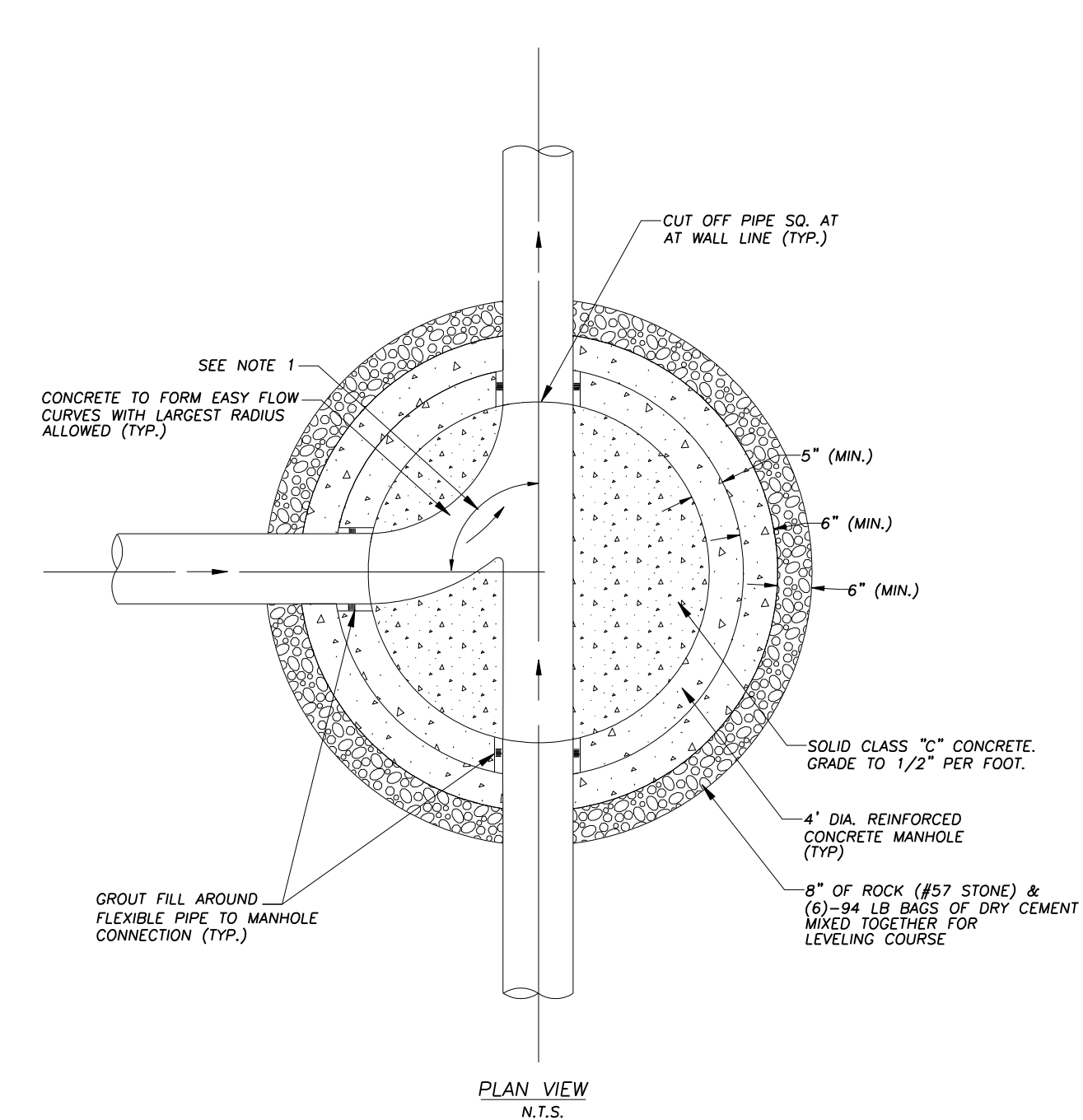
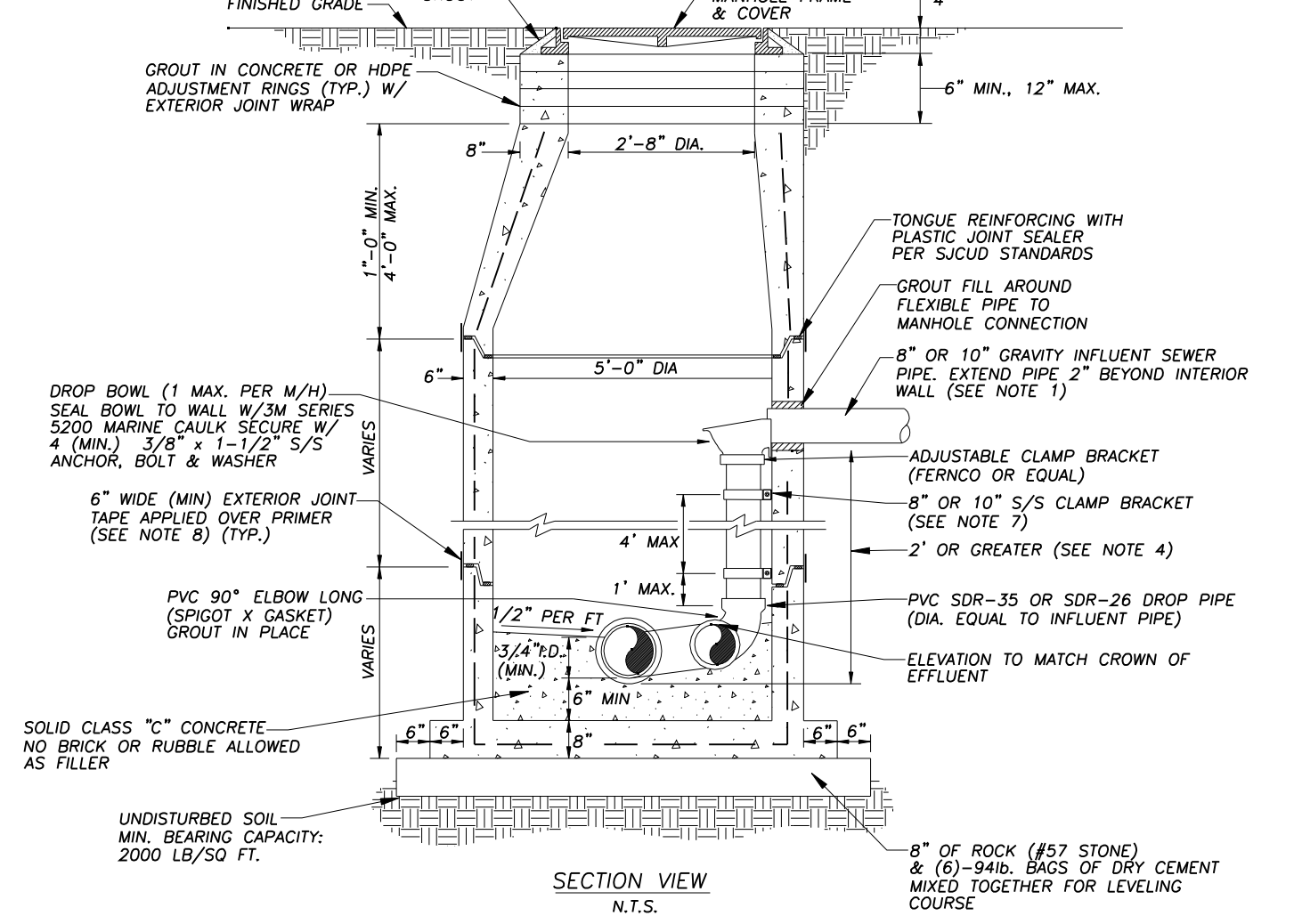


- NOTE:**
1. PRECAST MANHOLE SECTIONS TO BE MANUFACTURED IN ACCORDANCE WITH LATEST EDITIONS OF ASTM C478 WITH 4000 LB. CONCRETE, TYPE II CEMENT. ALL LIFTING HOLES AND OUTSIDE INSERTS SHALL BE FILLED WITH NON-SHRINK GROUT AND BE COATED WITH BITUMINOUS WATERPROOFING MATERIAL.
 2. THE INTERIOR AND EXTERIOR OF MANHOLE AND ADJUSTMENT RINGS SHALL BE GIVEN TWO COATS OF BITUMINOUS WATERPROOFING MATERIAL. DO NOT COAT JOINT OR PIPE OPENING SURFACES.
 3. MANHOLES WITH 3 OR MORE INVERTS SHALL REQUIRE SPECIALTY LINER. SPRAY ON LINER OVER ALL WALLS AND BENCHES TO INCLUDE CHIMNEY AREA.
 4. IF SPECIALTY LINER TO BE INSTALLED ON INSIDE OF MANHOLE, BITUMINOUS WATERPROOFING SHALL BE OMITTED ON INSIDE.
 5. EXTERIOR JOINT WRAP TO BE INSTALLED ON ADJUSTMENT RINGS, LIFTING HOLES ETC.
 6. NO BRICK FOR ADJUSTMENT RINGS.
 7. NO SERVICE CONNECTIONS ALLOWED TO IN-LINE MANHOLES.
 8. MAXIMUM DEPTH OF MANHOLE FROM RIM TO TOP OF DEEPEST SEWER PIPE SHALL BE 15'-0".



- NOTE:**
1. THE ANGLE BETWEEN ALL FLOW CHANNELS SHALL BE 90° OR GREATER.



- NOTE:**
1. THIS ASSEMBLY IS FOR 8" OR 10" GRAVITY INFLUENT LINES ONLY. NO DROPS ALLOWED FOR FORCE MAINS. MAXIMUM OF 1 INSIDE DROP BOWLS PER MANHOLE. A 5'-0" DIA. MANHOLE (6" THICK WALLS) IS REQUIRED.
 2. PRECAST MANHOLE SECTIONS TO BE MANUFACTURED IN ACCORDANCE WITH THE LATEST EDITIONS OF A.S.T.M. C-478 WITH 4000 LB. CONC., TYPE II CEMENT. ALL LIFTING HOLES AND OUTSIDE INSERTS SHALL BE FILLED WITH NON-SHRINK GROUT AND COATED WITH BITUMINOUS WATERPROOFING MATERIAL.
 3. THE INTERIOR AND EXTERIOR OF MANHOLE AND THE INTERIOR OF ADJUSTMENT RINGS SHALL BE GIVEN TWO COATS OF BITUMINOUS WATERPROOFING MATERIAL. DO NOT COAT JOINT OR PIPE OPENING SURFACES.
 4. TYPE "B" MANHOLE MUST BE USED FOR 2' OR GREATER INFLUENT PIPE DROPS.
 5. A TYPE "D" MANHOLE SHALL BE UTILIZED WHEN TWO OR MORE (2' OR GREATER) DROPS ARE INVOLVED OR WHEN INFLUENT PIPES ARE LARGER THAN 10" IN SIZE.
 6. ADJUSTABLE CLAMPING BRACKET (MIN. 2 PER DROP BOWL ASSY), 1-1/2" WIDE, 1 1/4" GA. W/ 3/8" DIA. 18-8 PINCH BOLTS AND NUTS; SECURE TO M/H WALL WITH (2) 3/8" X 1" BOLT, ANCHOR & WASHER PER BRACKET ASSY. ALL 304 OR 316 STAINLESS STEEL MATERIALS.
 7. ALL M/H JOINTS SHALL INCLUDE A 6" WIDE (MIN) EXTERIOR JOINT TAPE (W/PRIMER) INCLUDING ADJUSTMENT RINGS, LIFTING HOLES, ETC.
 8. MANHOLES WITH 3 OR MORE INVERTS SHALL REQUIRE SPECIALTY LINER. SPRAY ON LINER OVER ALL WALLS AND BENCHES TO INCLUDE CHIMNEY AREA.
 9. IF SPECIALTY LINER TO BE INSTALLED ON INSIDE OF MANHOLE, BITUMINOUS WATERPROOFING SHALL BE OMITTED ON INSIDE.
 10. NO BRICK FOR ADJUSTMENT RINGS.
 11. MAXIMUM DEPTH OF MANHOLE FROM RIM TO TOP OF DEEPEST SEWER PIPE SHALL BE 15'-0".

REVISIONS	DATE	COMMENTS
REVISION 2	2015	
REVISION 1	9/06	

SANITARY SEWER MANHOLE FRAME & COVER
 SCALE: N.T.S.

PLATE: S-1

REVISIONS	DATE	COMMENTS
REVISION 3	2019	
REVISION 2	2015	
REVISION 1	9/06	

SANITARY SEWER TYPE "A" MANHOLE 8"-12" SEWERS
 SCALE: N.T.S.

PLATE: S-2

REVISIONS	DATE	COMMENTS
REVISION 2	2015	
REVISION 1	9/06	

SANITARY SEWER TYPE "A" MANHOLE 8"-12" SEWERS
 SCALE: N.T.S.

PLATE: S-2

REVISIONS	DATE	COMMENTS
REVISION 2	2015	
REVISION 1	9/06	

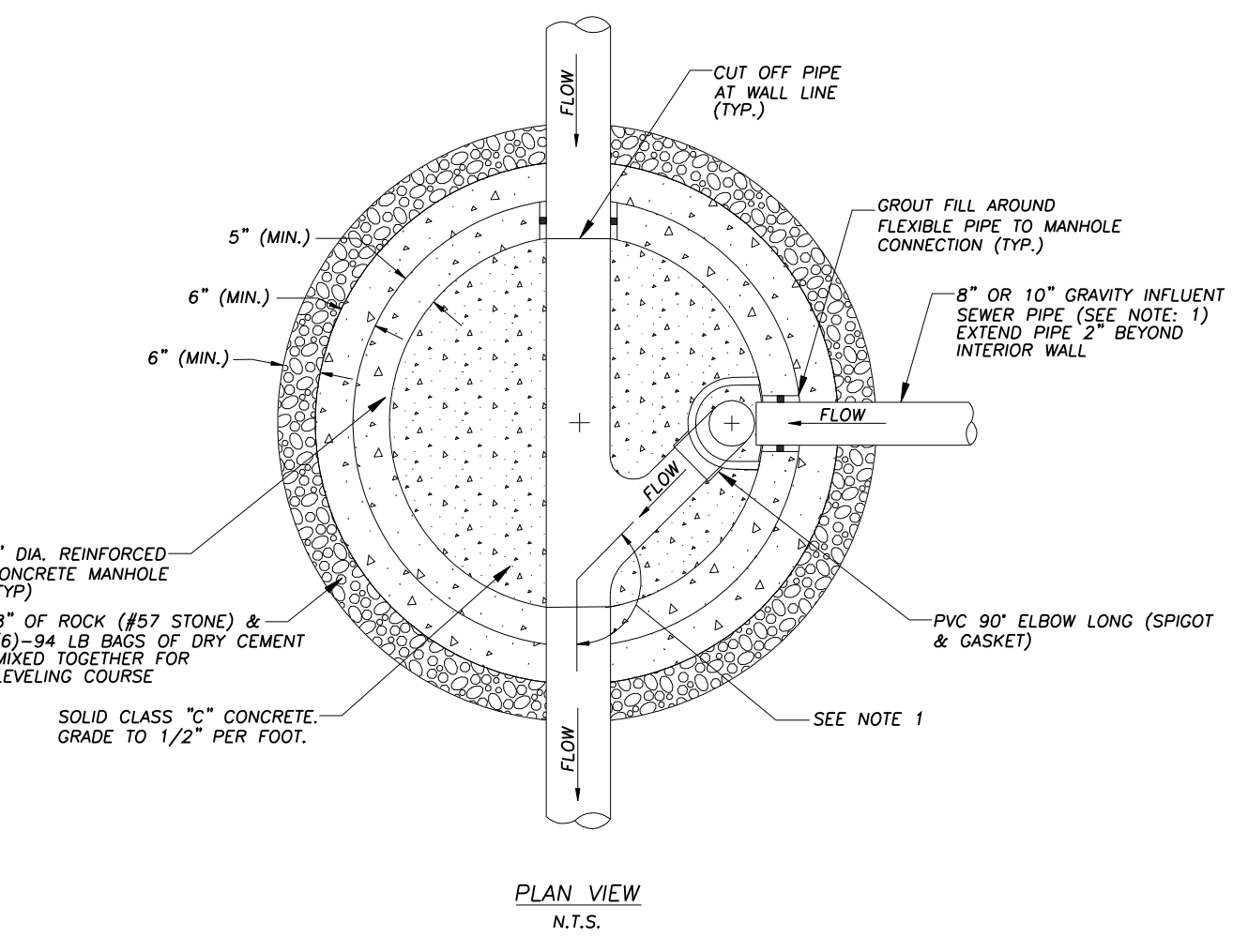
SANITARY SEWER TYPE "A" MANHOLE 8"-12" SEWERS
 SCALE: N.T.S.

PLATE: S-3

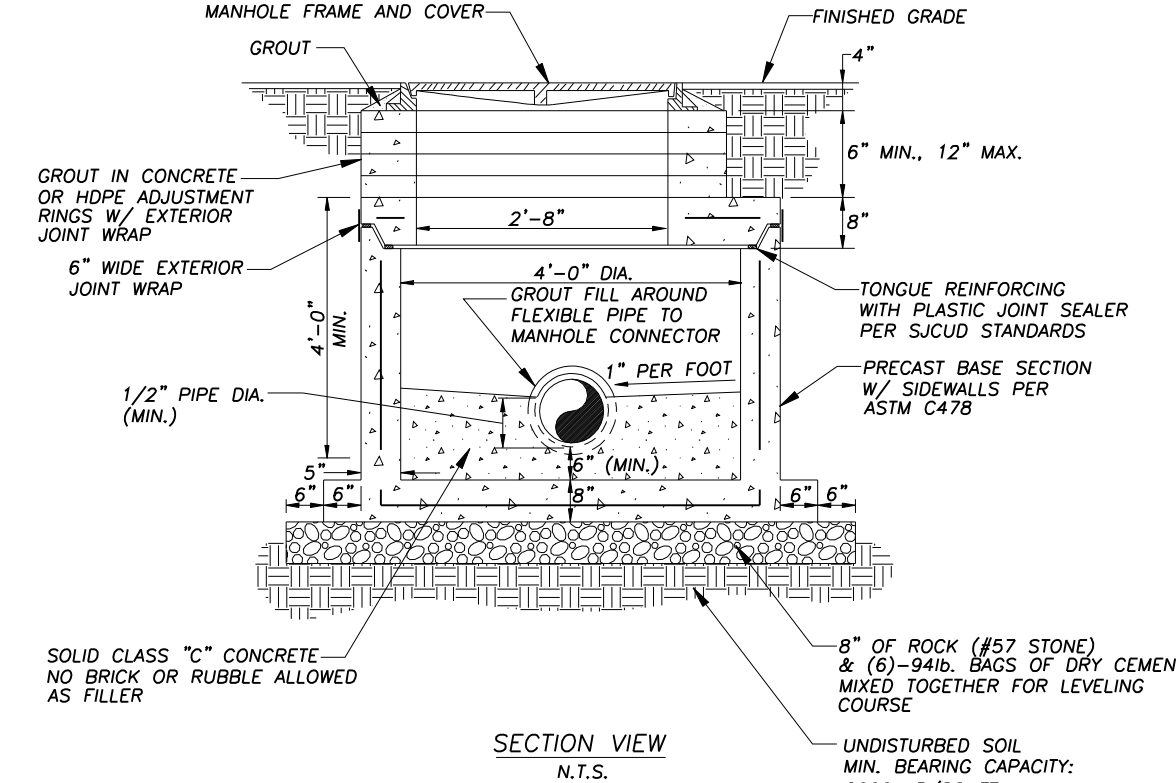
REVISIONS	DATE	COMMENTS
REVISION 4	2019	
REVISION 3	2018	
REVISION 2	2015	
REVISION 1	9/06	

SANITARY SEWER TYPE "B" MANHOLE 8"-10" SEWERS
 SCALE: N.T.S.

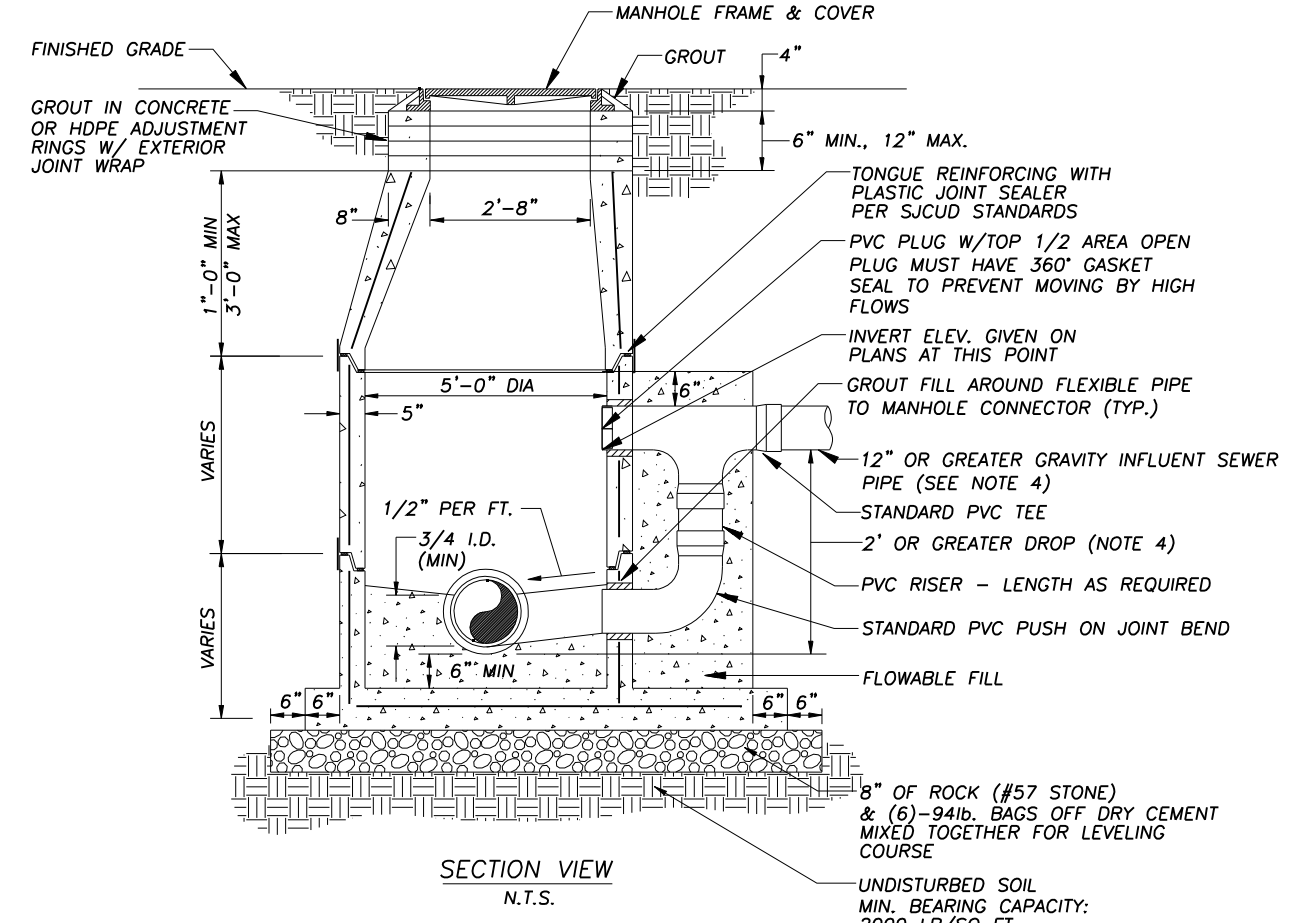
PLATE: S-4



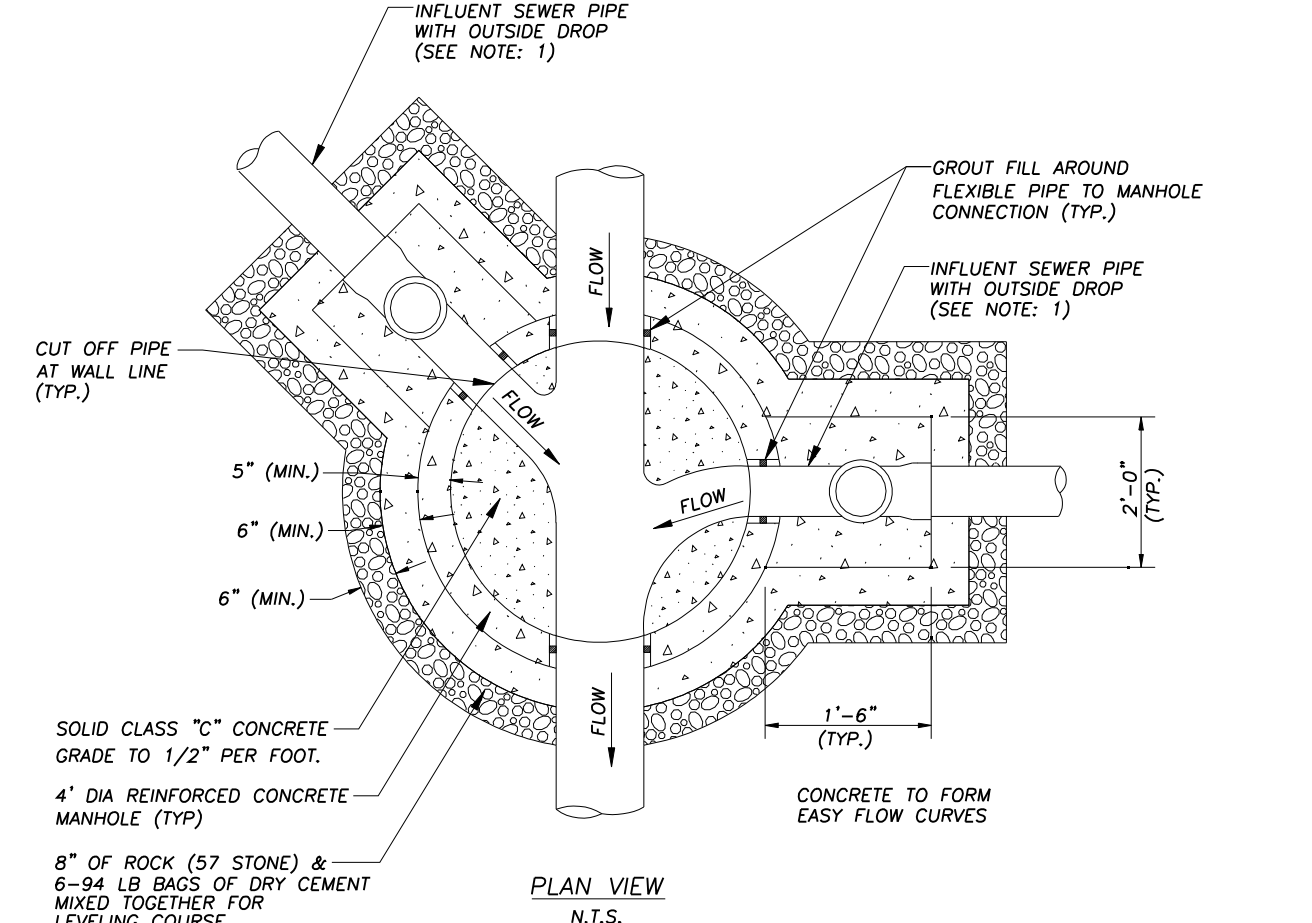
- NOTE:**
1. THE ANGLE BETWEEN ALL INFLUENT FLOW CHANNELS AND EFFLUENT PIPE SHALL BE 90° OR GREATER.



- NOTE:**
1. PRECAST MANHOLE SECTIONS TO BE MFRD. IN ACCORDANCE WITH LATEST EDITIONS OF ASTM C478 WITH 4000 LB. CONCRETE, TYPE II CEMENT.
 2. THE INTERIOR AND EXTERIOR OF MANHOLE AND ADJUSTMENT RINGS SHALL BE GIVEN TWO COATS OF BITUMINOUS WATERPROOFING MATERIAL. DO NOT COAT JOINT OR PIPE OPENING SURFACES.
 3. MANHOLES WITH 2 OR MORE LATERALS SHALL REQUIRE SPECIALTY LINER. SPRAY ON LINER OVER ALL WALLS AND BENCHES TO INCLUDE CHIMNEY AREA.
 4. IF SPECIALTY LINER TO BE INSTALLED ON INSIDE OF MANHOLE, BITUMINOUS WATERPROOFING SHALL BE OMITTED ON INSIDE.
 5. EXTERIOR JOINT WRAP TO BE INSTALLED ON ADJUSTMENT RINGS, LIFTING HOLES ETC.
 6. NO BRICK FOR ADJUSTMENT RINGS.
 7. MAXIMUM OF 3 SERVICE LATERAL CONNECTIONS PER TERMINAL MANHOLE.



- NOTE:**
1. PRECAST MANHOLE SECTIONS TO BE MANUFACTURED IN ACCORDANCE WITH THE LATEST EDITIONS OF A.S.T.M. C-478 WITH 4000 LB. CONC., TYPE II CEMENT. ALL LIFTING HOLES AND OUTSIDE INSERTS SHALL BE FILLED WITH NON-SHRINK GROUT AND COATED WITH BITUMINOUS WATERPROOFING MATERIAL.
 2. THE INTERIOR AND EXTERIOR OF MANHOLE AND THE INTERIOR OF THE ADJUSTMENT RINGS SHALL BE GIVEN TWO COATS OF BITUMINOUS WATERPROOFING MATERIAL. DO NOT COAT JOINT OR PIPE OPENING SURFACES.
 3. IF SPECIALTY LINER IS TO BE INSTALLED ON INSIDE SURFACE OF MANHOLE, THE BITUMINOUS WATERPROOFING SHALL BE OMITTED ON INSIDE.
 4. TYPE "D" MANHOLE SHALL BE USED FOR 12" OR LARGER INFLUENT PIPES W/ 2' OR GREATER INFLUENT DROPS.
 5. ALL M/H JOINTS, BELOW THE TOP CONE SECTION SHALL INCLUDE A 6" WIDE (MIN) EXTERIOR JOINT TAPE (W/PRIMER).
 6. NO BRICK FOR ADJUSTMENT RINGS.
 7. MANHOLES WITH 3 OR MORE INVERTS SHALL REQUIRE SPECIALTY LINER. SPRAY ON LINER OVER ALL WALLS AND BENCHES TO INCLUDE CHIMNEY AREA.
 8. MAXIMUM DEPTH OF MANHOLE FROM RIM TO TOP OF DEEPEST SEWER PIPE SHALL BE 15'-0".



- NOTE:**
1. THE ANGLE BETWEEN ALL INFLUENT FLOW CHANNELS AND EFFLUENT PIPE SHALL BE 90° OR GREATER.

REVISIONS	DATE	COMMENTS
REVISION 2	2015	
REVISION 1	9/06	

PLAN VIEW TYPE "B" MANHOLE 8"-10" SEWERS
 SCALE: N.T.S.

PLATE: S-5

REVISIONS	DATE	COMMENTS
REVISION 2	2015	
REVISION 1	9/06	

SANITARY SEWER TYPE "C" MANHOLE 8"-12" SEWERS
 SCALE: N.T.S.

PLATE: S-6

REVISIONS	DATE	COMMENTS
REVISION 2	2015	
REVISION 1	9/06	

SANITARY SEWER TYPE "D" MANHOLE 12"-21" SEWERS
 SCALE: N.T.S.

PLATE: S-7

REVISIONS	DATE	COMMENTS
REVISION 2	2015	
REVISION 1	9/06	

PLAN VIEW TYPE "D" MANHOLE 12"-21" SEWERS
 SCALE: N.T.S.

PLATE: S-8

NO.	BY	DATE	SYMBOL	REVISIONS
1.	ETS	2018		REVISION 3
2.	ETS	2015		REVISION 2

DESIGNER:	DESIGN ENGINEER
DRAWN BY:	FLORIDA REGISTRATION NO.
DATE:	
CHECKED BY:	
DATE:	

DESIGNER:	DESIGN ENGINEER
DRAWN BY:	FLORIDA REGISTRATION NO.
DATE:	
CHECKED BY:	
DATE:	

ST. JOHNS COUNTY UTILITY DEPARTMENT
 1205 STATE ROAD 16
 ST AUGUSTINE, FLORIDA 32084-8646
 Phone (904) 209-2700 • Fax. (904) 209-2702

GENERAL SANITARY SEWER DETAILS

NO. SHEETS	GS-1
SHEET NO.	GS-1
DRAWING NO.	GS-01.dwg