

8/17/99

REVISIONS

PROJECT TYPICAL DETAILS



2810 WYOLF RD
SUITE 200
RALEIGH, NC 27602
PHONE: 919.261.5519
NC CORP. #C-00257

PROJECT REFERENCE NO.		SHEET NO.
I-5898		UC-3E
DESIGNED BY: EPH		
DRAWN BY: TLK		
CHECKED BY: EPH		
APPROVED BY: BWK		
REVISED:		
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		
11/7/2025		UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

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* DIGITAL FILE 28 Aug 2002

SIZE AND DEGREE OF BEND	STATIC THRUST IN POUNDS	FAIRLY DRY CLAY 4,000 LBS/FT²	SOFT CLAY 2,000 LBS/FT²	GRAVEL, COARSE 16,000 LBS/FT²	ALWAYS DRY CLAY 8,000 LBS/FT²	SAND, COMPACT, FIRM 8,000 LBS/FT²	SAND - CLEAN, DRY 4,000 LBS/FT²	QUICKSAND-VERY POOR SOIL 1,000 LBS/FT²	ROCK-POOR 10,000 LBS/FT²
6"									
11-1/4"	812	1 FT²	1	1	1	1	1	1	1
22-1/2"	1653	1 FT²	1	1	1	1	1	2	1
45°	3247	1 FT²	2	1	1	1	1	4	1
90°	5994	2 FT²	3	1	1	1	2	6	1
PLUG	4239	1 FT²	2	1	1	1	1	4	1
8"									
11-1/4"	1444	1 FT²	1	1	1	1	1	2	1
22-1/2"	2939	1 FT²	2	1	1	1	1	3	1
45°	5773	2 FT²	3	1	1	1	2	6	1
90°	10596	3 FT²	6	1	2	2	3	11	2
PLUG	7536	2 FT²	4	1	1	1	2	8	1
12"									
11-1/4"	3248	1 FT²	2	1	1	1	1	3	1
22-1/2"	6612	2 FT²	4	1	1	1	2	7	1
45°	12988	3 FT²	7	1	2	2	3	13	2
90°	23976	6 FT²	12	2	3	3	6	24	3
PLUG	16956	4 FT²	9	1	2	2	4	17	2
16"									
11-1/4"	5775	2 FT²	3	1	1	1	2	6	1
22-1/2"	11756	3 FT²	6	1	2	1	3	12	1
45°	23090	6 FT²	12	2	3	3	6	23	3
90°	42624	11 FT²	22	3	6	6	11	43	4
PLUG	30144	8 FT²	15	2	4	4	8	30	3

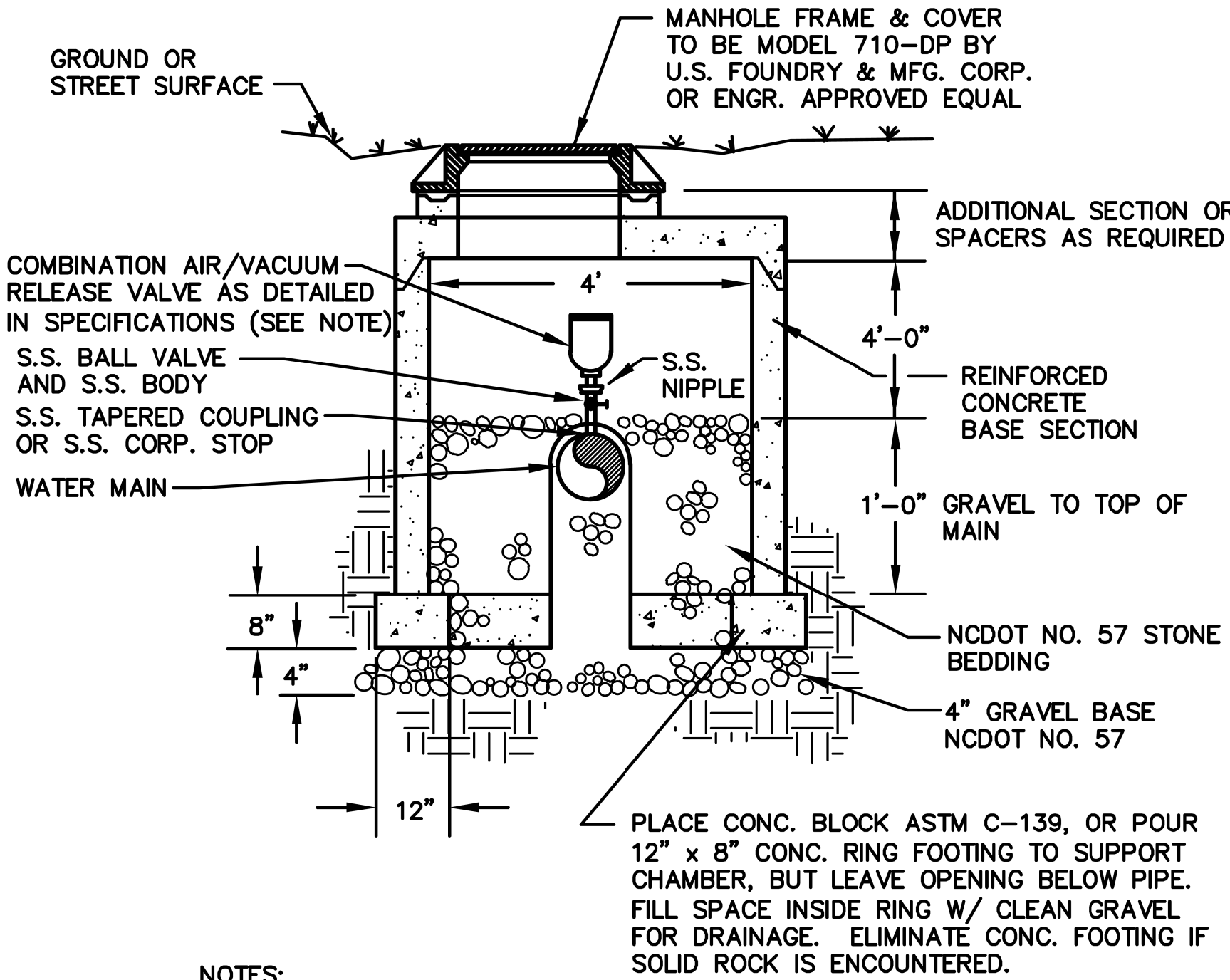
BASED ON TEST PRESSURE OF 150 PSI

NOTES:
REACTION BEARING AREAS ARE IN SQUARE FEET MEASURED IN A VERTICAL PLANE IN THE TRENCH SIDE AT AN ANGLE OF 90° TO THE THRUST VECTOR.
USE 6"-90° BEND VALUE FOR HYDRANTS FOR ADDITIONAL SAFETY.

CITY OF GREENSBORO
STANDARD REACTION BEARING AREAS FOR
HORIZONTAL WATER PIPE BENDS

STD. NO.
106

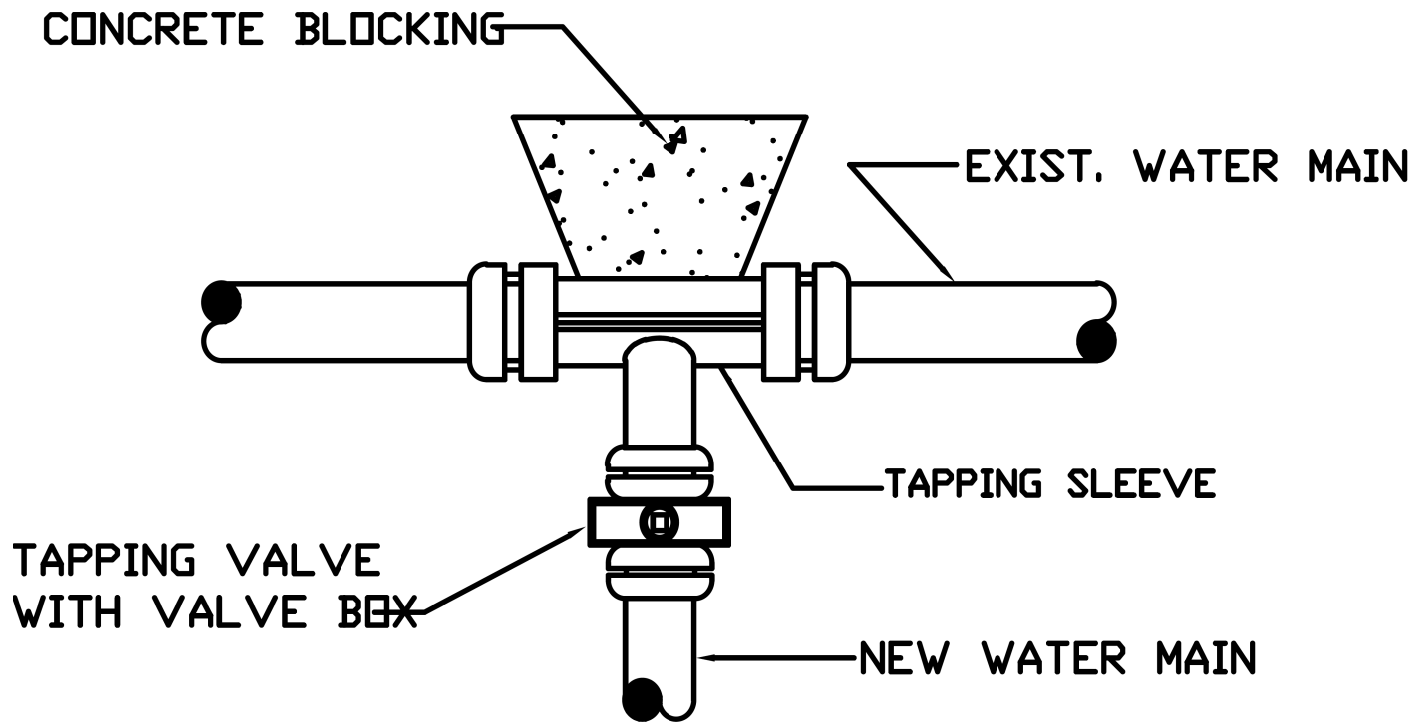
REV.



- NOTES:
1. PROVIDE BASKWASH ACCESSORIES ASSEMBLED TO VALVE CONSISTING OF A 90° EL., A SHUT OFF VALVE, CLEARWATER INLET VALVE, RUBBER SUPPLY HOSE AND QUICK DISCONNECT COUPLINGS.
 2. OWNER IS RESPONSIBLE FOR ROUTINE MAINTENANCE ON AIR RELEASE VALVES AND PERTINENT EQUIPMENT AS REQUIRED BY MFR.

COMBINATION AIR/VACUUM RELEASE VALVE DETAIL

NOT TO SCALE



NOTE: TAPPING SLEEVE SHALL BE
TYPE 316 STAINLESS
STEEL SLEEVE TYPE.

TAPPING SLEEVE AND VALVE ASSEMBLY

NOT TO SCALE

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED