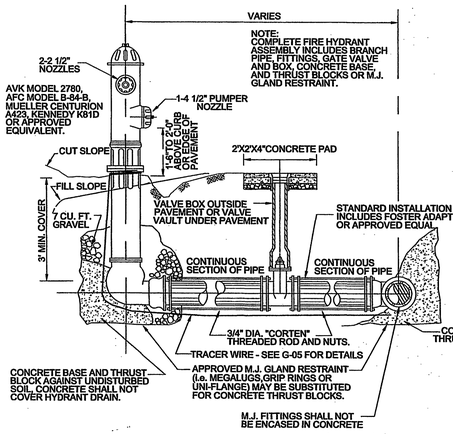
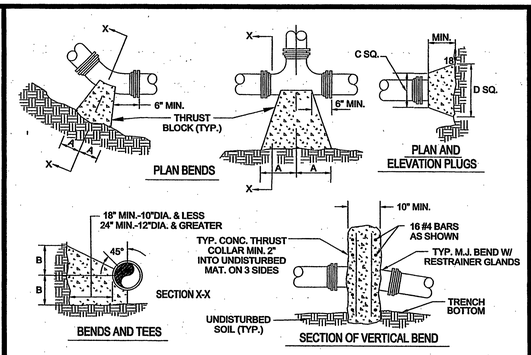
NOTES:
1. PUBLIC HYDRANTS SHALL BE PAINTED SILVER WITH AN OIL-BASED PAINT AND PRIVATE HYDRANTS SHALL BE PAINTED WHITE WITH AN OIL-BASED PAINT.
2. FIRE HYDRANT SHALL BE INSTALLED 2' MIN. AND 4' MAX. FROM BACK OF CURB OR 6' MIN. AND 12' MAX. WHEN CURB IS NOT PRESENT. FIRE HYDRANT TO BE INSTALLED WITHIN RIGHT-OF-WAY OR EASEMENT LINE.
3. AREA AROUND HYDRANT AT A RADIUS OF 4' TO BE LEVEL AND UNOBSTRUCTED.
4. WATERPROOF BAGS SHALL BE PLACED OVER ALL NEWLY INSTALLED FIRE HYDRANTS.
5. HIGH PRESSURE (OVER 120 PSI) REQUIRES THE USE ALL 3 RESTRAINTS.




WESTERN VIRGINIA WATER AUTHORITY – CONSTRUCTION STANDARDS

| REVISION | DATE |
|---|---|
| | 07/01/04 |
| | 03/01/06 |

FIRE HYDRANT ASSEMBLY — W–18




NOTES:
1. FOR VERT. BEND DOWN IN EXCESS OF 11 1/4" BEND, ANCHORAGE SHALL BE DESIGNED BY ENGINEER.
2. FOR VERT. BEND UPWARD, BLOCKING TO BE SIMILAR TO THAT FOR HORIZ. BEND.
3. GLANDS & BOLTS SHALL BE PROTECTED FROM CONC. BY PLASTIC SHEETING WHEN POURING THRUST BLOCKS.
4. ALL THRUST BLOCK & SUPPORT CONC. SHALL BE 3000 PSI READY MIX CONC.
5. THRUST BLOCKS WITH "B" DIMENSION GREATER THAN 30" SHALL HAVE THE RESTRAINED PIPE INSTALLED WITH A MINIMUM OF 4' OF COVER.
6. IF UNDER 100 PSI WORKING PRESSURE, RESTRAINT JOINTS MUST BE USED. IF EQUAL OR GREATER THAN 100 PSI WORKING PRESSURE, BOTH BLOCK AND RESTRAINT JOINTS ARE REQUIRED.

PRESSURE = 200 psi
BEARING = 2000 psf
FACTOR OF SAFETY = 1.5

| PIPE | 90° BEND | | 45° BEND | | 22 1/2° BEND | | 11 1/4° BEND | | TEE | | PLUG | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SIZE | A | B | A | B | A | B | A | B | A | B | C | D |
| 4" | 8" | 12" | 8" | 8" | 6" | 6" | 6" | 6" | 11" | 9" | 10" | 6" |
| 6" | 18" | 12" | 8" | 10" | 8" | 8" | 8" | 8" | 11" | 10" | 12" | 16" |
| 8" | 18" | 13" | 10" | 10" | 8" | 8" | 8" | 8" | 11" | 12" | 12" | 24" |
| 10" | 20" | 16" | 12" | 14" | 8" | 12" | 8" | 12" | 14" | 16" | 16" | 30" |
| 12" | 20" | 16" | 12" | 14" | 8" | 12" | 8" | 12" | 14" | 16" | 16" | 30" |
| 16" | 26" | 20" | 16" | 18" | 11" | 13" | 11" | 13" | 16" | 20" | 20" | 36" |
| 24" | 82" | 42" | 62" | 30" | 44" | 22" | 22" | 16" | 82" | 42" | 82" | 42" |
| 30" | 185" | 42" | 100" | 42" | 52" | 42" | 40" | 30" | 185" | 42" | 185" | 42" |

WESTERN VIRGINIA WATER AUTHORITY – CONSTRUCTION STANDARDS

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| | 07/01/04 |
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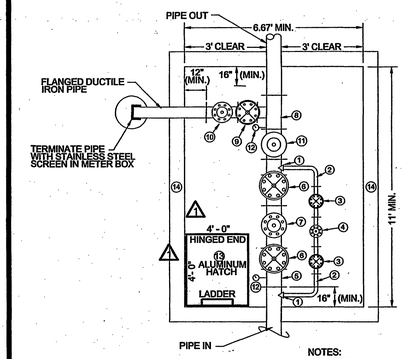
THRUST BLOCK CONSTRUCTION — W–19




1. CORPORATION STOP
2. 2" LOW-FLOW BYPASS LINE TYPE "K" COPPER
3. 2" NPT GATE VALVE
4. 2" FLANGED RATE OF FLOW/PRESSURE REGULATING VALVE (CLA-VAL MODEL 49-01) SET AT WORKING PRESSURE & 100 GPM
5. FLANGE x MECH. JOINT ADAPTOR (SEE NOTE BELOW)
6. FLANGE x FLANGE MAIN LINE GATE VALVE
7. FLANGE x FLANGE MAIN LINE PRESSURE REGULATING VALVE (CLA-VAL MODEL 690-01) SET AT 3 psi LESS THAN #4
8. FLANGE x FLANGE MAIN LINE REDUCING TEE
9. FLANGE x FLANGE GATE VALVE, ONE SIZE LESS THAN MAIN LINE
10. FLANGE x FLANGE PRESSURE RELIEF VALVE, ONE SIZE LESS THAN MAIN LINE (CLA-VAL MODEL 650-01) SET AT 5 psi GREATER THAN #4
11. MAIN LINE "TURBO" TYPE WATER METER
12. LIQUID FILLED PRESSURE GAUGE
13. BILCO MODEL J-3AL OR APPROVED EQUAL
14. PRE-CAST REINFORCED CONCRETE VAULT W/ 6" MIN. WALLS, TOP, AND BOTTOM

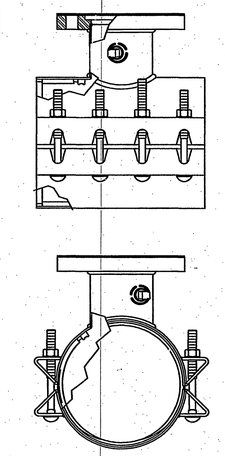
NOTES:
ALL FITTINGS SHALL BE FLANGED OR COMPRESSION TYPE

NOTE: PRESSURE REDUCING VALVE SHALL BE CLA–VAL 90 G 99 BYKC DUCTILE IRON BODY WITH STAINLESS TRIM, TUBING AND FITTINGS WITH X 141 GAGES MOUNTED, OR APPROVED EQUAL.

WESTERN VIRGINIA WATER AUTHORITY – CONSTRUCTION STANDARDS

| REVISION | DATE |
|---|---|
| | 07/01/04 |

MAIN LINE PRESSURE REDUCING VALVE ASSEMBLY — W–14



1. TAPPING SLEEVE SHALL BE POWERSEAL MODEL 3490 TYPE 304 STAINLESS STEEL WITH CARBON STEEL FLANGE, ROMAC'S MODEL SST III, FORD MODEL FTSS WITH CARBON STEEL FLANGE OR APPROVED EQUIVALENT. SLEEVE SHALL BE RATED AT 250 PSI AND MUST HAVE A TEST PLUG.
2. TAPPING VALVE SHALL BE AVK RESILIENT SEATED GATE VALVE SERIES 25 MJFL OR MUELLER T-2360 RESILIENT WEDGE TAPPING VALVE WITH MJFL. VALVE SHALL BE RATED AT 250 PSI.
3. TAPPING SLEEVE AND VALVE SHALL BE FULL PORT TO ACCEPT FULL SIZE SHELL CUTTER.
4. STEEL FLANGE SHALL MEET AWWA C207.

WESTERN VIRGINIA WATER AUTHORITY – CONSTRUCTION STANDARDS

| REVISION | DATE |
|---|---|
| | 07/01/04 |
| | 03/01/06 |

TAPPING SLEEVE AND VALVE — W–23

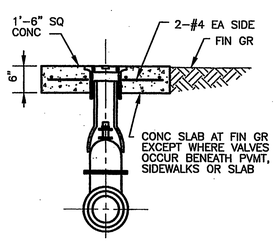
| MARK | DATE | MADE BY | CHECKED | DESCRIPTION |
|---|---|---|---|---|
| 1 | 4/27/10 | NTG | MLC | PER ROANOKE COUNTY COMMENTS |

REVISIONS

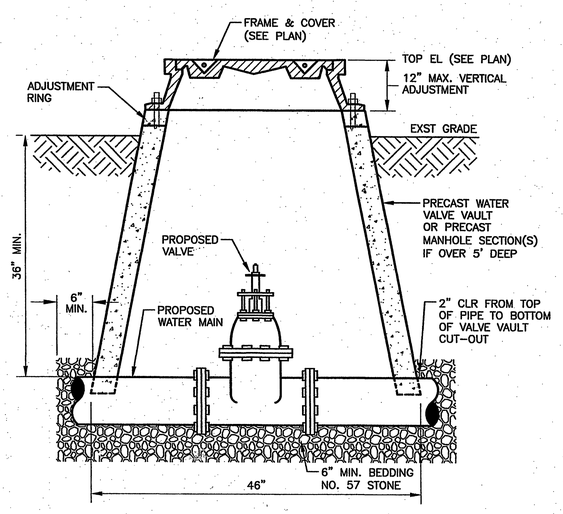
AECOM
1515 FRANKLIN ROAD
ROANOKE, VIRGINIA 24012
PHONE (540) 857-3100

APPROVED

COMMONWEALTH OF VIRGINIA
CONLEY K. TAYLOR
Lic. No. 21318
7/9/10
PROFESSIONAL ENGINEER




## VALVE BOX SETTING
NO SCALE



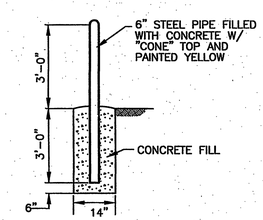

## WATER MAIN VALVE DETAIL
NO SCALE

FACTOR OF SAFETY = 1.5

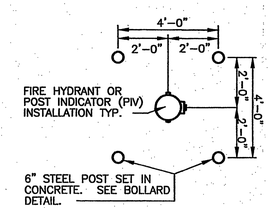
| PIPE SIZE | PIPE MAT'L | 90° BEND | 45° BEND | 22 1/2° BEND | 11 1/4° BEND | VALVE /PLUG | TEE BRANCH |
|---|---|---|---|---|---|---|---|
| 8" | D.I. | 38' | 16' | 8' | 4' | 81' | 44' |

1. ALL JOINTS SHALL BE RESTRAINED ON BOTH SIDES OF THE FITTING FOR THE LENGTH SHOWN UNLESS OTHERWISE INDICATED.
2. REDUCER IS ONE SIZE SMALLER THAN PIPE LISTED. RESTRAINED LENGTH IS UPSTREAM ON THE LARGE SIDE OF THE REDUCER.
3. JOINT LENGTHS CALCULATED ASSUMING USCS SOIL CLASSIFICATION CL WITH GRANULAR BACKFILL.

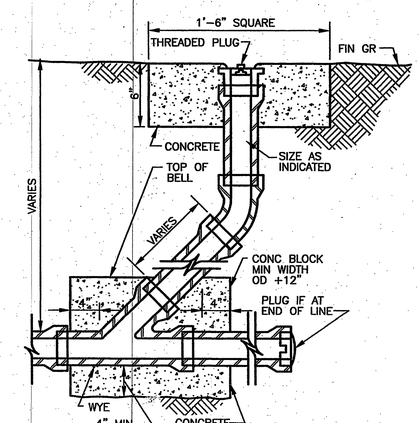
## TABLE–RESTRAINED JOINTS
NO SCALE




## BOLLARD
NO SCALE




## GUARD POST PLAN FOR FHYD & PIV
NO SCALE




## CLEANOUT
NO SCALE

FOXHALL PROPERTIES LLC
ADAMS CONSTRUCTION ASPHALT PLANT

# SITE AND UTILITY DETAILS

| | |
|---|---|
| PROJECT NO: | 60091000 |
| CAD DWG FILE: | LL1CS__502 |
| DESIGNED BY: | NTG |
| DRAWN BY: | NTG |
| DEPT CHECK: | EPB |
| PROJ CHECK: | JSH |
| DATE: | APRIL 27, 2010 |
| SCALE: | |

CS502

SHEET 45 OF 51

PATH/FILENAME: M:\PROJECTS\30000SERIES\30283\CADD\DWG\LL1CS__502.DWG
PLOT DATE: Thursday, July 08, 2010 8:30:08 AM
LAST UPDATE: Monday, April 26, 2010 4:47:51 PM
ANSI D – 26-Apr-10