Blacksburg, VA Greensborg, NC

> Surveyors Surveyors C. Planners

ANDERSON

UTILITY ADJUSTMENT DETAILS

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

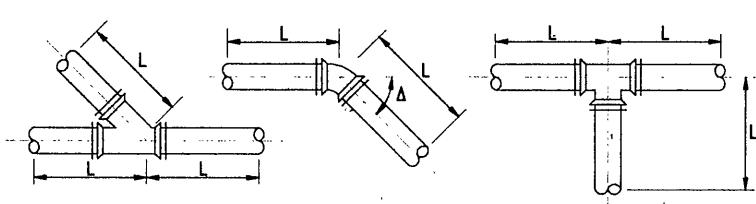
ļ	REVISED	FHWA	STATE	FEDERAL AID		CHEET NO	
		REGION	SIAIL	PROJECT	ROUTE	PROJECT	SHEET NO.
		3	VA.		117	0117-128-101,RW-201 C-501	20(28)

MECHANICAL RESTRAINING DEVICE DETAILS AND NOTES

NOTE

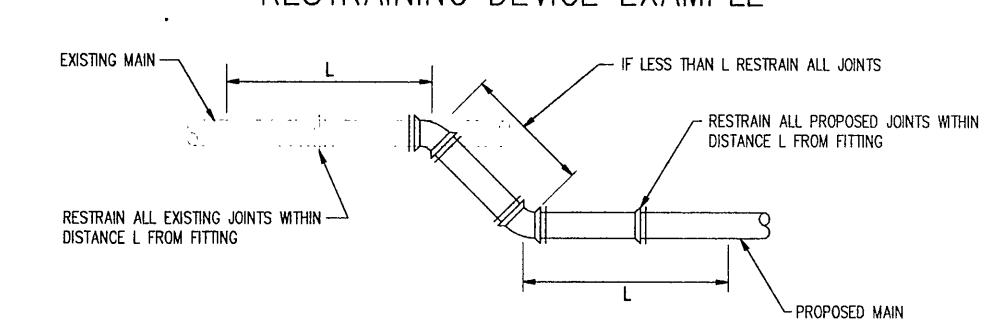
- IN THE DESIGN OF THE FOLLOWER GLAND AND SHALL INCLUDE A RESTRAINING MECHANISM WHICH, WHEN ACTUATED, IMPARTS MULTIPLE WEDGING ACTION AGAINST THE PIPE, INCREASING ITS RESISTANCE AS THE PRESSURE INCREASES. FLEXIBILITY OF THE JOINT SHALL BE MAINTAINED AFTER BURIAL. GLANDS SHALL BE MANUFACTURED OF DUCTILE IRON CONFORMING TO ASTM A 526—80. RESTRAINING DEVICES SHALL BE OF DUCTILE IRON HEAT TREATED TO A MINIMUM HARDNESS OF 370 BHN. DIMENSIONS OF THE GLAND SHALL BE SUCH THAT IT CAN BE USED WITH THE STANDARDIZED FITTINGS (AWWA C153). TWIST—OFF NUTS SHALL BE USED TO INSURE PROPER ACTUATING OF THE RESTRAINING DEVICES. THE MECHANICAL JOINT RESTRAINT DEVICES SHALL HAVE A WORKING PRESSURE OF 250 PSI WITH A MINIMUM SAFETY FACTOR OF 2.
- 2. RESTRAINED LENGTH BASED ON INTERNAL PRESSURE OF 150 PSI, 3' OF COVER, AND SOILTYPE "MH" UNLESS OTHERWISE NOTED.
- 3. PLUGS SHALL BE RESTRAINED BASED ON RESTRAINED LENGTH FOR 90° VERTICAL BENDS UNLESS OTHERWISE NOTED.

- 4. VALVES, TEES, AND WYES SHALL BE RESTRAINED BASED ON RESTRAINED LENGTH FOR 45° HORIZONTAL BENDS.
- 5. EXISTING PIPE ADJACENT TO PROPOSED BENDS, WYES, VALVES, TEES, AND PLUGS SHALL BE UNCOVERED AND THE JOINTS RESTRAINED FOR THE LENGTHS INDICATED, WITH A MECHANICAL JOINT RESTRAINING MECHANISM. IF THE EXISTING PIPE IS UNABLE TO ACCEPT THE MECHANICAL JOINT RESTRAINING MECHANISM, THE EXISTING PIPE SHALL BE REPLACED WITH DUCTILE IRON WATER MAIN IN ACCORDANCE WITH MATERIAL NOTE 2 ON SHEET (2) FOR THE LENGTH INDICATED. MECHANICAL JOINT RE—STRAINING MECHANISMS SHALL NOT BE USED ON EXISTING POLYVNYLCHLORIDE (PVC) OR ASBESTOS CEMENT PIPE.

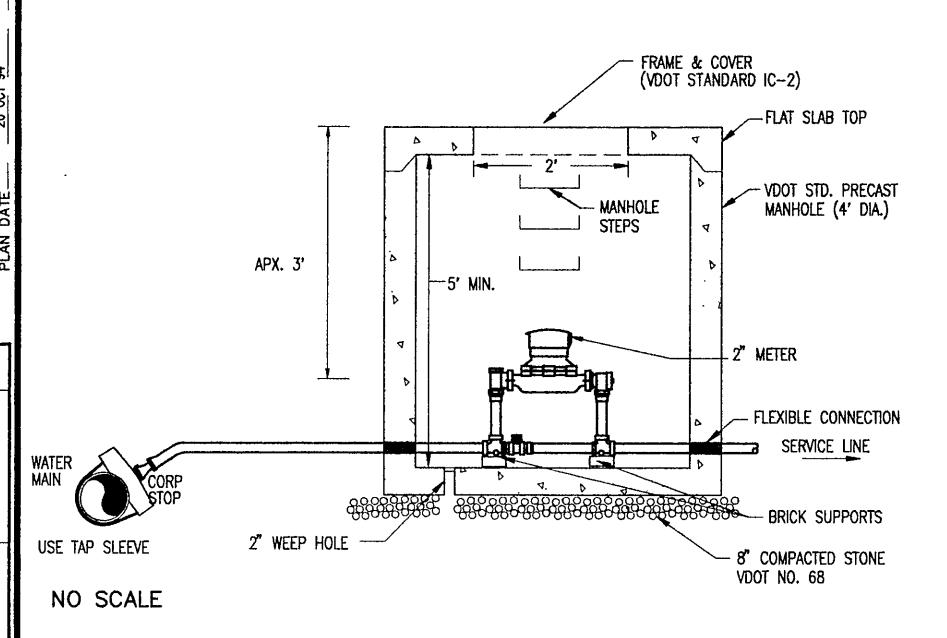


SHEET	PIPE MINIMUM LENGTH OF PIPE SIZE WITH RESTRAINED JOINTS (L)										
		Δ=90°		Δ=45°		Δ=221/2*		Δ=111/4*			
		HORIZ.	VERT.	HORIZ.	VERT.	HORIZ.	VERT.	HORIZ.	VERT.		
	4*	25'	35'	10'	14'	5'	7'	2'	3'		
	6 "	35'	49'	14'	20"	7'	10'	3'	5 '		
	8*	45 ',	64'	19'	27'	9'	13'	4*	6'		
NO SCALE	12"	64'	90'	26'	37 ′	13'	18'	6'	9'		
	16"	82'	115	34'	48'	16*	23'	8'	11'		

RESTRAINING DEVICE EXAMPLE



WATER METER BOX DETAIL FOR 1 1/2" AND 2" METERS



MANHOLE FRAME & COVER SHALL BE IN ACCORDANCE WITH VDOT STANDARD IC-2.

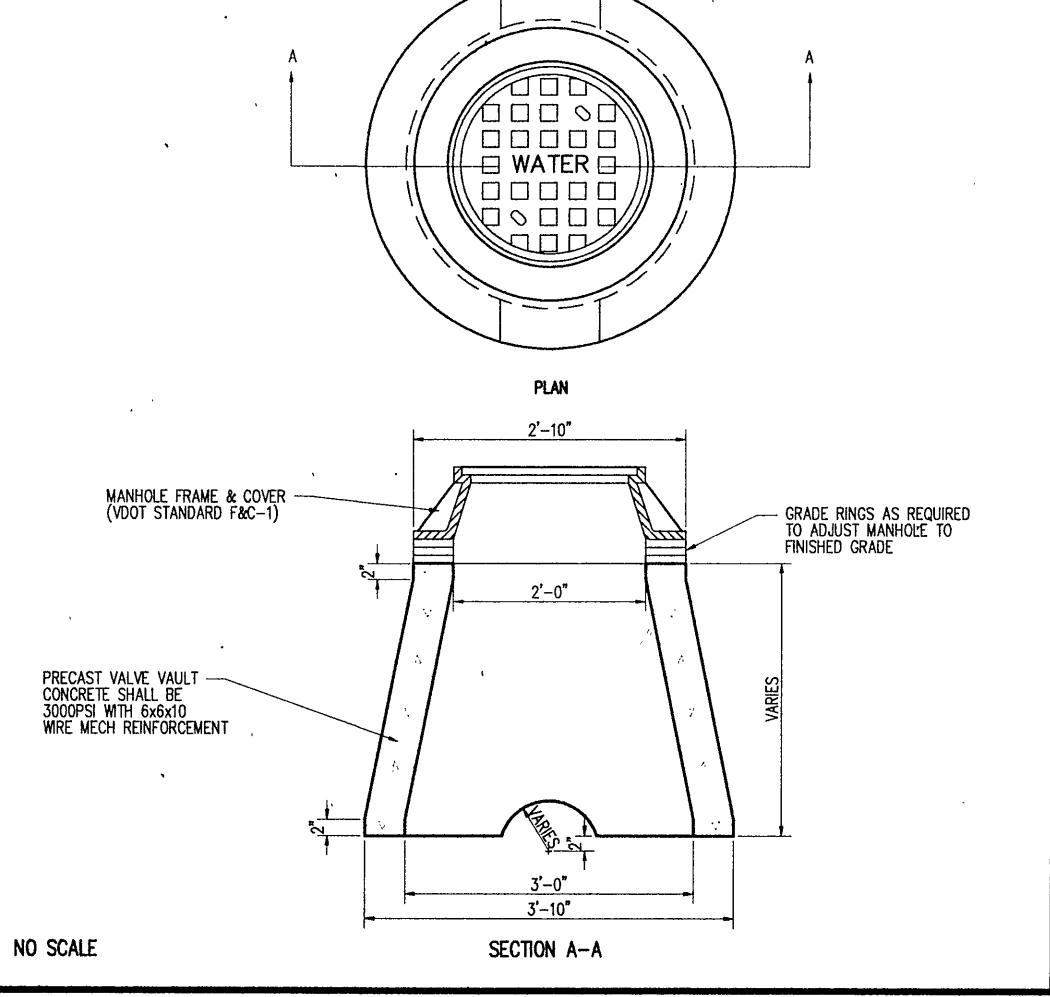
FLAT SLAB TO SHALL BE IN ACCORDANCE WITH VDOT STANDARD T-MH-2.

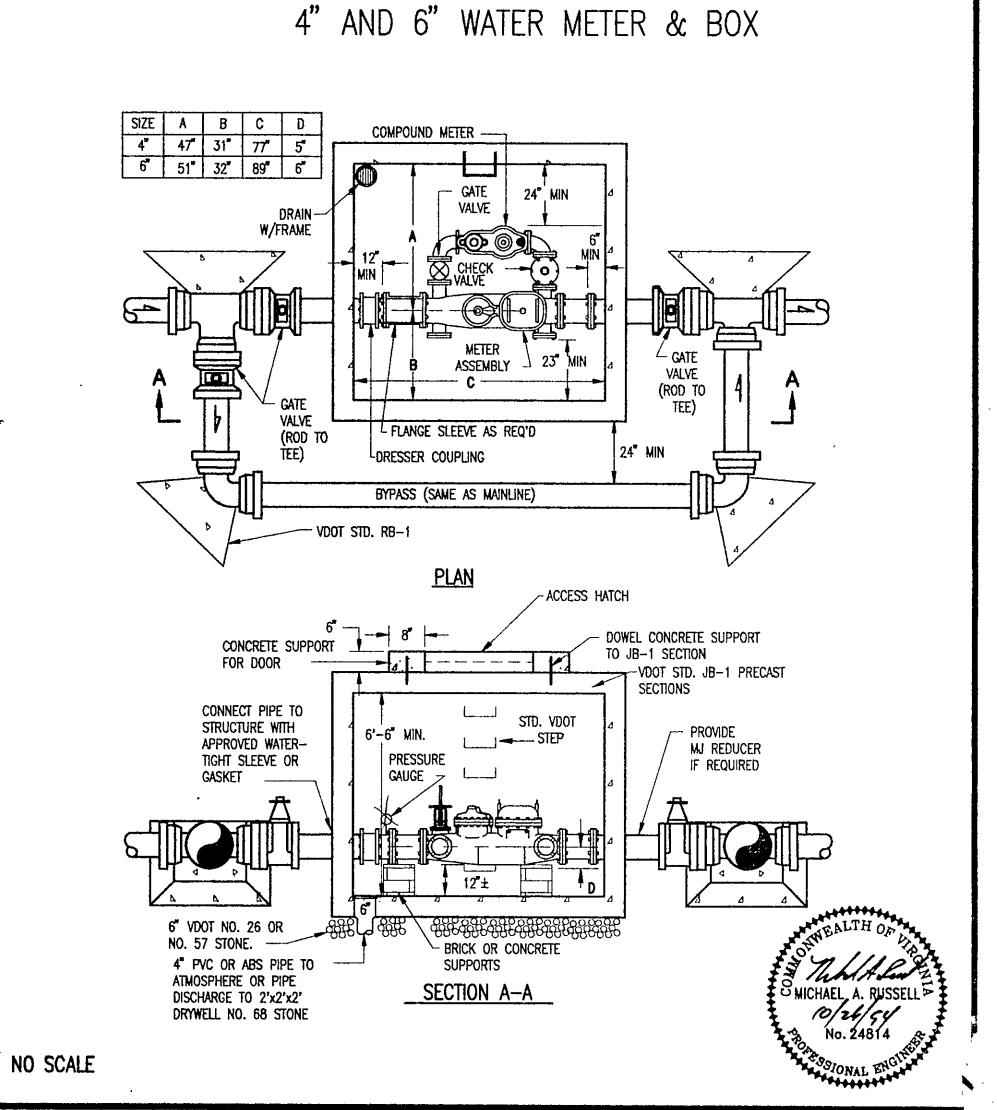
PRECAST MANHOLE SHALL BE IN ACCORDANCE WITH VDOT STANDARD SMH-1.

MANHOLE STEPS SHALL BE IN ACCORDANCE WITH VDOT STANDARD ST-1

WATER SERVICE LINE SHALL BE IN ACCORDANCE WITH MATERAIL NOTE 1 ON SHEET (2).







0117-128-101

SHEET NO. 20(28)