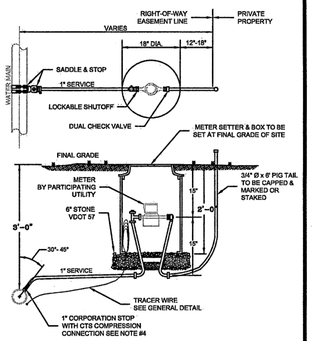
1. SETTER TO BE A Y, McDONALD 20-21SW0DD33, FORD VBH-HZ2-15W-11-3/8 OR APPROVED EQUAL.
2. SADDLES MUST BE USED WITH ALL PLASTIC & DUCTILE IRON PIPE. SERVICE SADDLES SHALL BE USED IN ACCORDANCE WITH WATER DISTRIBUTION PIPING SPECIFICATION. SERVICE SADDLES FOR PLASTIC PIPE SHALL BE: POWERSEAL 3417, OR 3412AS, ROMAC 202S, OR 306, OR FORD METER FS202 OR FS303. FOR DUCTILE IRON PIPE USE THE ABOVE OR POWERSEAL 3413, ROMAC 202 OR FORD METER F202.
3. METER BOX SHALL BE CARSON/MID-STATES PLASTICS, INC. PLASTIC BOX WITH FORD A22-7 (ELECTRONIC READ LID), ADS CORRUGATED HDPE BOX WITH FORD A32-7 (ELECTRONIC READ LID), OR A. Y. MCDONALD MODEL 74A07-87 CAST IRON BASE & COVER OR APPROVED EQUAL. METER BOX SHALL NOT BE PLACED IN AREAS SUBJECT TO VEHICULAR TRAFFIC. IF TRAFFIC BEARING BOX IS REQUIRED, DESIGN ENGINEER SHALL CONSULT WITH PARTICIPATING UTILITY TO DETERMINE SITE SPECIFIC REQUIREMENTS.
4. CORPORATION STOP SHALL BE FORD F1000-4-G OR APPROVED EQUAL.
5. SERVICE SHALL BE "K" TYPE COPPER, OR COPPER TUBE SIZE POLYETHYLENE (PE) 4710, SCDR-9 (200 psi).
6. WHENEVER SIDEWALK EXISTS OR IS PROPOSED, MODIFY METER LOCATION AS DIRECTED.

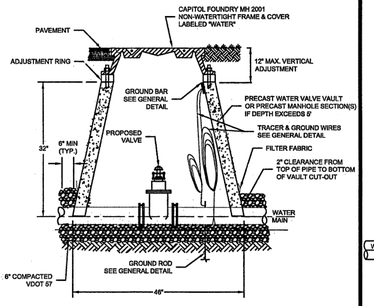



WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

SINGLE RESIDENTIAL
WATER SERVICE – (NEW DEVELOPMENT)
(LINE PRESSURE UNDER 120 PSI)

01/01/14 W-1

1. FILTER FABRIC TO BE INSTALLED BETWEEN BOTTOM OF PIPE AND STONE BEDDING. FABRIC TO EXTEND VERTICALLY A MINIMUM OF 6" FROM BOTTOM OF VAULT (FULL CIRCUMFERENCE).




WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

WATER LINE VALVE
& VAULT

01/01/14 W-9

1. THE 2" PIPING AND "STREET EL" SHALL BE LEAD FREE BRASS OR DUCTILE IRON.
2. PIPE JOINTS SHALL BE RESTRAINED BEFORE GATE VALVE IN ACCORDANCE WITH DISTANCE SHOWN IN THE MINIMUM THRUST RESTRAINT OF PIPE JOINTS DESIGN LENGTHS DETAIL FOR VALVE / PLUG. PIPE JOINTS BETWEEN GATE VALVE AND BLOWOFF SHALL ALSO BE RESTRAINED.

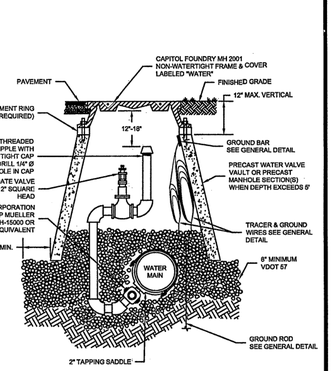



WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

TEMPORARY END OF LINE
BLOW-OFF ASSEMBLY

01/01/14 W-13

1. FIRE HYDRANTS MAY BE USED AT LOW POINTS IN PLACE OF BLOW-OFFS.
2. THE PIPING AND "STREET ELS" BETWEEN CORPORATION STOP AND 2" GATE VALVE SHALL BE LEAD FREE BRASS OR DUCTILE IRON PIPE.
3. THE POINT OF CONNECTION TO THE WATER MAIN SHALL BE LOCATED NEAR THE BOTTOM OF THE MAIN (AS SHOWN) TO FACILITATE REMOVAL OF ACCUMULATED SEDIMENT.
4. SADDLES FOR PLASTIC PIPE SHALL BE PER RESIDENTIAL WATER SERVICE DETAIL.

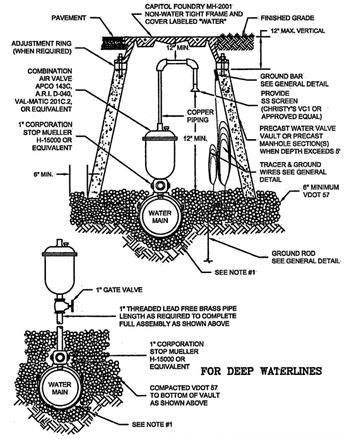



WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

IN-LINE
BLOW-OFF ASSEMBLY

01/01/14 W-12

1. SEE RESIDENTIAL WATER SERVICE DETAIL FOR SADDLE REQUIREMENTS.
2. LARGER COMBINATION VALVE MAY BE REQUIRED DEPENDING ON APPLICATION.

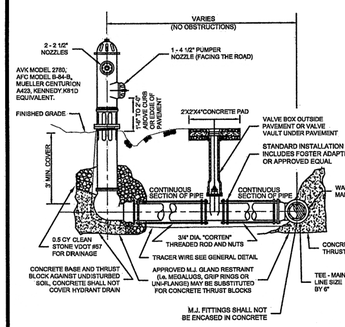



WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

COMBINATION AIR VALVE ASSEMBLY

01/01/14 W-13

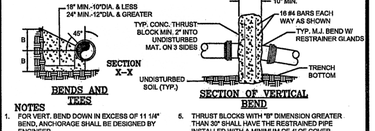
1. PUBLIC HYDRANTS SHALL BE PAINTED SILVER WITH AN OIL-BASED PAINT. PRIVATE HYDRANTS SHALL ALSO BE PAINTED SILVER WITH AN OIL-BASED PAINT UNLESS OTHERWISE SPECIFIED BY THE JURISDICTIONAL FIRE MARSHALL.
2. FIRE HYDRANT SHALL BE INSTALLED 2' MIN. AND 4' MAX. FROM BACK OF CURB OR 6' MIN. AND 12' MAX. FROM EDGE OF PAVEMENT 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 OR OUT OF SERVICE SIGNS SHALL BE PLACED OVER ALL NEWLY INSTALLED FIRE HYDRANTS.
5. HIGH PRESSURE (OVER 120 PSI) REQUIRES THE USE OF ALL 3 RESTRAINTS.
6. IF DURING CONSTRUCTION THE SEASONAL WATER LEVEL IS NOTED TO BE ABOVE THE DRAIN OUTLETS OF THE HYDRANT BARREL, THE PARTICIPATING UTILITY WILL BE NOTIFIED IMMEDIATELY SO THAT THE HYDRANT CAN BE RELOCATED TO A SUITABLE LOCATION, OMITTED, OR THE DRAIN HOLE PLUGGED.
7. TWO WRAPS OF TRACER WIRE SHALL BE WRAPPED AROUND BASE OF HYDRANT.
8. APPROVED MODELS - AVK MODEL 2780, AFC MODEL B-84-5-B, MUELLER CENTURION A423, KENNEDY K81D EQUIVALENT.

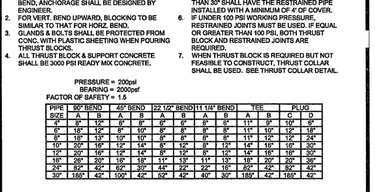



WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

FIRE HYDRANT
ASSEMBLY

01/01/14 W-17




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 HORZ. BEND.
3. GLANDS & BOLTS SHALL BE PROTECTED FROM CONC. WITH PLASTIC SHEETING WHEN POURING THRUST BLOCKS.
4. ALL THRUST BLOCK & SUPPORT CONCRETE SHALL BE 3000 PSI READY MIX CONCRETE.
5. THRUST BLOCKS WITH 90° DIMENSION GREATER THAN 30" SHALL HAVE THE RESTRAINED PIPE INSTALLED WITH A MINIMUM OF 4' OF COVER.
6. IF UNDER 100 PSI WORKING PRESSURE, RESTRAINED JOINTS MUST BE USED. IF EQUAL OR GREATER THAN 100 PSI, BOTH THRUST BLOCK AND RESTRAINED JOINTS ARE REQUIRED.
7. WHEN THRUST BLOCK IS REQUIRED BUT NOT FEASIBLE TO CONSTRUCT, THRUST COLLAR SHALL BE USED. SEE THRUST COLLAR DETAIL.

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

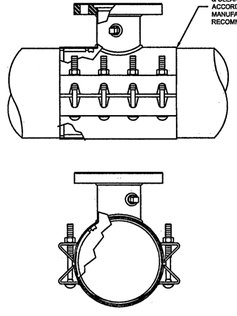
| PIPE SIZE | 90° BEND A | 90° BEND B | 45° BEND A | 45° BEND B | 22 1/2° BEND A | 22 1/2° BEND B | 11 1/4° BEND A | 11 1/4° BEND B | TEE A | TEE B | PLUG D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4" | 8" | 12" | 8" | 8" | 8" | 8" | 8" | 8" | 11" | 9" | 10" |
| 6" | 10" | 12" | 8" | 10" | 8" | 8" | 8" | 8" | 11" | 12" | 18" |
| 8" | 16" | 13" | 10" | 10" | 8" | 8" | 8" | 8" | 11" | 12" | 24" |
| 10" | 20" | 16" | 12" | 14" | 8" | 10" | 8" | 8" | 14" | 15" | 30" |
| 12" | 20" | 16" | 12" | 14" | 8" | 12" | 8" | 12" | 14" | 18" | 30" |
| 16" | 28" | 20" | 16" | 18" | 11" | 13" | 11" | 13" | 18" | 20" | 36" |
| 24" | 82" | 42" | 62" | 39" | 44" | 22" | 22" | 16" | 60" | 42" | 82" |
| 30" | 160" | 42" | 100" | 42" | 82" | 42" | 40" | 39" | 160" | 42" | 160" |

WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

THRUST BLOCK
REQUIREMENTS

01/01/14 W-18

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 150 PSI OVER WORKING PRESSURE AND MUST HAVE A TEST PLUG.
2. TAPPING VALVE SHALL BE AVK RESILIENT SEATED GATE VALVE SERIES 25 MJFL, MUELLER T-2360 RESILIENT WEDGE TAPPING VALVE WITH MJFL, OR AFC SERIES 2500 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.
5. SIZE-ON-SIZE TAPPING NOT ALLOWED UNLESS APPROVED BY PARTICIPATING UTILITY.




WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

TAPPING SLEEVE
AND VALVE

01/01/14 W-21

INSTALLATION OF DUCTILE IRON WATER MAINS
TABLE 3 AWWA C600-05
Maximum Joint Deflection Full Length of Pipe - Push on Type Joint

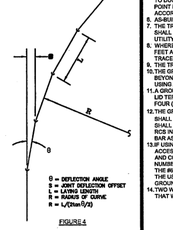
| Nominal Pipe Size (inches) | Deflection Angle - θ (degree) | Maximum Offset - S* (inches) Joint Length 18-Feet | Joint Length 20-Feet | Approximate Radius of Curve - R* Produced by Succession of Joints Joint Length 18-Feet | Joint Length 20-Feet |
|---|---|---|---|---|---|
| 3 | 5° | 19 | 21 | 205 | 230 |
| 4 | 5° | 19 | 21 | 205 | 230 |
| 6 | 5° | 19 | 21 | 205 | 230 |
| 8 | 5° | 19 | 21 | 205 | 230 |
| 10 | 5° | 19 | 21 | 205 | 230 |
| 12 | 5° | 19 | 21 | 205 | 230 |
| 14 | 3° | 11 | 12 | 340 | 380 |
| 16 | 3° | 11 | 12 | 340 | 380 |
| 18 | 3° | 11 | 12 | 340 | 380 |
| 20 | 3° | 11 | 12 | 340 | 380 |
| 24 | 3° | 11 | 12 | 340 | 380 |
| 30 | 3° | 11 | 12 | 340 | 380 |

* SEE FIGURE 4.
For 14-inch and larger push-on joints, maximum deflection angle may be larger than shown above. Consult the manufacturer.

INSTALLATION OF DUCTILE IRON WATER MAINS
TABLE 4 AWWA C600-05
Maximum Joint Deflection Full Length of Pipe - Mechanical Joint Pipe

| Nominal Pipe Size (inches) | Deflection Angle - θ (degree) | Maximum Offset - S* (inches) Joint Length 18-Feet | Joint Length 20-Feet | Approximate Radius of Curve - R* Produced by Succession of Joints Joint Length 18-Feet | Joint Length 20-Feet |
|---|---|---|---|---|---|
| 3 | 8°-18" | 31 | 35 | 125 | 140 |
| 4 | 8°-18" | 31 | 35 | 125 | 140 |
| 6 | 7°-27" | 27 | 30 | 145 | 160 |
| 8 | 5°-21" | 20 | 22 | 195 | 220 |
| 10 | 5°-21" | 20 | 22 | 195 | 220 |
| 12 | 5°-21" | 20 | 22 | 195 | 220 |
| 14 | 3°-35" | 13.5 | 15 | 285 | 320 |
| 16 | 3°-35" | 13.5 | 15 | 285 | 320 |
| 18 | 3°-00" | 11 | 12 | 340 | 380 |
| 20 | 3°-00" | 11 | 12 | 340 | 380 |
| 24 | 2°-23" | 9 | 10 | 450 | 500 |

* SEE FIGURE 4.




θ = DEFLECTION ANGLE
S = JOINT DEFLECTION OFFSET
L = LAYING LENGTH
R = RADIUS OF CURVE
R = L/(2tan θ/2)

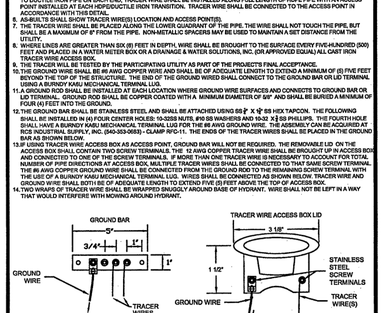
FIGURE 4

WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

DUCTILE IRON PIPE
DEFLECTION ALLOWANCE TABLES

01/01/14 W-22

1. TRACER WIRES SHALL BE INSTALLED USING MANHOLES, TRACER WIRE ACCESS BOXES, VALVE BOXES OR VAULTS, WATER METERS AND FIRE HYDRANTS AS ACCESS POINTS.
2. FOR WATER AND SEWER INSTALLED BY OPEN TRENCHING, HORIZONTAL DIRECTIONAL DRILLING, OR PIPE BURSTING, TRACER WIRE SHALL BE NEPTCO TRACE-SAFE WATER BLOCKING TRACER WIRE (AN APPROVED EQUAL), SEE A-1-18 AWG SOLID COPPER CONDUCTOR WITH HDPE/DUCTILE IRON INSULATION, RATED FOR DIRECT BURIAL AND HIGH TENSILE STRENGTH WITH POLYOLEFIN JACKET OVER ENCAPSULATION (AN ABRASION RESISTANT LAYER) OR BLUE HDPE JACKET. TRACER WIRE SHALL HAVE A MINIMUM TENSILE STRENGTH OF 1,906 LBS. AND SHALL NOT CONDUCT AN ELECTRICAL CURRENT BY LIGHTNING. WIRE SHALL ONLY BE MADE WITH GEL-FILLED CONNECTORS DESIGNED FOR WIRE WITH A WOVEN POLYESTER FIBER CORE SUCH AS NEPTCO TRACE-SAFE WATER BLOCKING CONNECTORS OR APPROVED EQUAL. SPLICES SHALL BE MADE IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS.
3. SPLICES AT THE ENDS OF TRACER WIRE, INTERMITTENT OF ACCESS POINTS, SHALL BE MADE USING NEPTCO TS-18-NL WATER BLOCKING BUTT SPLICE CONNECTORS OR APPROVED EQUAL.
4. AT ALL ACCESS POINTS, TRACER WIRE SHALL BE SPLICED USING NEPTCO TS-12-18-NL WATER BLOCKING BUTT SPLICE CONNECTORS OR APPROVED EQUAL. 12 AWG COPPER TRACER WIRE WITH 30 MIL HDPE JACKET SHALL BE CONNECTED IN THE 12 AWG OPENING OF THE BUTT SPLICE CONNECTOR, EXTENDED UP INTO THE ACCESS POINT STRUCTURE, AND ATTACHED TO THE GROUND BAR PER NOTE #12 OR LID TERMINALS PER NOTE #13. AT ALL ACCESS POINTS, EACH SECTION OF PIPE SHALL HAVE AN INDEPENDENT TRACER WIRE FEED EXTENDED TO GROUND BAR OR LID TERMINALS TO ALLOW FOR DIRECTIONALLY BOOSTING CURRENT DURING LOCATING. THE 12 AWG COPPER TRACER WIRE SHALL BE OF ADEQUATE LENGTH TO EXTEND FIVE (5) FEET ABOVE THE TOP OF STRUCTURE.
5. WHERE HDPE PIPE IS INSTALLED WITHOUT STEEL CASING PIPE, SUCH AS A DIRECTIONALLY DRILLED CROSSINGS, AND CONNECTED TO DUCTILE IRON PIPE ON EACH END, TRACER WIRE SHALL BE INSTALLED ALONG FULL LENGTH OF HDPE PIPE WITH AN ACCESS POINT INSTALLED AT EACH HDPE/DUCTILE IRON TRANSITION. TRACER WIRE SHALL BE CONNECTED TO THE ACCESS POINT IN ACCORDANCE WITH THIS DETAIL.
6. AS-BUILTS SHALL SHOW TRACER WIRE(S) LOCATION AND ACCESS POINT(S).
7. THE TRACER WIRE SHALL BE PLACED ALONG THE LOWER QUADRANT OF THE PIPE. THE WIRE SHALL NOT TOUCH THE PIPE, BUT SHALL BE A MAXIMUM OF 6" FROM THE PIPE. NON-METALLIC SPACERS MAY BE USED TO MAINTAIN A SET DISTANCE FROM THE UTILITY.
8. WHERE LINES ARE GREATER THAN SIX (6) FEET IN DEPTH, WIRE SHALL BE BROUGHT TO THE SURFACE EVERY FIVE-HUNDRED (500) FEET AND PLACED IN A WATER METER BOX OR A DRAINAGE & WATER SOLUTIONS, INC. (OR APPROVED EQUAL) ALL CAST IRON TRACER WIRE ACCESS BOX.
9. THE TRACER WILL BE TESTED BY THE PARTICIPATING UTILITY AS PART OF THE PROJECT'S FINAL ACCEPTANCE.
10. THE GROUND WIRE SHALL BE #6 AWG COPPER WIRE AND SHALL BE OF ADEQUATE LENGTH TO EXTEND A MINIMUM OF (5) FIVE FEET BEYOND THE TOP OF THE STRUCTURE. THE END OF THE GROUND WIRED SHALL CONNECT TO THE GROUND BAR OR LID TERMINAL USING A BURNDY KAIU MECHANICAL TERMINAL LUG.
11. A GROUND ROD SHALL BE INSTALLED AT EACH LOCATION WHERE GROUND WIRE SURFACES AND CONNECTS TO GROUND BAR OR LID TERMINAL. GROUND ROD SHALL BE COPPER COATED WITH A MINIMUM DIAMETER OF 5/8" AND SHALL BE BURIED A MINIMUM OF FOUR (4) FEET INTO THE GROUND.
12. THE GROUND BAR SHALL BE STAINLESS STEEL AND SHALL BE ATTACHED USING 6S-32 X 1-1/2" SS HEX TAPCON. THE FOLLOWING SHALL BE INSTALLED IN (4) FOUR CENTER HOLES: 10-32SS NUTS, #10 SS WASHERS AND 10-32 X 3/4" SS PHILLIPS. THE FOURTH HOLE SHALL HAVE A BURNDY KAIU MECHANICAL TERMINAL LUG FOR THE #6 AWG GROUND WIRE. THE ASSEMBLY CAN BE ACQUIRED AT RCS INDUSTRIAL SUPPLY, INC. (540-353-0083) - CLAMP R/C-11. THE ENDS OF THE TRACER WIRES SHALL BE PLACED IN THE GROUND BAR AS SHOWN BELOW.
13. IF USING TRACER WIRE ACCESS BOX AS ACCESS POINT, GROUND BAR WILL NOT BE REQUIRED. THE REMOVABLE LID ON THE ACCESS BOX SHALL CONTAIN TWO SCREW TERMINALS. THE 12 AWG COPPER TRACER WIRE SHALL BE BROUGHT TO THE ACCESS BOX AND CONNECTED TO THE ACCESS TERMINALS. IF MORE THAN ONE TRACER WIRE SHALL BE CONNECTED AT THE ACCESS BOX UNDER THESE CONDITIONS, MULTIPLE TRACER WIRES SHALL BE CONNECTED TO THAT SAME SCREW TERMINAL. THE #6 AWG COPPER GROUND WIRE SHALL BE CONNECTED FROM THE GROUND ROD TO THE REMAINING SCREW TERMINAL WITH THE USE OF A BURNDY KAIU MECHANICAL TERMINAL LUG. WIRES SHALL BE CONNECTED AS SHOWN BELOW. TRACER WIRE AND GROUND WIRE SHALL BOTH BE OF ADEQUATE LENGTH TO EXTEND FIVE (5) FEET ABOVE THE TOP OF ACCESS BOX.
14. TWO WRAPS OF TRACER WIRE SHALL BE WRAPPED SNUGGLY AROUND BASE OF HYDRANT. WIRE SHALL NOT BE LEFT IN A WAY THAT WOULD INTERFERE WITH MOWING AROUND HYDRANT.

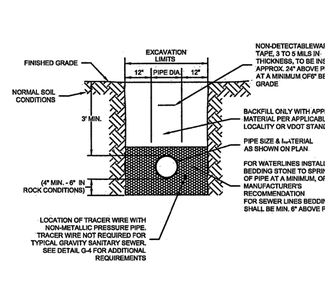



WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

TRACER WIRE
FOR NON-METALLIC
PRESSURE PIPE

01/01/14 G-4

1. BEDDING, HAUNCHING AND INITIAL BACKFILL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THIS DETAIL AND MANUFACTURER'S RECOMMENDATION.
2. ALL PVC PIPE SHALL BE BEDDED IN COMPACTED VDOT #57 OR #68 STONE, OR CRUSHER RUN.
3. IN AREAS SUBJECTED TO VEHICULAR TRAFFIC, BEDDING STONE AND FILL SHALL BE PLACED IN 6" LIFTS FROM BOTTOM OF TRENCH TO 1' ABOVE THE PIPE AND THE REMAINING SHALL BE PLACED IN 12" LIFTS AND SHALL BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D 698.
4. BEDDING REQUIREMENTS FOR DUCTILE IRON WATER LINE ARE DEPENDENT ON MANUFACTURER'S BEDDING CRITERIA.
5. ALL EXCAVATIONS SHALL COMPLY WITH OSHA TECHNICAL MANUAL, CHAPTER 2, TITLED "EXCAVATIONS: HAZARD RECOGNITION IN TRENCHING AND SHORING."
6. THE TRACER WIRE SHALL BE PLACED ALONG THE LOWER QUADRANT OF THE PIPE. THE WIRE SHALL NOT TOUCH THE PIPE, BUT SHALL BE A MAXIMUM OF 6" FROM THE PIPE. NON-METALLIC SPACERS MAY BE USED TO MAINTAIN A SET DISTANCE FROM THE UTILITY.

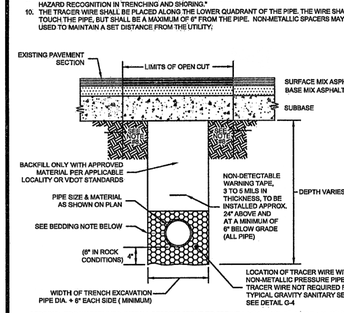



WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

BEDDING AND BACKFILL
OUTSIDE OF PAVED AREAS

01/01/14 G-11

1. BEDDING, HAUNCHING AND INITIAL BACKFILL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THIS DETAIL AND MANUFACTURER'S RECOMMENDATION.
2. ALL PVC PIPE SHALL BE BEDDED IN COMPACTED VDOT #57 OR #68 STONE.
3. IN VDOT ROW, THE CONTRACTOR SHALL REPLACE THE PAVEMENT AS REQUIRED AND SPECIFIED BY VDOT. IN ROANOKE CITY, CONTRACTOR SHALL REPLACE PAVEMENT AS REQUIRED BY CITY OF ROANOKE RIGHT OF WAY EXCAVATION AND RESTORATION STANDARDS, LATEST EDITION.
4. ALL CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE AS SPECIFIED BY VDOT OR APPLICABLE LOCALITY.
5. PRIOR TO CONSTRUCTION, CONTRACTOR IS RESPONSIBLE FOR SECURING ALL REQUIRED PERMITS FROM VDOT AND/OR APPLICABLE LOCALITY.
6. IN AREAS SUBJECTED TO VEHICULAR TRAFFIC, BEDDING STONE AND FILL SHALL BE PLACED IN 6" LIFTS AND SHALL BE COMPACTED TO AT LEAST 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D 698.
7. ALL SEWER LINE PIPE SHALL BE BEDDED IN COMPACTED GRANULAR MATERIAL. BEDDING REQUIREMENTS FOR DUCTILE SEWER LINE ARE DEPENDENT ON MANUFACTURER'S BEDDING CRITERIA.
8. BEDDING FOR PVC SEWER SHALL BE IN ACCORDANCE WITH VDOT OR APPLICABLE LOCALITY'S SPECIFICATIONS
9. EXCAVATIONS SHALL COMPLY WITH OSHA TECHNICAL MANUAL, CHAPTER 2, TITLED "EXCAVATIONS: HAZARD RECOGNITION IN TRENCHING AND SHORING."
10. THE TRACER WIRE SHALL BE PLACED ALONG THE LOWER QUADRANT OF THE PIPE. THE WIRE SHALL NOT TOUCH THE PIPE, BUT SHALL BE A MAXIMUM OF 6" FROM THE PIPE. NON-METALLIC SPACERS MAY BE USED TO MAINTAIN A SET DISTANCE FROM THE UTILITY.




BEDDING: FOR WATERLINES, INSTALL BEDDING STONE TO SPRING LINE OF PIPE AT A MINIMUM, OR PER MANUFACTURER'S RECOMMENDATION. FOR SEWER LINES, BEDDING SHALL BE MINIMUM 6" ABOVE PIPE.

WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

BEDDING AND BACKFILL
UNDER PAVEMENT AND IN RIGHT-OF-WAY

01/01/14 G-12

## WATER NOTES

1. ALL WATER FACILITIES SHALL BE INSTALLED ACCORDING TO THE WESTERN VIRGINIA WATER AUTHORITY (WVWA) DESIGN AND CONSTRUCTION STANDARDS (LATEST REVISION).
2. ALL CONNECTIONS TO THE EXISTING WATER MAINS SHALL BE COORDINATED WITH THE WVWA.
3. A MINIMUM COVER OF 3 FEET IS REQUIRED OVER PROPOSED LINES.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND UNCOV