PROJECT REFERENCE NO.	SHEET NO.
B-5129A	UC4

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 16710 ENGINEER DWAYNE H. ALLIGOOD

DocuSigned by: Dwayne Alligood 8/8/2014

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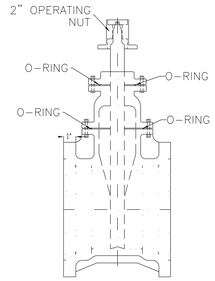
UTILITY CONSTRUCTION DETAIL SHEET



TYPICAL RESILIENT MECHANCIAL JOINT GATE VALVE DETAIL

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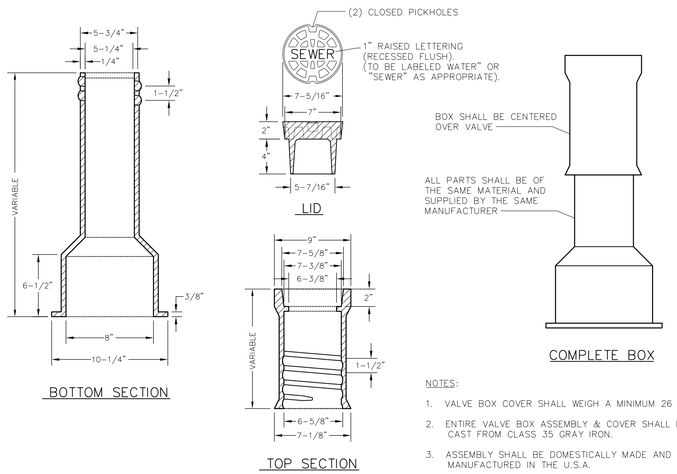

NOTES:

1. VALVE BOX COVER SHALL WEIGH A MINIMUM 26 lbs.
2. ENTIRE VALVE BOX ASSEMBLY & COVER SHALL BE CAST FROM CLASS 35 GRAY IRON.
3. ASSEMBLY SHALL BE DOMESTICALLY MADE AND MANUFACTURED IN THE U.S.A.

TYPICAL VALVE BOX

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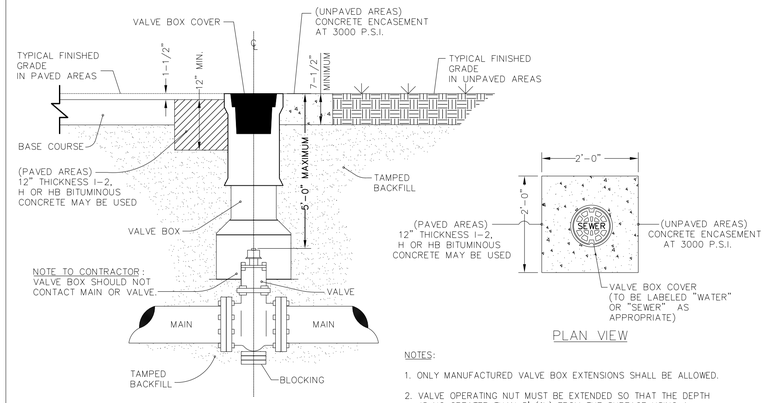

NOTES:

1. ONLY MANUFACTURED VALVE BOX EXTENSIONS SHALL BE ALLOWED.
2. VALVE OPERATING NUT MUST BE EXTENDED SO THAT THE DEPTH IS NO GREATER THAN 5' (ft.) FROM THE SURFACE USING A MANUFACTURER APPROVED EXTENSION KIT.
3. PRECAST CONCRETE ENCASEMENT IS ALLOWED OUTSIDE OF PAVED AREAS.

TYPICAL VALVE BOX

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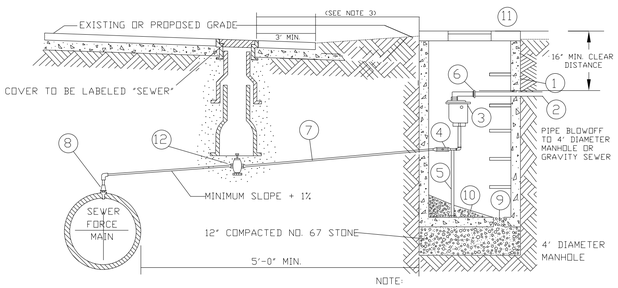

BILL OF MATERIALS

1	PRECAST MANHOLE W\ FLAT TOP
2	BLOW OFF PIPE SCD 80 PVC
3	2" AIR RELEASE VALVE
4	2"-SS BALL VALVE
5	PIPE STAND SUPPORT SS
6	2" UNION SCD 80 PVC
7	2" TYPE "K", SOFT COPPER WITH FLARED ELBOW
8	CORPORATION COCK
9	6" DIAMETER DRAIN
10	GROUT, 1/8" TO 1'-0" MIN. SLOPE TO DRAIN
11	36" x 30" HALLIDAY HATCH, ALUM.
12	2"-GATE VALVE W/ BOX

NOTE:

1. AIR RELEASE/VACUUM VALVE TO BE A.R.I. FLOW CONTROL MODEL SAAR SHORT VERSION D-025 SS (STAINLESS STEEL)
2. THE AIR RELEASE MANHOLE SHALL BE INSTALLED IN THE SHOULDER OR AS DIRECTED BY THE ENGINEER.
3. FOR MAINS LOCATED OUTSIDE OF STREET RIGHT-OF-WAYS THE MAXIMUM DISTANCE BETWEEN THE MANHOLE AND THE VALVE BOX SHOULD BE THREE (3) FEET.
4. MAIN SHALL BE DEEP ENOUGH TO ACCOMODATE INSTALLATION AS SHOWN
5. ALL ITEMS LISTED IN THE BILL OF MATERIALS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "PER EACH AIR RELEASE VALVE".

TYPICAL SEWER FORCE MAIN AIR RELEASE VALVE

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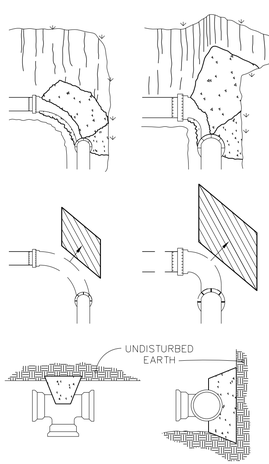

MINIMUM CONCRETE BLOCKING (C.Y.) *			
NOMINAL PIPE DIAMETER INCHES	TEES & DEAD ENDS	90° BEND	45° BEND
4	1/3	1/3	1/3
6	1/3	1/3	1/3
8	1/3	1/2	1/3
10	2/3	3/4	1/2
12	3/4	1.0	2/3
14	1.0	1 1/2	3/4
16	1 1/3	2.0	1.0
18	1 2/3	2 1/3	1 1/3
20	2.0	3.0	1 2/3
24	3.0	4 1/3	2 1/3

NOTES:

1) FITTING SHALL BE WRAPPED WITH A MINIMUM 4 MIL PLASTIC.
2) NO CONCRETE SHALL COVER BOLTS OR GLANDS.

* CONCRETE SHALL BE 3000 P.S.I. MIX.

STANDARD REACTION BLOCKING

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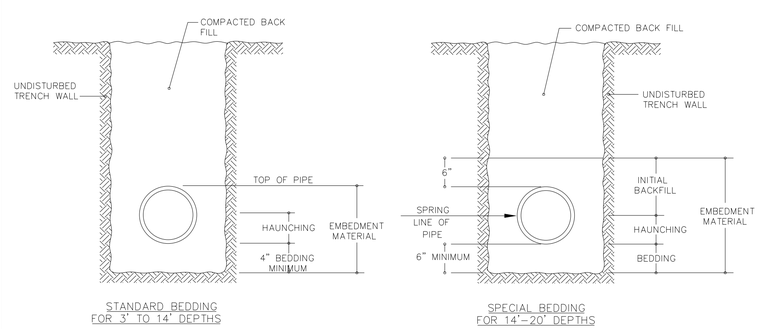

NOTES:

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 95% STANDARD PROCTOR DENSITY FOR CLASS I MATERIAL.
3. STANDARD BEDDING SHALL BE UTILIZED FOR ALL CASES WHERE TRENCH BOTTOMS ARE UNSTABLE DUE TO SOIL TYPE, OR MOISTURE CONDITIONS.

TYPICAL BEDDING FOR FLEXIBLE & SEMI-RIGID PIPE

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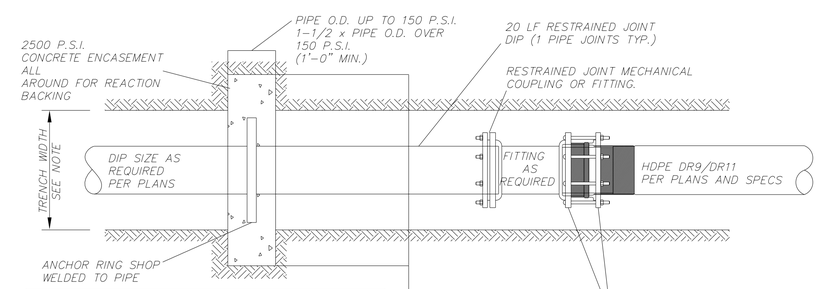

ANCHOR RING DIMENSIONS		
NOMINAL PIPE SIZE	O.D. OF RINGS	THICKNESS
4" - 12"	PIPE O.D. + 6"	1/2"
16" - 24"	PIPE O.D. + 7"	3/4"
30" & 36"	PIPE O.D. + 8"	1"

TYPICAL DIP TO HDPE TRANSITION DETAIL WITH THRUST COLLAR

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REVISIONS

8/17/99

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