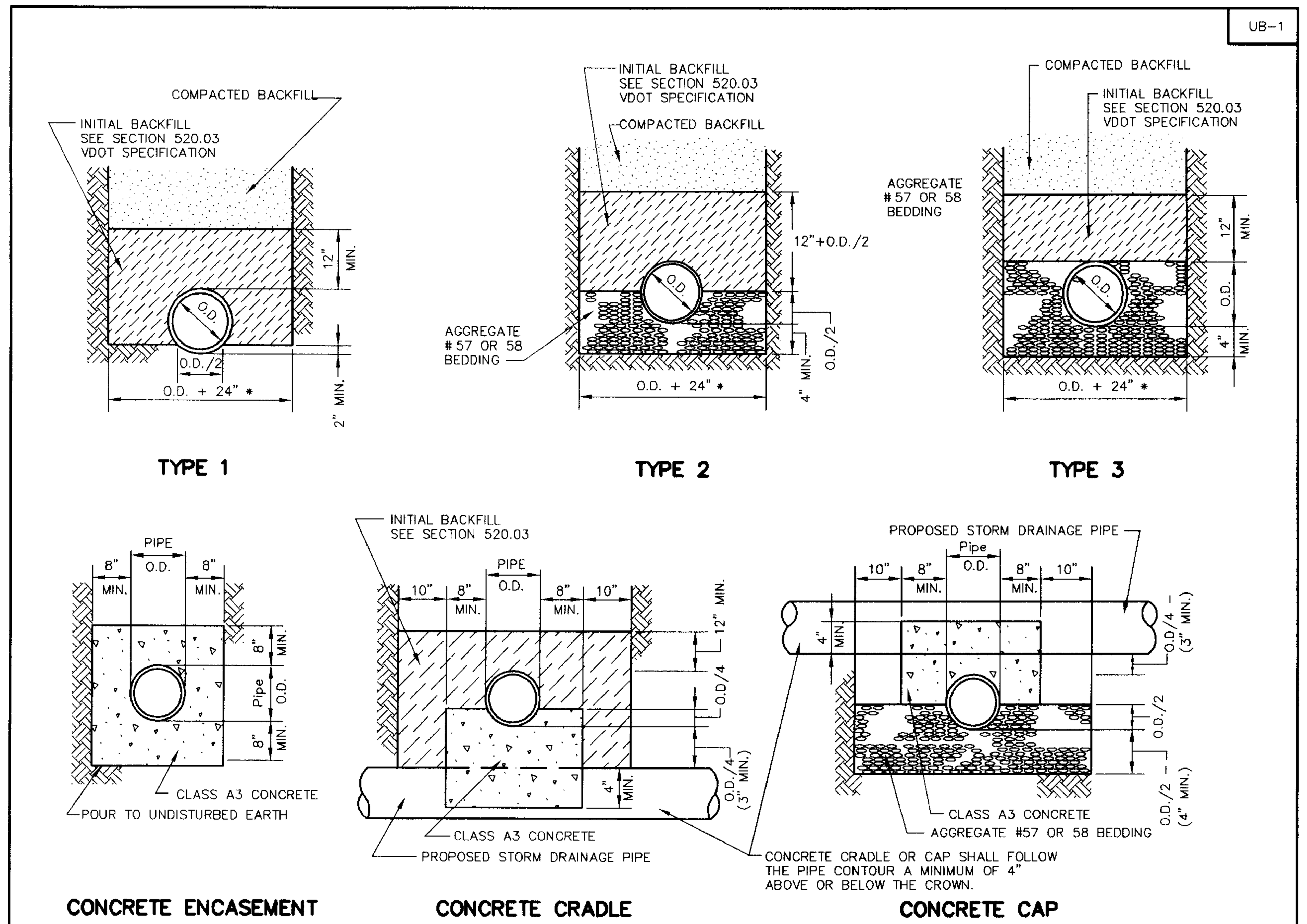
UB-1



CONCRETE ENCASEMENT

CONCRETE CRADLE

CONCRETE CAP

NOTES:

1. WHERE THE TRENCH BOTTOM IS IN ROCK, IT SHALL BE EXCAVATED TO A MINIMUM OF 8" BELOW THE BOTTOM OF THE PIPE AND BACKFILLED WITH BEDDING MATERIAL.
2. WHERE PIPE FOUNDATIONS ARE YIELDING, PIPE SHALL BE BEDDED ON A MINIMUM OF 8" BEDDING MATERIAL.

* FOR PIPE LESS THAN 12" THE TRENCH WIDTH MAY BE 36" MAXIMUM.

UTILITY BEDDING AND PROTECTION
WATER AND SANITARY SEWER FACILITIES

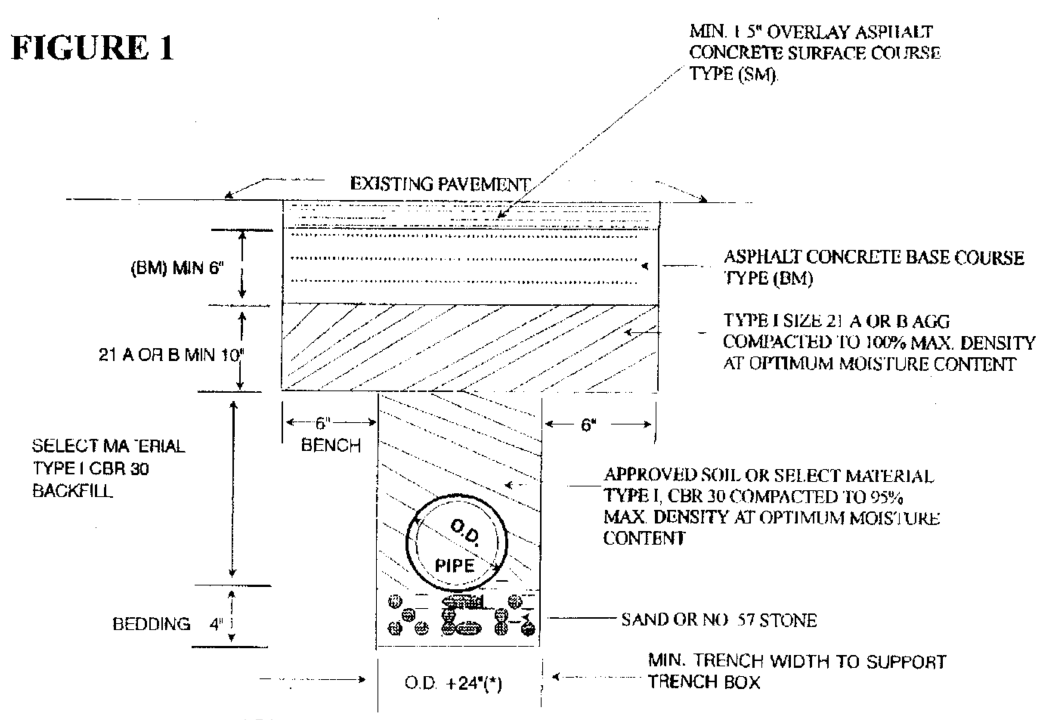
VIRGINIA DEPARTMENT OF TRANSPORTATION

1401.01

NOTES:

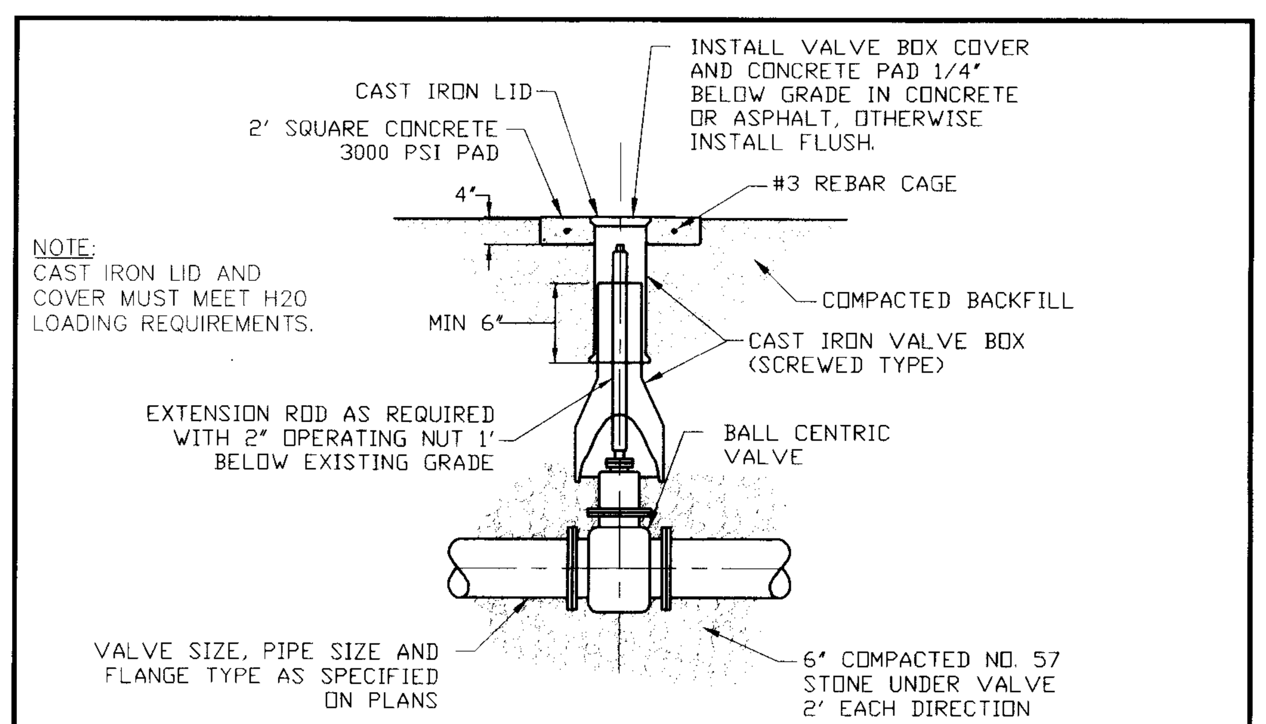
1. DUCTILE IRON GRAVITY SEWER PIPE USE TYPE 2.
2. DUCTILE IRON FORCE MAIN PIPE USE TYPE 1.
3. PVC SDR 35 GRAVITY SEWER PIPE USE TYPE 2.
4. PVC C-900 FORCE MAIN PIPE USE TYPE 2.
5. HDPE FORCE MAIN USE TYPE 1.
6. BACKFILL WITHIN VDOT RIGHT-OF-WAY SHALL BE 95% COMPACTION.

FIGURE 1



* FOR PIPE LESS THAN 12" THE TRENCH WIDTH MAY BE 36" MAXIMUM SEE UB-1 (ROAD AND BRIDGE STANDARDS VOLUME II)

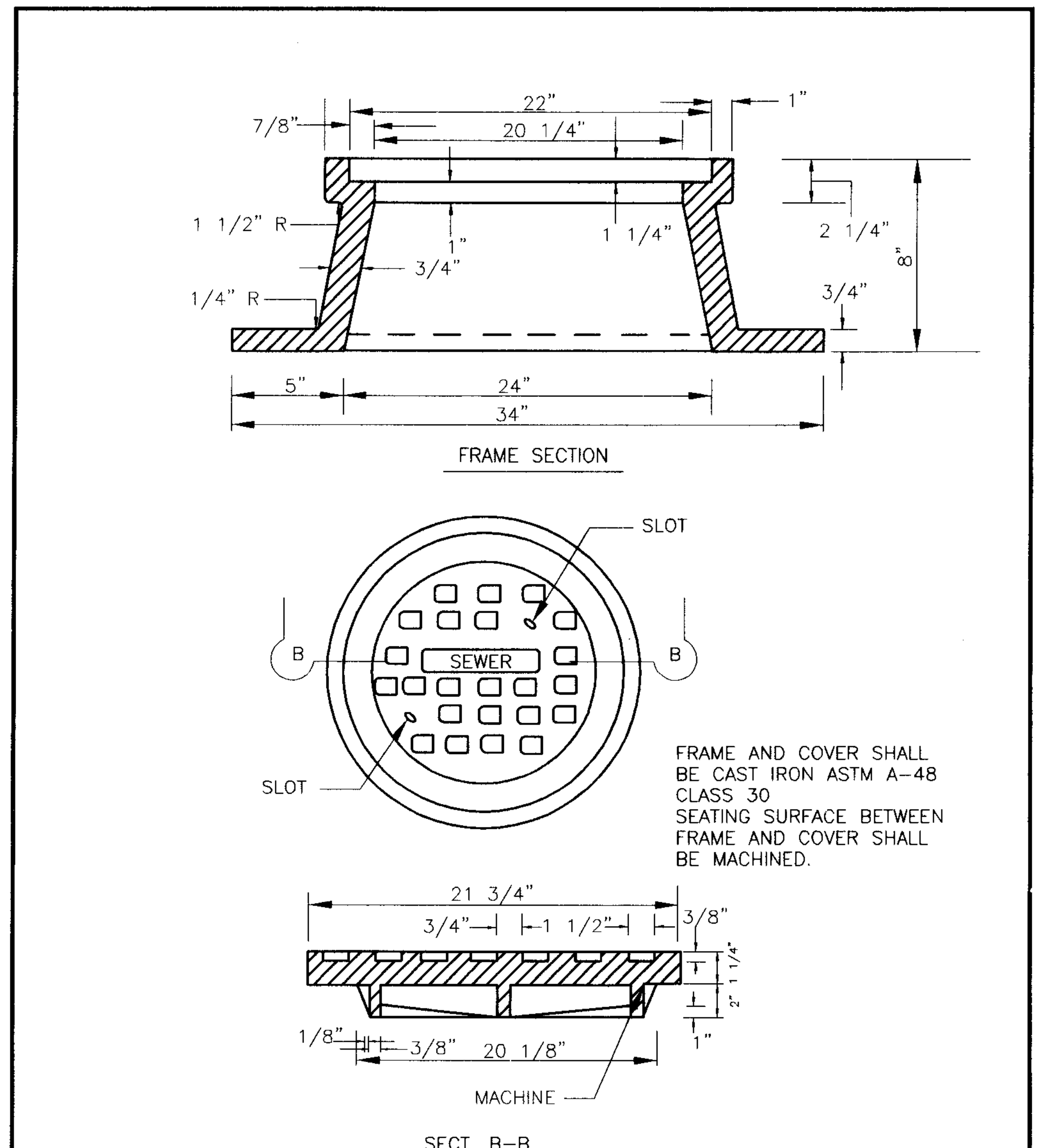
CUT REPLACEMENT IN ROADS WITH ASPHALT CONCRETE BASE AND SURFACE



NOTE:
CAST IRON LID AND COVER MUST MEET H20 LOADING REQUIREMENTS.

BURIED VALVE DETAIL

NOT TO SCALE



FRAME AND COVER SHALL BE CAST IRON ASTM A-48 CLASS 30
SEATING SURFACE BETWEEN FRAME AND COVER SHALL BE MACHINED.

STANDARD MANHOLE FRAME & COVER

DRWG. NO. MAN-11

PRINCE GEORGE COUNTY
DEPARTMENT OF PUBLIC UTILITIES

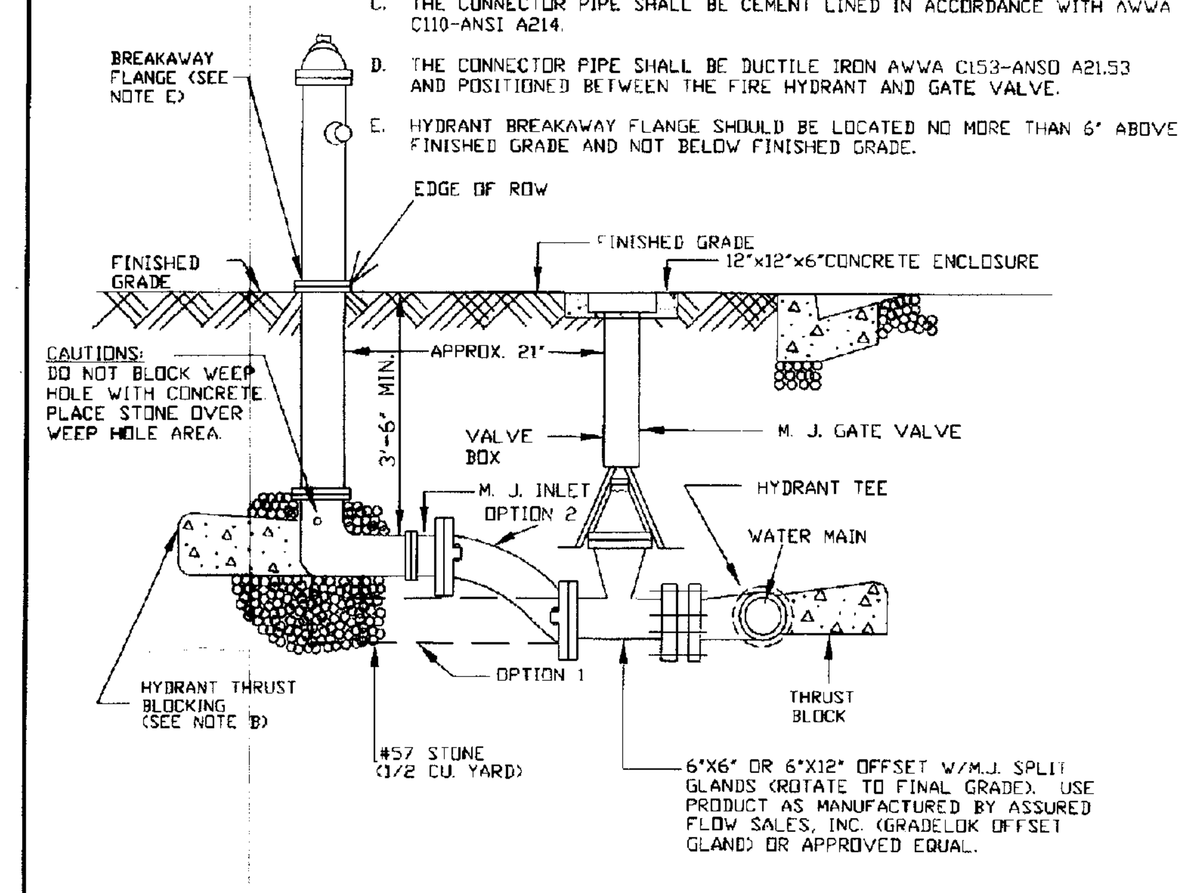
OPTION 1: IF GRADE ADJUSTMENT IS NOT REQUIRED:

A. CONNECTOR PIPE MAY BE APPROVED D.I. OR P.V.C. PIPE.
B. ALL JOINTS FROM HYDRANT TEE TO HYDRANT ARE TO BE RESTRAINED WITH APPROVED JOINT RESTRAINT DEVICES AND THRUST BLOCKING BEHIND THE HYDRANT

OPTION 2: IF GRADE ADJUSTMENT IS REQUIRED:

A. THE CONNECTOR PIPE SHALL BE OF THE OFFSET DESIGN SO THAT THE FIRE HYDRANT CAN BE ADJUSTED TO ENSURE PLACEMENT AT THE PROPER GRADE. WHEN THE CONNECTOR PIPE IS THE OFFSET DESIGN IT SHALL HAVE AN ANCHORING FEATURE AT BOTH ENDS SO THAT WHEN USED WITH M.J. SPLIT GLANDS A RESTRAINED JOINT IS PROVIDED
B. ALL JOINTS FROM HYDRANT TEE TO HYDRANT ARE TO BE RESTRAINED WITH APPROVED JOINT RESTRAINT DEVICES AND THRUST BLOCKING BEHIND THE HYDRANT

C. THE CONNECTOR PIPE SHALL BE CEMENT LINED IN ACCORDANCE WITH AWWA C110-ANSI A214.
D. THE CONNECTOR PIPE SHALL BE DUCTILE IRON AWWA C153-ANSO A21.53 AND POSITIONED BETWEEN THE FIRE HYDRANT AND GATE VALVE.
E. HYDRANT BREAKAWAY FLANGE SHOULD BE LOCATED NO MORE THAN 6" ABOVE FINISHED GRADE AND NOT BELOW FINISHED GRADE.



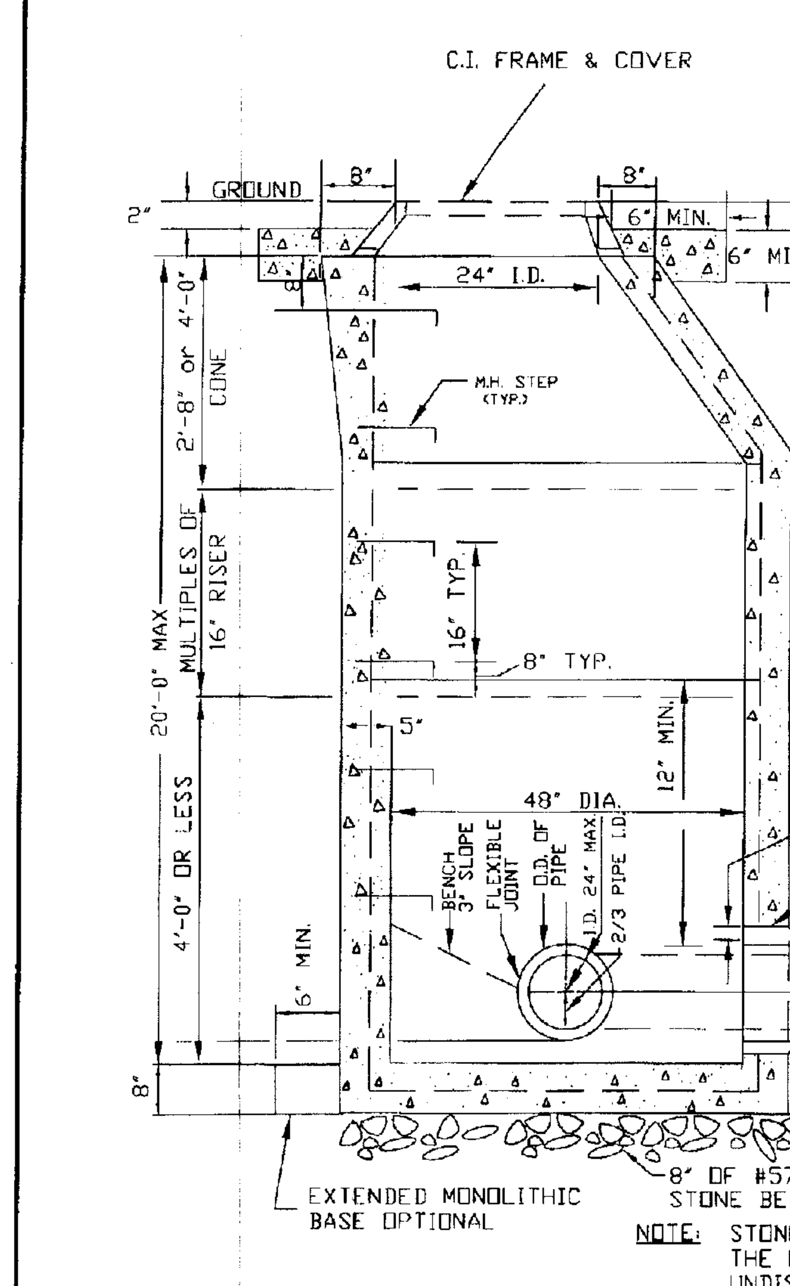
NOTE:

(A) HYDRANT ISOLATION VALVE TO BE LOCATED AS CLOSE TO THE HYDRANT AS POSSIBLE
(B) MINIMUM COVER AT DITCH MUST BE 3'6" OR GREATER.

DATE JAN. 2008	TYPICAL FIRE HYDRANT DETAIL	DRWG. NO. FIR-2
REVISIONS		

PRINCE GEORGE COUNTY
DEPARTMENT OF PUBLIC UTILITIES

NOTE:
MANHOLE'S IN EXCESS OF 12' IN HEIGHT WILL ONLY BE ALLOWED IN A CASE BY CASE BASIS



NOTE: MANHOLES SHALL BE SEALED AT THE JOINTS WITH AN EXTERNAL RUBBER SLEEVE SIMILAR TO THE INFI-SHIELD SEAL WRAP. SEAL SHALL BE MADE OF EPDM RUBBER WITH A MIN. THICKNESS OF 65 MILS. EACH UNIT SHALL HAVE A 2 INCH MASTIC STRIP ON TOP AND BOTTOM EDGE OF THE RUBBER WRAP. MASTIC SHALL BE NON-HARDENING BUTYL RUBBER SEALANT WITH MIN. THICKNESS OF 125 MILS.

BELL END ON INCOMING PIPES
PLAIN END ON OUTGOING PIPES
2" CLEARANCE (MAX.)
FLEXIBLE RUBBER BOOT OR APPROVED PVC ADAPTER MANUFACTURED BY GPK PRODUCTS
℄ OF LARGEST PIPE
SUPPORT PIPE ON 4" OF #57 STONE BEDDING

NOTE: STONE BEDDING SHALL EXTEND TO THE OUTER BOUNDARY OF ALL UNDISTURBED AREAS SURROUNDING THE MANHOLE.

NOTE: BENCH MAY BE CONC. BRICK AND MORTAR.

DATE JAN. 2008	STANDARD PRECAST CONCRETE MANHOLE SEWERS 8" TO 24" LOCATED OUTSIDE PAVEMENT KEPT AREAS	DRWG. NO. MAN-2B ALTERNATE
REVISIONS		

COMMONWEALTH OF VIRGINIA
STUART LITTLE
No. 039974
7/17/08
PROFESSIONAL ENGINEER

YOUR VISION ACHIEVED THROUGH OURS.

THIS DRAWING PREPARED AT THE
CORPORATE OFFICE
1001 Boulders Parkway, Suite 300 | Richmond, VA 23225
TEL 804.200.6500 FAX 804.560.1016 www.timmons.com

Site Development | Residential | Infrastructure | Technology

DATE	REVISION DESCRIPTION
07-17-08	REVISED PER COUNTY COMMENTS

TIMMONS GROUP

CROSSPOINTE CENTRE - WATERLINE

PRINCE GEORGE COUNTY - VIRGINIA

STANDARD DETAILS

DATE	6/16/08
DRAWN BY	M. ROBESON
DESIGNED BY	M. ROBESON
CHECKED BY	S.LITTLE
SCALE	AS SHOWN
JOB NO.	25291-201
SHEET NO.	U1.4