST BE 2' ABOVE 500 YR. FLOOD PLAIN IN AREAS WHERE THIS DATA IS AVAILABLE, OR ANY OTHER LOW-LYING AREA DEEMED BY THE DIRECTOR OF ENGINEERING.



ELEVATION

DRAWING NOT TO SCALE

STANDARD TYPICAL MANHOLE VENT DETAIL

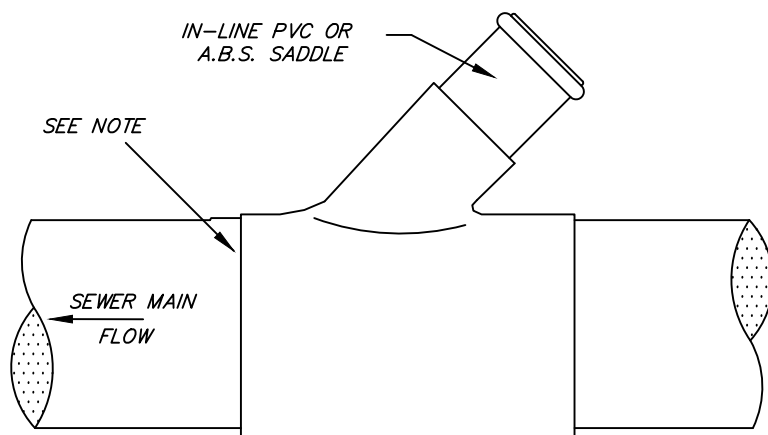
TOWN OF HOLLY SPRINGS ENGINEERING DEPARTMENT

STANDARD DETAIL NUMBER: HS714

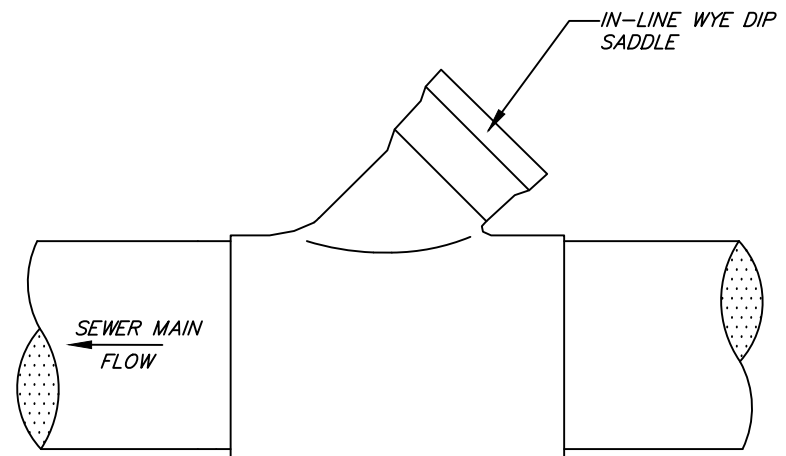
DATE
7/24/09

REVISIONS





PVC AND ABS PIPE



DUCTILE IRON PIPE

NOTES:

1. PVC/ ABS SOLVENT SHALL BE USED AT ALL JOINTS.

DRAWING NOT TO SCALE

STANDARD SANITARY SEWER LATERAL CONNECTIONS FOR NEW LINES

TOWN OF HOLLY SPRINGS ENGINEERING DEPARTMENT

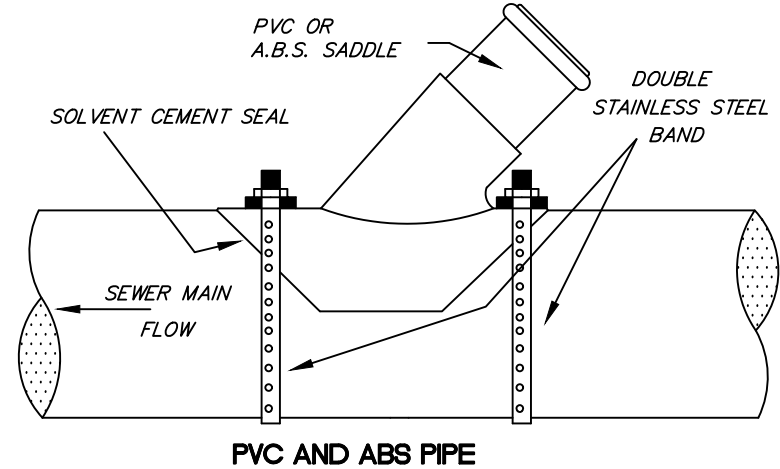
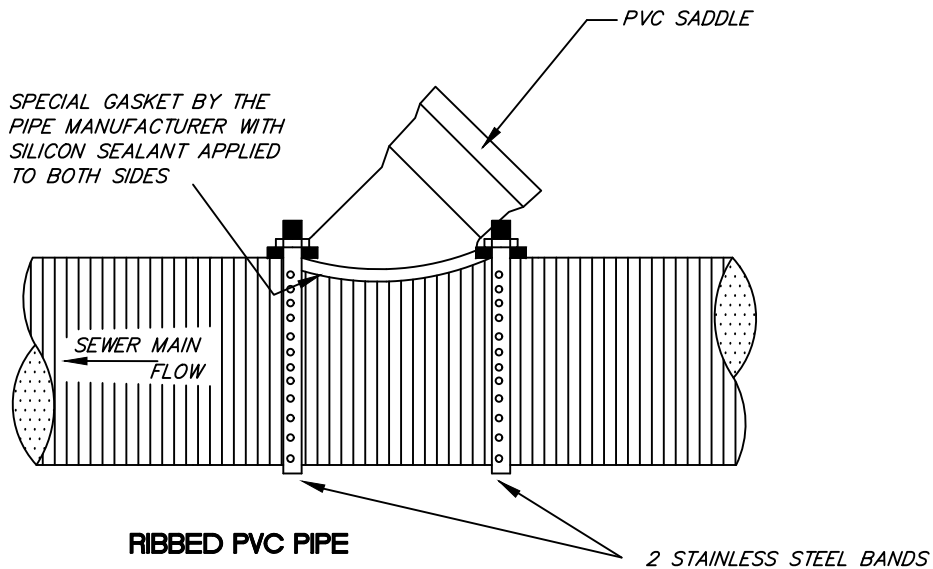
STANDARD DETAIL NUMBER: HS716

DATE

7/24/09

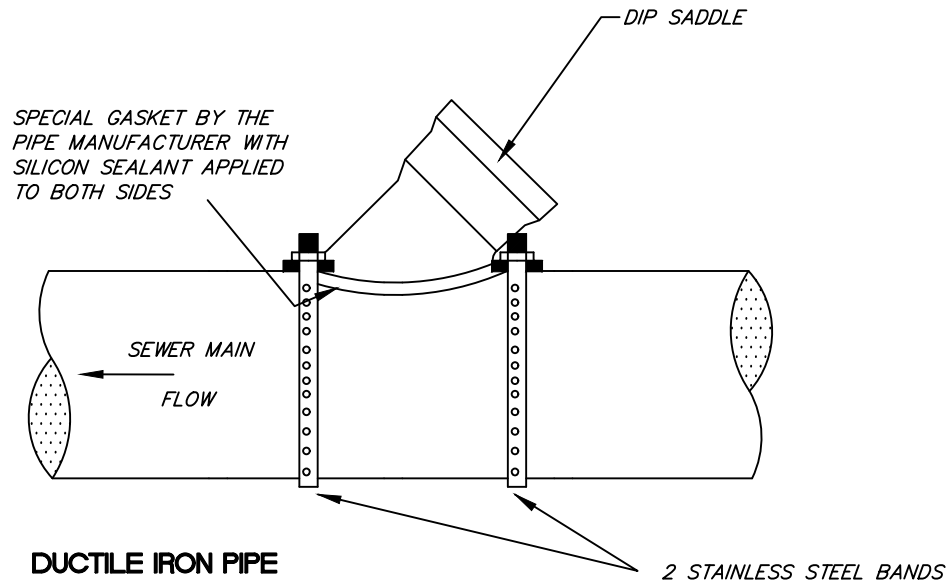
REVISIONS





NOTES:

1. PVC SOLVENT CEMENT SHALL BE USED FOR PVC SADDLES.
2. ABS SOLVENT CEMENT SHALL BE USED FOR ABS SADDLES.
3. TRUSS SADDLES SHALL BE USED WITH TRUSS PIPE.



DRAWING NOT TO SCALE

STANDARD SANITARY SEWER LATERAL CONNECTIONS FOR EXISTING LINES

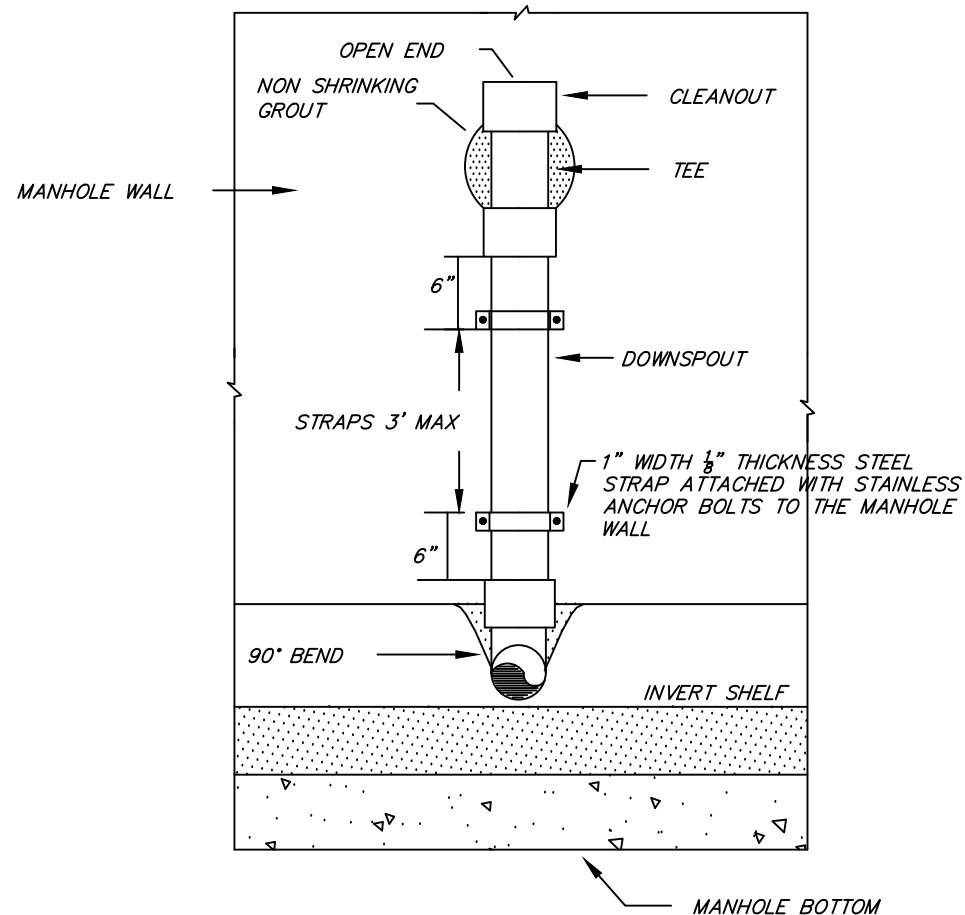
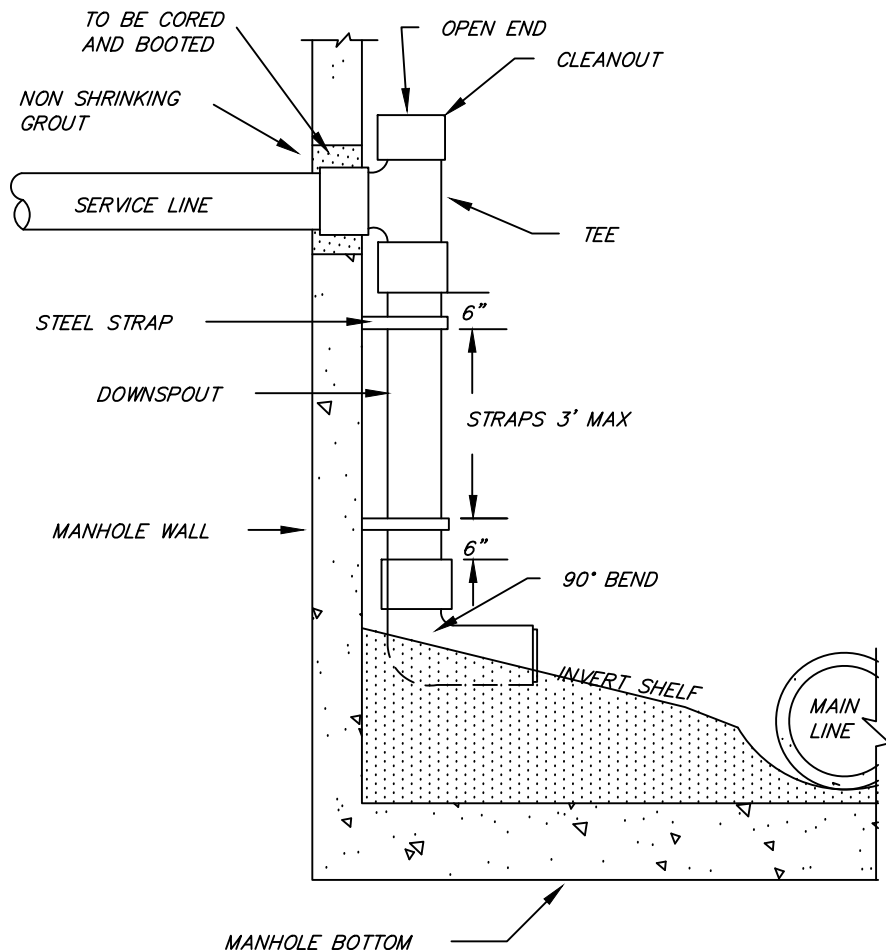
TOWN OF HOLLY SPRINGS ENGINEERING DEPARTMENT

STANDARD DETAIL NUMBER: HS717

DATE REVISIONS

7/24/09





NOTES:

1. PIPING CONFIGURATION TO BE USED ON ALL DROPS.
2. DROPS TO BE CONSTRUCTED OF A.B.S., P.V.C. OR D.I.P. PIPE
3. SERVICE LINE MAY NOT ENTER MANHOLE THROUGH CONE SECTION OR ITS JOINT.
4. THIS DETAIL SHALL NOT BE USED FOR FORCE MAINS.

* MAX. NO. OF SERVICES INTO MANHOLE SHALL BE 3.

DRAWING NOT TO SCALE

STANDARD INSIDE DROP FOR SANITARY SEWER SERVICE

TOWN OF HOLLY SPRINGS ENGINEERING DEPARTMENT

STANDARD DETAIL NUMBER: **HS718**

DATE REVISIONS

5/6/15



SPECIFICATION TIME (min-sec) REQUIRED FOR PRESSURE DROP FROM 3-1/2 TO 2-1/2 PSIG
WHEN TESTING ONE PIPE DIAMETER ONLY

		PIPE DIAMETER, INCHES											
		4	6	8	10	12	15	18	21	24			
LENGTH OF LINE, FEET	25	0:04	0:10	0:18	0:28	0:40	1:02	1:29	2:01	2:38			
	50	0:09	0:20	0:35	0:55	1:19	2:04	2:58	4:03	5:17			
	75	0:13	0:30	0:53	1:23	1:59	3:06	4:27	6:04	7:55			
	100	0:18	0:40	1:10	1:50	2:38	4:08	5:56	8:05	10:34			
	125	0:22	0:50	1:28	2:18	3:18	5:09	7:26	9:55	11:20			
	150	0:26	0:59	1:46	2:45	3:58	6:11	8:30					
	175	0:31	1:09	2:03	3:13	4:37	7:05						
	200	0:35	1:19	2:21	3:40	5:17					12:06		
	225	0:40	1:29	2:38	4:08	5:40							
	250	0:44	1:39	2:56	4:35			8:31				11:35	15:07
	275	0:48	1:49	3:14	4:43			9:21				12:44	16:38
	300	0:53	1:59	3:31				10:12				13:53	18:09
	350	1:02	2:19	3:47								8:16	11:54
	400	1:10	2:38		6:03	9:27						13:36	18:31
	450	1:19	2:50			6:48	10:38	15:19	20:50	27:13			
	500	1:28				5:14	7:34	11:49	17:01	23:09	30:14		

STANDARD AIR TEST TABLE

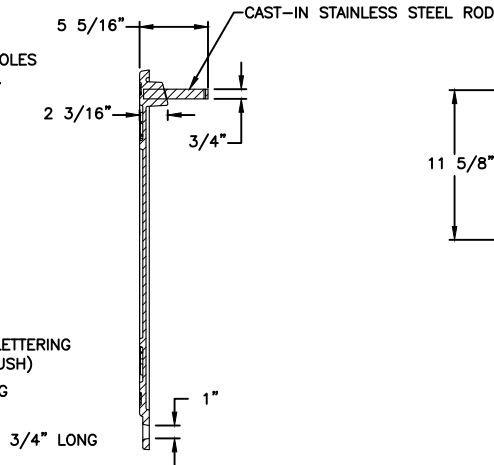
TOWN OF HOLLY SPRINGS ENGINEERING DEPARTMENT

STANDARD DETAIL NUMBER: HS719

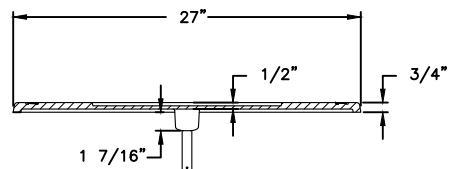
DATE REVISIONS

8/30/19

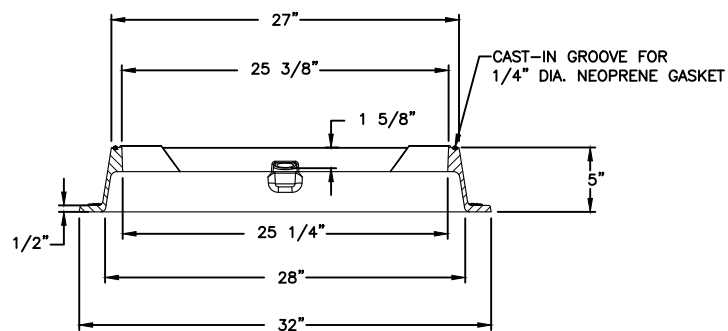




FRAME SECTION



COVER SECTION

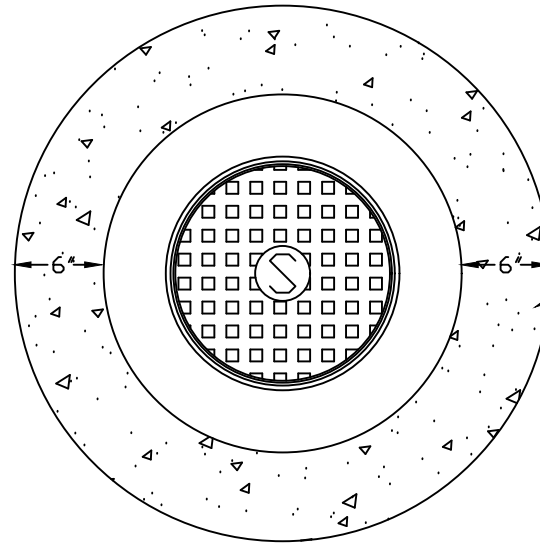


FRAME SECTION

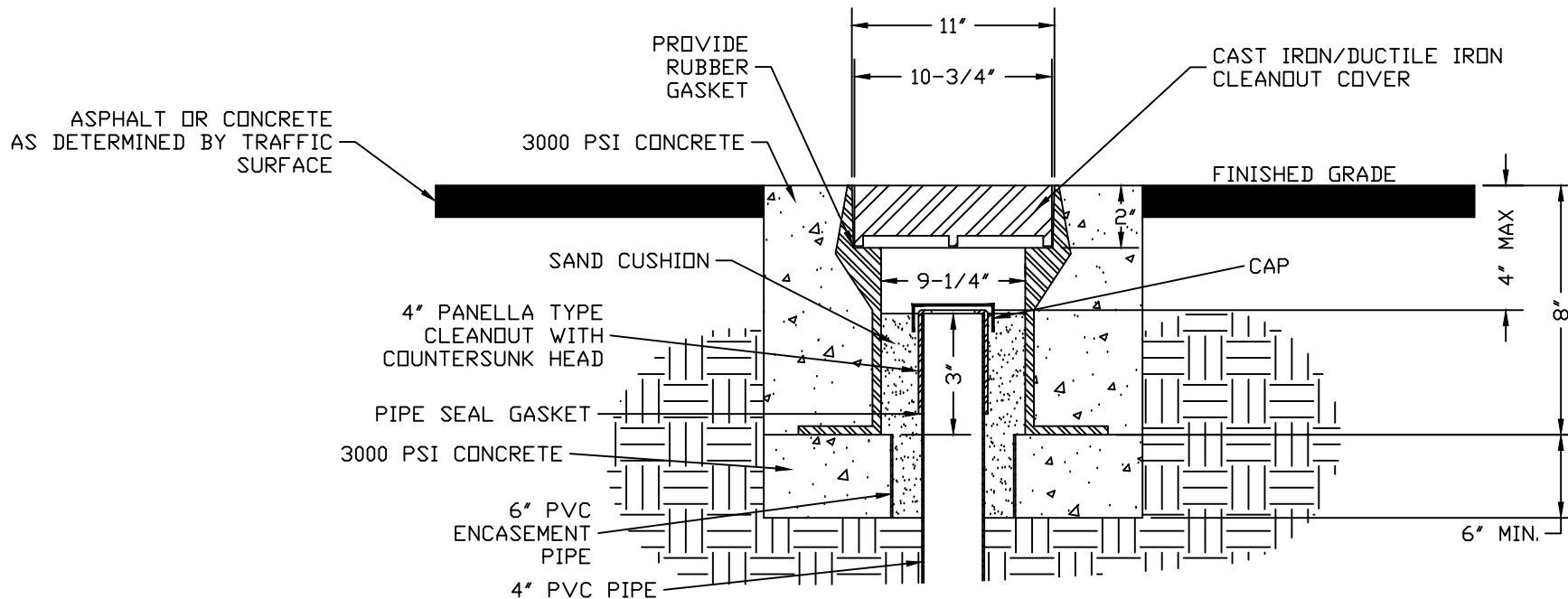
1. MANHOLE TO BE APPROVED BY TOHS DIRECTOR OF ENGINEERING, FOR OUTFALL USE ONLY.
2. ONE BOLT COVER AND FRAME REMOVAL DESIGN.
3. LOAD RATING TO BE NON-TRAFFIC OUTFALL USE ONLY.
4. MATERIAL:
 - COVER — GRAY IRON ASTM A48 CL35B
 - FRAME — GRAY IRON ASTM A48 CL35B



**Holly
Springs**
Discover The Source.



CONCRETE AROUND
VALVE BOX



DRAWING NOT TO SCALE

SEWER MINI-MANHOLE CLEANOUT COVER ASSEMBLY FOR TRAFFIC AREA

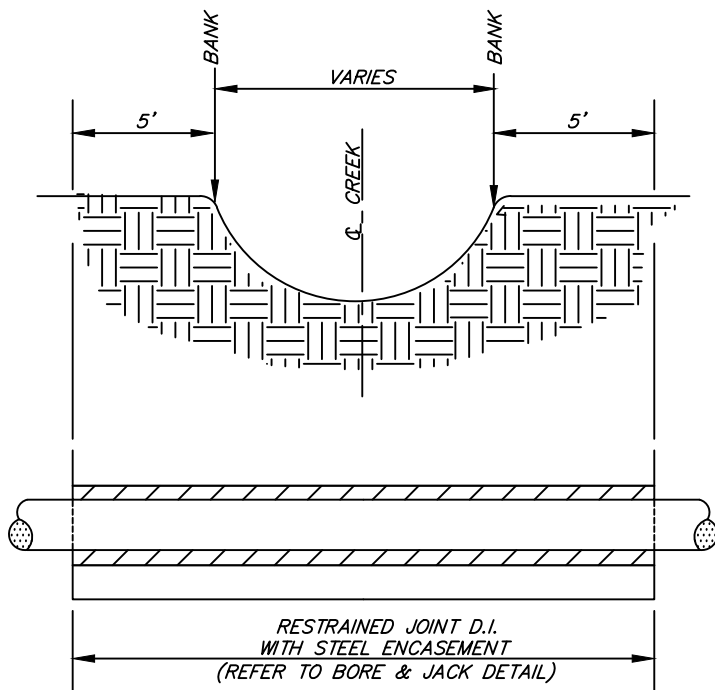
STANDARD DETAIL NUMBER: HS723

DATE REVISIONS

7/24/09

TOWN OF HOLLY SPRINGS ENGINEERING DEPARTMENT

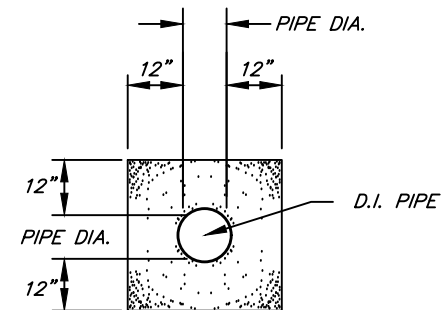




CROSS SECTION

NOTES:

1. TOP OF CASING PIPE MUST BE AT LEAST 1' BELOW SOLID STREAM BOTTOM.
2. CONCRETE ENCASEMENT MAY BE PERMITTED IN CERTAIN CIRCUMSTANCES. SEE CONCRETE DETAIL.
3. IF DUCTILE IRON PIPE USED, IT SHALL BE 401 PROTECT COATING AND PIPE RESTRAINED.
4. IF PVC PIPE USED IT MUST MEET WATERLINE STANDARDS AND RESTRAINED.



**CONCRETE DETAIL
(IF PERMITTED)**

DRAWING NOT TO SCALE

STANDARD STEEL ENCASEMENT FOR STREAM CROSSING

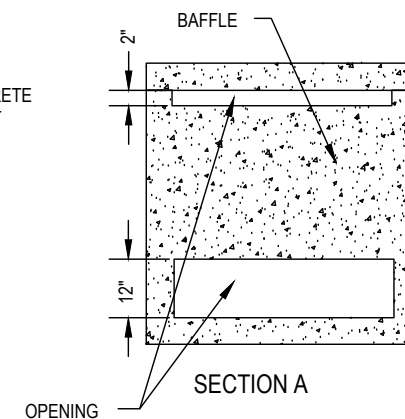
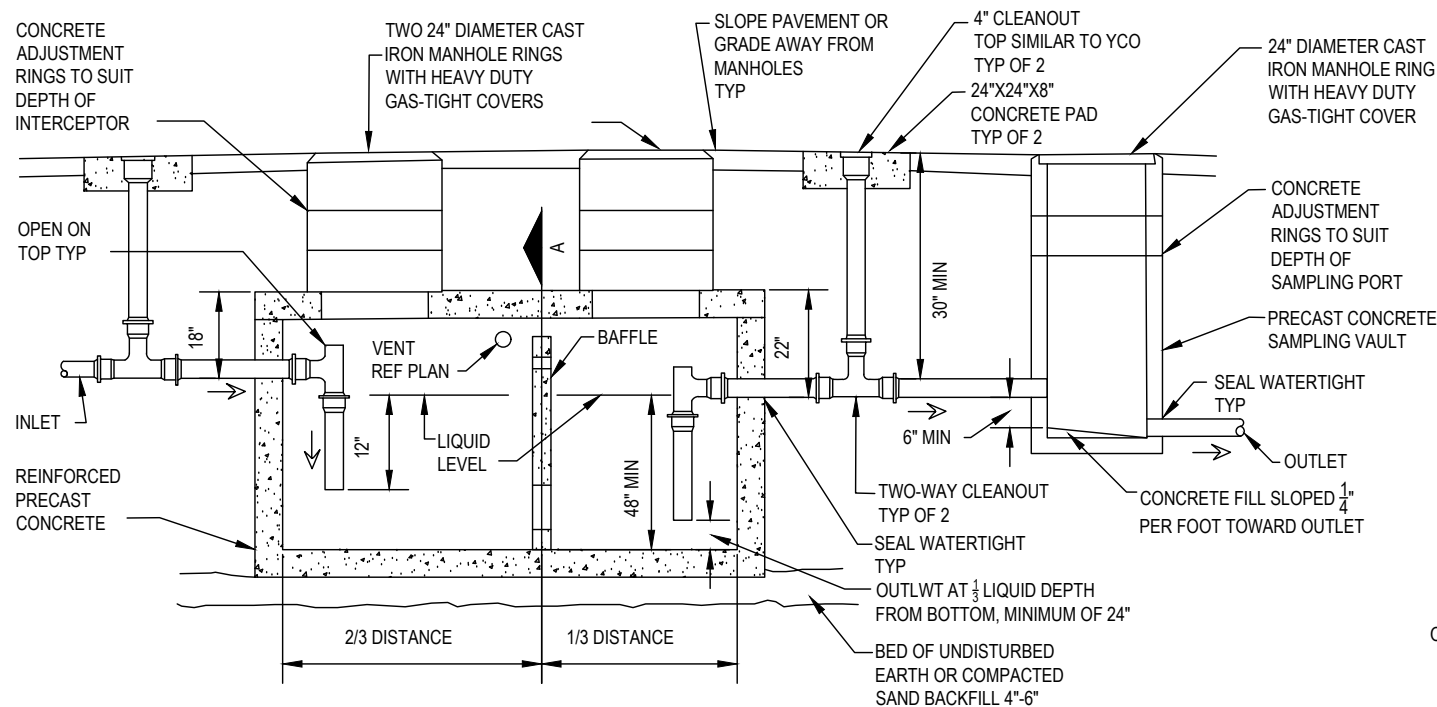
TOWN OF HOLLY SPRINGS ENGINEERING DEPARTMENT

STANDARD DETAIL NUMBER: **HS724**

DATE REVISIONS

7/24/18





DETAIL SHOWS GENERAL SCHEMATIC REQUIRMENTS. CONTRACTOR SHALL SUBMIT PROPOSED INTERCEPTOR INSTALLATION PLANS AND SPECIFICATIONS TO TOHS INSPECTIONS DEPARTMENT FOR APPROVAL BEFORE ACQUISITION OF INTERCEPTOR. PROVIDE INTERCEPTOR WITH ADEQUATE STRUCTURAL STRENGTH TO ACCOMODATE VEHICULAR TRAFFIC AT INSTALLATION LOCATION.

NOTES:

1. PROVIDE SAMPLING PORT DOWNSTREAM OF THE JUNCTION WITH THE MAIN SANITARY SEWER.
2. REFER TO PLUMBING PLAN FOR PIPE SIZES.
3. CONTACT PUBLIC UTILITIES WITH QUESTIONS REGARDING GREASE TRAPS.

DRAWING NOT TO SCALE

PRECAST GREASE INTERCEPTOR

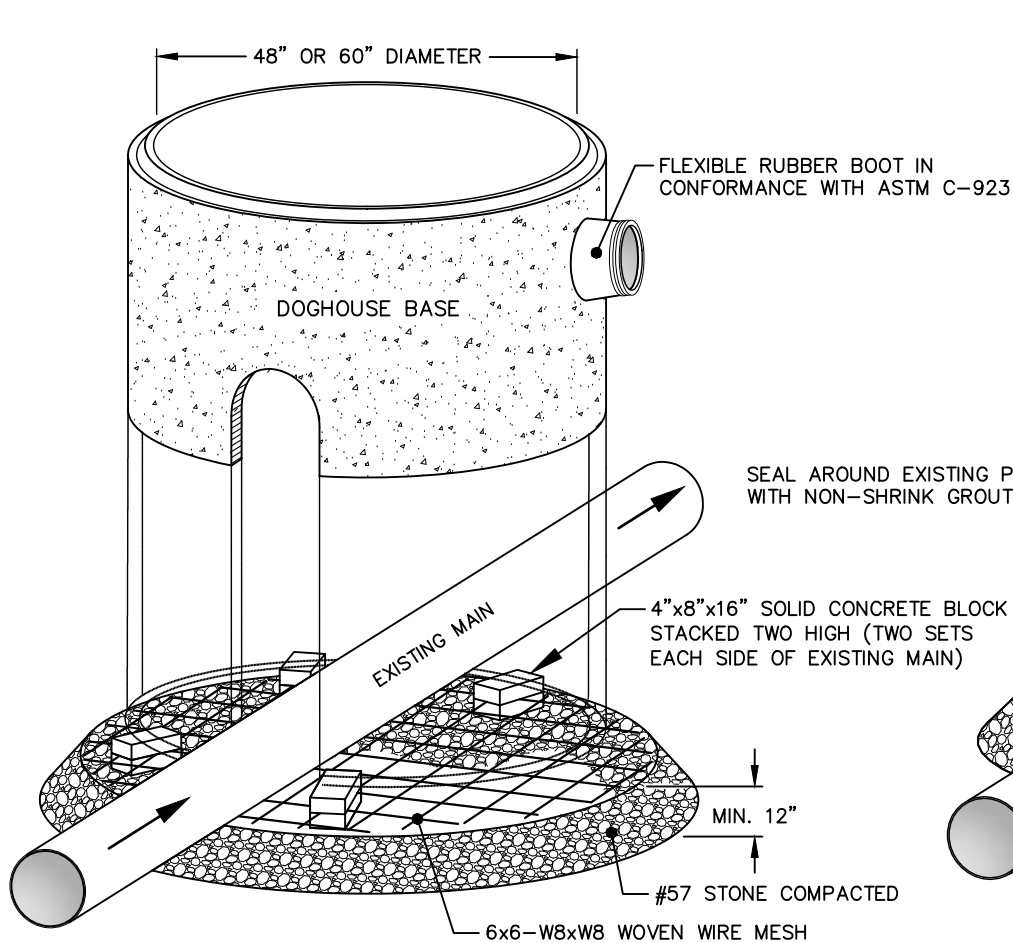
TOWN OF HOLLY SPRINGS

STANDARD DETAIL NUMBER: HS725

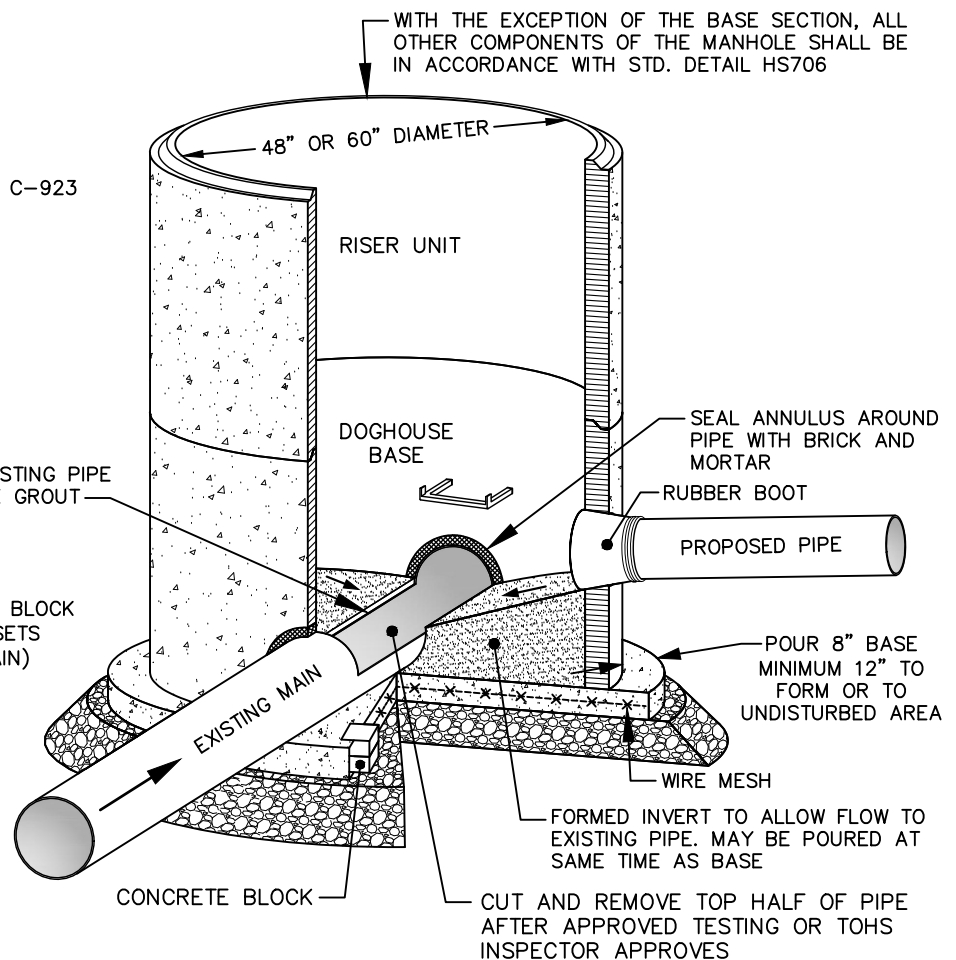
DATE	REVISIONS
12/19/23	

12/19/23





BASE UNIT INSTALLMENT



INVERT INSTALLMENT

NOTES:

1. DOGHOUSE OPENINGS IN PRECAST UNITS SHALL HAVE A RADIUS OF 4 TO 8 INCHES LARGER THAN THE EXISTING PIPE DIAMETER.
2. CAST-IN-PLACE CONCRETE SHALL BE 4000 PSI, PER ASTM C-94.
3. ALL PRECAST MANHOLE COMPONENTS SHALL MEET ASTM C-478.
4. BENCH SHALL SLOPE UPWARD FROM THE SPRINGLINE TO THE PROJECTED LEVEL OF THE PIPE CROWN OR 8 INCHES ABOVE THE SPRINGLINE, WHICHEVER IS LESS.

DRAWING NOT TO SCALE

STANDARD PRECAST CONCRETE DOGHOUSE MANHOLE

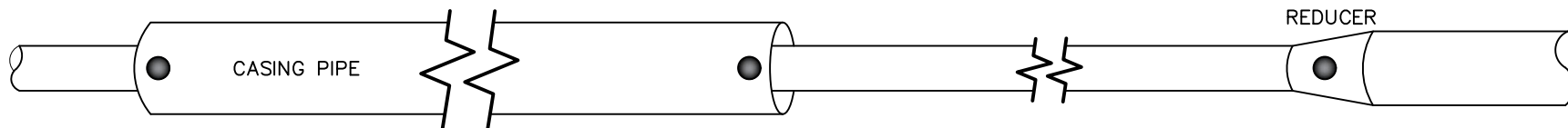
TOWN OF HOLLY SPRINGS ENGINEERING DEPARTMENT

STANDARD DETAIL NUMBER: **HS728**

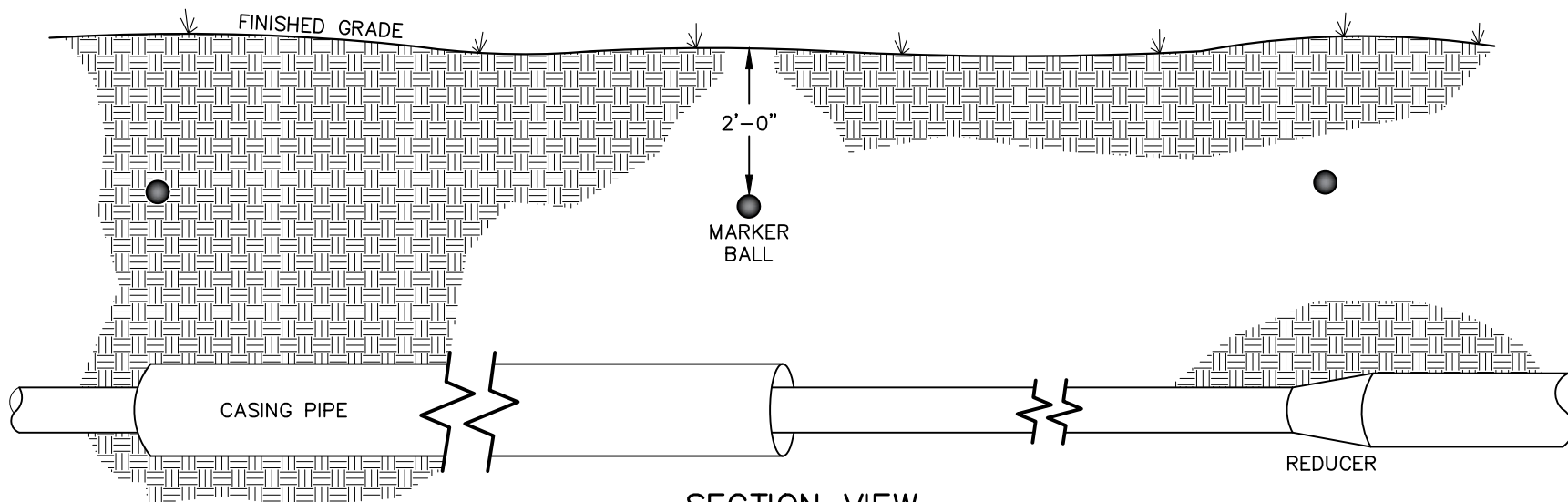
DATE REVISIONS

1/15/19





PLAN VIEW



SECTION VIEW

UTILITY MARKER BALL COLOR
GREEN - SEWER

● = NON-PROGRAMMABLE MARKER BALL

NOTES:

1. MARKER BALLS SHALL BE LOCATED ABOVE THE PIPE, 2 FEET BELOW FINISHED GRADE.
2. ADDITIONAL BALLS MAY BE REQUIRED AS DIRECTED BY THE TOWN IN CONGESTED AREAS OR TO MARK AN ATYPICAL ALIGNMENT.

DRAWING NOT TO SCALE

**STANDARD UTILITY MARKER BALL LOCATIONS
FOR SEWER FORCE MAINS**

STANDARD DETAIL NUMBER: HS729

DATE	REVISIONS
2/22/19	

TOWN OF HOLLY SPRINGS ENGINEERING DEPARTMENT

