

CONCRETE THRUST BLOCKS, MINIMUM AMOUNT OF CONCRETE		
Size of Fitting	Cubic Yards	
3"-8"	3/4	
10"-12"	1 1/2	

· · · · · · · · · · · · · · · · · · ·	1001 W 223 1 31 W	ATER PRESSURE FO	ICTTTINOS
Pipe	90° Bend	45° Bend	Dead End
_4	2,559	1,385	1,810
6	5,288	2,862	3,739
8	9,097	4,923	6,433
10	13,685	7,406	9,677
12	19,353	10,474	13,685

Water Pressure > 100 psi MULTIPLY Table by Ratio of Pressure ... 150 psi/100 psi = 1.5 Factor

Minimum Thrust Block Size

$\mathbf{A}_{b} = (\mathbf{h})(\mathbf{b}) = \mathbf{T} (\mathbf{S}_{f}) / \mathbf{S}_{b}$	SOIL
(h) = block height, (b) = block width	SOFT CLAY
T = thrust force table,	SAND
$S_f = \text{safety factor} (1.5)$	SAND CLAY
S_b = soil bearing from table	HARD CLAY

ROI	NUMBER	– DIAMETE	R COMBIN	ATIONS
Pipe Size	5/8 in.	3/4 in.	7/8 in.	1 in.
4	2			·
6	2	***************************************		
8	3	2		
10	4	3	2	
12	6	1	2	2

Table derived using pressure of 225 psi (15.5 bars) and design stress of 25,000. 2007 NFPA 24 Table 10.8.3.1.2.2

SECTION A-A CONC. BLOCK ---SECTION B-B

TYPICAL THRUST BLOCK DETAIL

CONC. BLOCK

CONC. BLOCK ----

MISS UTILITY OF VIRGINIA: THE CONTRACTOR SHALL CALL "MISS UTILITY" 48 HOURS PRIOR TO THE START OF EXCAVATION. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT THE ENGINEER IMMEDIATELY IF THE LOCATION OR ELEVATION WITHIN THE EXISTING AND/OR RIGHT OF WAY REQUIRED BY THE DEVELOPMENT. CONTACT MISS UTILITY OF VIRGINIA: 1-800-552-7001 (TOLL FREE) OR DIAL 811

PRINCE GEORGE COUNTY

FORCE MANHOLE

GRAVITY

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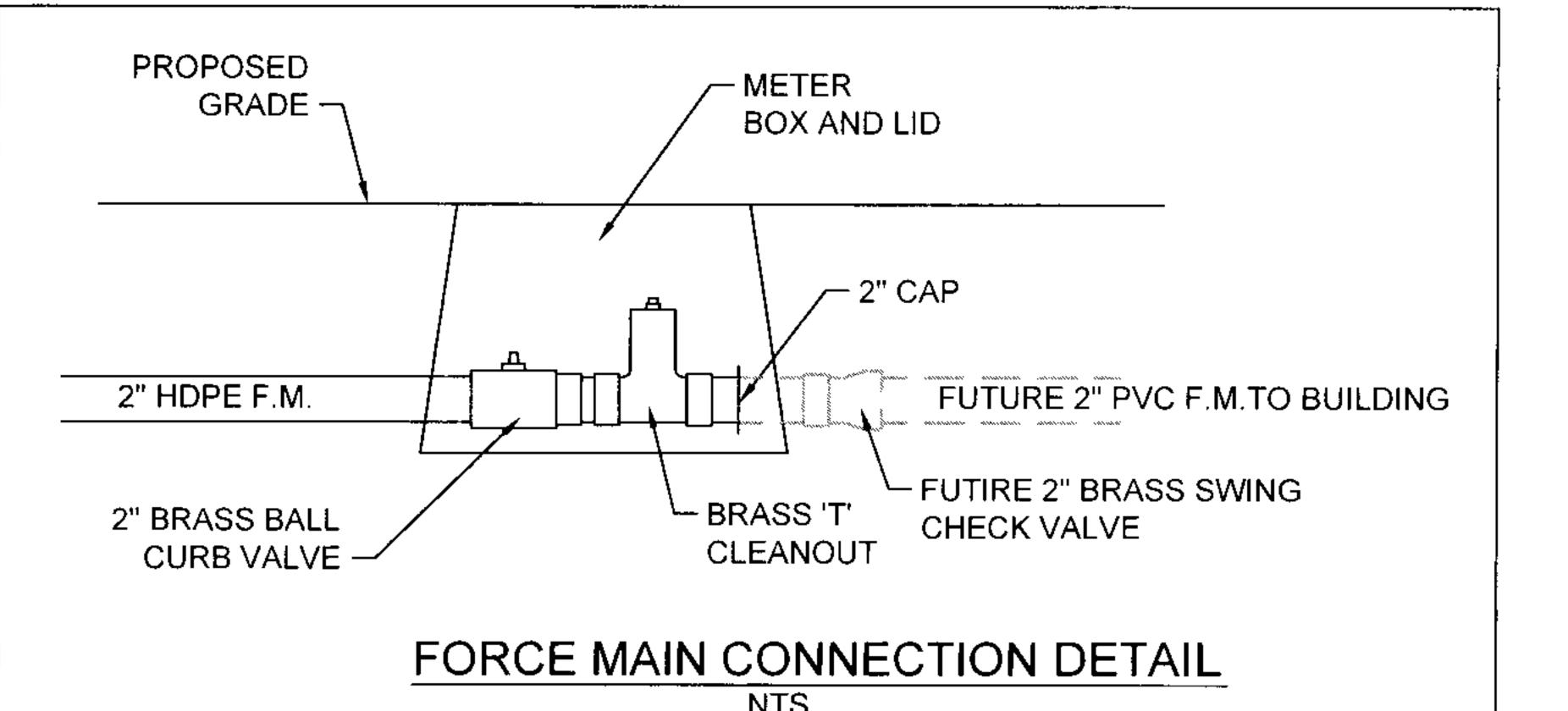
DISTANCE SHALL BE EQUIVALENT
TO THE PIPE DIAMETER OR GREATER.

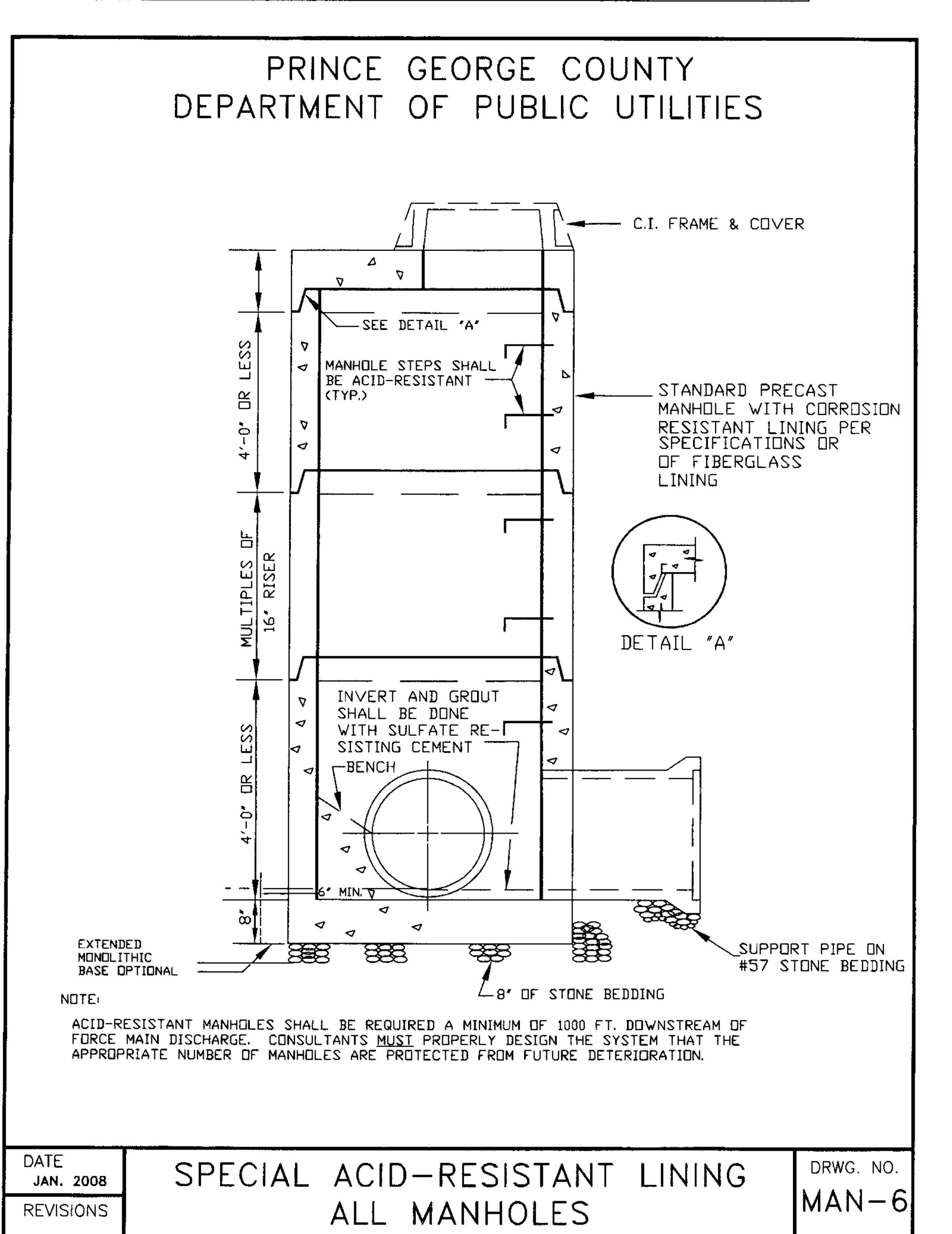
DEPARTMENT OF PUBLIC UTILITIES

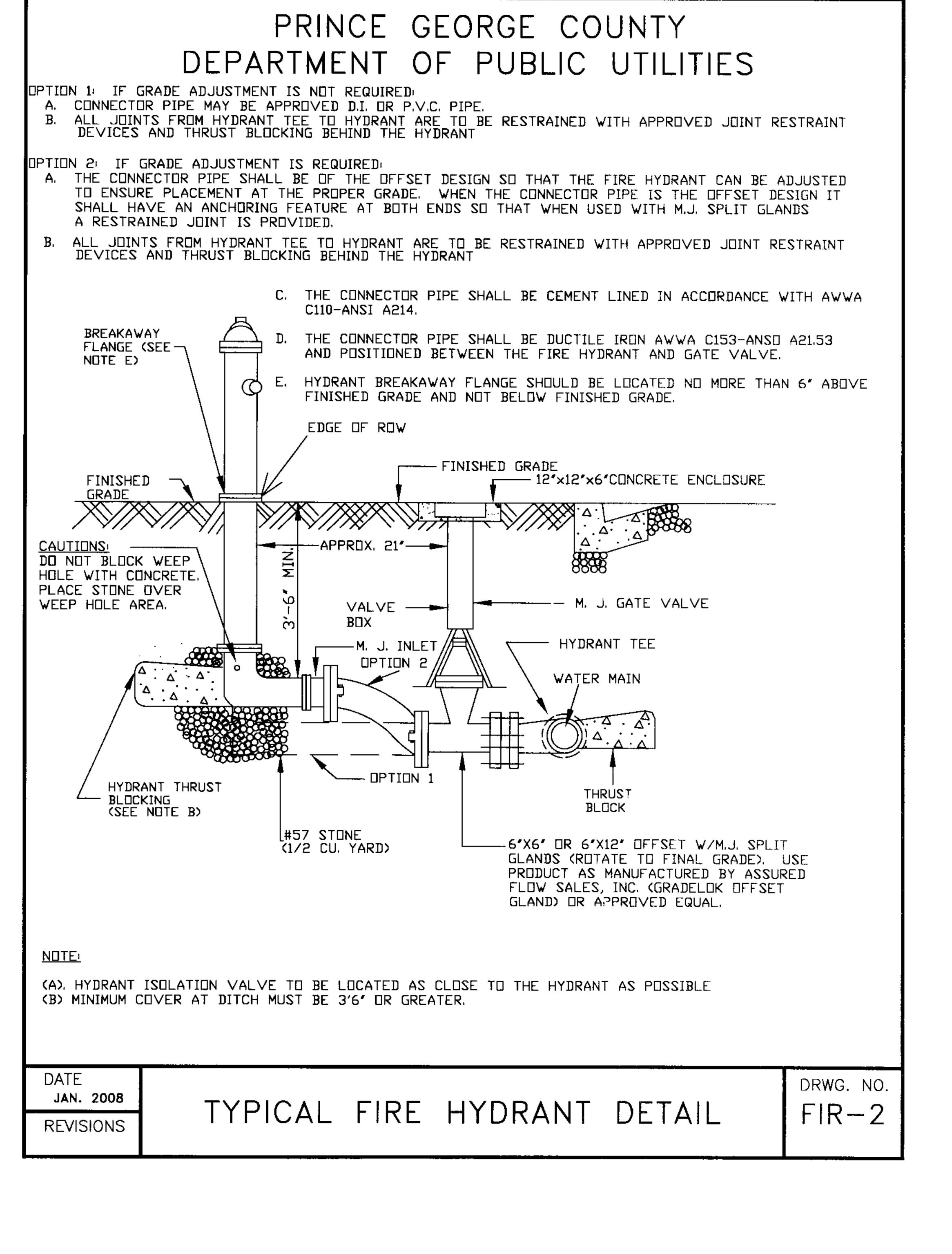
STD. 4' DIA. PRECAST MH. W/ ACID RESISTANT

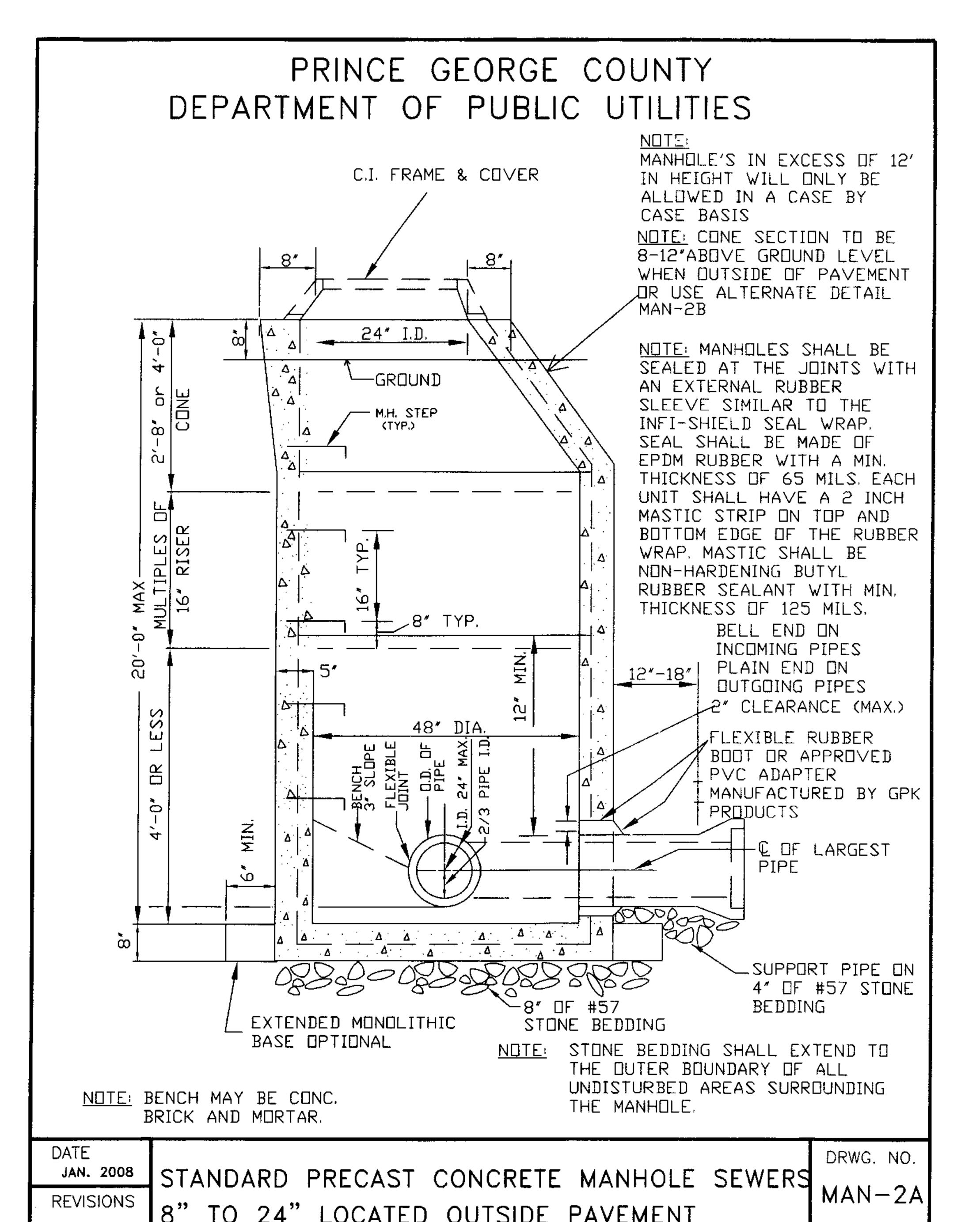
SPECIFICATIONS

BEARING lb/ft²









PRINCE GEORGE COUNTY DEPARTMENT OF PUBLIC UTILITIES

- ALL MATERIALS FOR SEWER AND WATER SYSTEMS SHOWN SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE LATEST SPECIFICATIONS OF PRINCE GEORGE COUNTY APPLICABLE AT THE TIME OF NOTICE TO PROCEED.
- FOR SEWER AND WATER INSTALLATION WITHIN EXISTING VDOT R/W; UTILITY CONTRACTORS MUST NOTIFY VDOT WHEN INSTALLATION BEGINS SO THAT DENSITY CAN BE TESTED ON TRENCH BACKFILL (95% ASTM. D-698 OPTIMUM MOISTURE ± 2%).
- ALL WATER SERVICE CONNECTIONS BELOW THE <u>ELEVATION</u> CONTOUR OR WHERE THE PRESSURE IS GREATER THAN 80 P.S.I. WILL REQUIRE INDIVIDUAL PRESSURE REGULATURS AS REQUIRED BY BUCA CODE.
- . VERTICAL DATUM IS BASED ON MEAN SEA LEVEL (USC & GS DATUM). HORIZONTAL CONTROLS ARE BASED ON VIRGINIA STATE PLANE COORDINATE GRID, SOUTH ZONE, NORTH AMERICAN DATUM OF 1983 (NAD 83).

REQUIRED INFORMATION FOR TITLE PAGE
APPLICANTS NAME ZONING AND CASE#
NUMBER OF LOTS TAX MAP NUMBER

DATE OF PLANNING -

COMMISSION APPROVAL

STANDARD SEWER AND WATER NOTES DES-2

PRINCE GEORGE COUNTY DEPARTMENT OF PUBLIC UTILITIES

NOTES CONTI

- . THE ENGINEER WILL CERTIFY THAT THE ROADS ARE WITHIN 6-INCHES OF SUBGRADE BEFORE WATERLINE CONSTRUCTION CAN BEGIN.

- 11. INDIVIDUAL WATER SERVICES SHALL BE 3/4"
- 12. ALL WATERLINE VALVES MUST BE LOCATED ON THE TEE OR CROSS WHEN APPLICABLE.
- 4. A SMOOTH TRANSITION OF A DROP MANHOLE MUST BE PROVIDED FOR EACH LATERAL OR SANITARY SEWER ENTERING A SANITARY MANHOLE 15. ALL FIRE HYDRANTS SHALL BE O.S.H.A. RED IN COLOR.
- 16. METER BOXES PROVIDED SHALL BE CAST IRON 12"x18"x24" HIGH WITH CAST IRON LIDS THE METER ASSEMBLIES ARE TO BE SUPPLIED WITH NEPTUNE PROREAD ENCODERS AND R900I PIT MIU (RF) ATTACHED TO THE LID, METERS ARE TO BE COMPATIBLE WITH THE PROPOSED SYSTEM. A WAND TYPE VISUAL READER COMPATIBLE WITH THE PROREAD SYSTEM WILL BE SUPPLIED TO THE UTILITY DEPARTMENT WITH THE WATER METERS.
- 7. ALL SANITARY SEWER LATERALS THAT ARE INSTALLED OUTSIDE OF THE R/W ARE TO HAVE THE CLEANOUT INSTALLED AT THE EDGE OF THE EASEMENT. A CARSONITE MARKER SHALL ALSO BE INSTALLED TO INDICATE THEIR LOCATION.
- 18. ALL HYDRANTS AND BENDS SHALL BE EQUIPPED WITH MEGA LUGS, KICKERS AND THRUST BLOCKS.
- 19. PRESSURE REDUCING VALVES SHALL BE USED ON LOTS WHERE THE STATIC PRESSURE IN THE SYSTEM EXCEEDS 80 PSI OR AS REQUIRED BY BUILDING CODE.
- CLEANDUTS ARE TO BE INSTALLED ON ALL SANITARY LATERALS IN ACCORDANCE WITH PRINCE GEORGE COUNTY SPECIFICATIONS, THESE CLEANOUTS SHOULD BE INSTALLED AT THE EDGE OF THE R/W.

JAN. 2008 EVISIONS	STANDARD	SEWER	AND	WATER	NOTES	DRV DE SHEE

PRINCE GEORGE COUNTY DEPARTMENT OF PUBLIC UTILITIES

- 21. UTILITY INSPECTOR SHALL BE CONTACTED BEFORE INDIVIDUAL SERVICE CONNECTIONS ARE COVERED.
- COATED AS REQUIRED IN THE LATEST COUNTY SPECIFICATIONS.
- 23. ALL INDIVIDUAL WATER AND SEWER CONNECTIONS SHALL BE MADE USING DOUBLE BANDED, STAINLESS STEEL, EPOXY COATED SADDLES.
- BUTYL RUBBER SEALANT, WITH A MINIMUM THICKNESS OF 125 MILS
- THE BOXES FOR THE SEWER CONNECTIONS MUST BE MARKED AS SEWER CONNECTIONS 27. ALL GATE VALVE BOXES LOCATED OUTSIDE THE PAVEMENT NEED TO BE ENCLOSED IN A 12"x12"x6" CONCRETE ENLOSURE.

STANDARD SEWER AND WATER NOTES DES-2

17 SEP 2013 DRAWN BY B. MCMILLAN

DESIGNED BY B. MCMILLAN CHECKED BY

D. JOHNSON SCALE

SHEET NO.

NOTE: VENT SHALL BE DRWG. NO. JAN. 2008 STANDARD PRECAST CONCRETE MANHOLE SEWERS MAN-2A JAN. 2008 FORCE MAIN DISCHARGE REVISIONS 8" TO 24" LOCATED OUTSIDE PAVEMENT