

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
SINGLE RESIDENTIAL WATER SERVICE (REPLACEMENT OF EXISTING SERVICE)
03/09/17

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
DOUBLE RESIDENTIAL WATER SERVICE (REPLACEMENT OF EXISTING SERVICE)
03/09/17

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
WATER LINE VALVE & VAULT
03/09/17

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
VAULT FRAME AND COVER
03/09/17

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
FIRE HYDRANT ASSEMBLY
03/09/17

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
THRUST BLOCK REQUIREMENTS
03/09/17

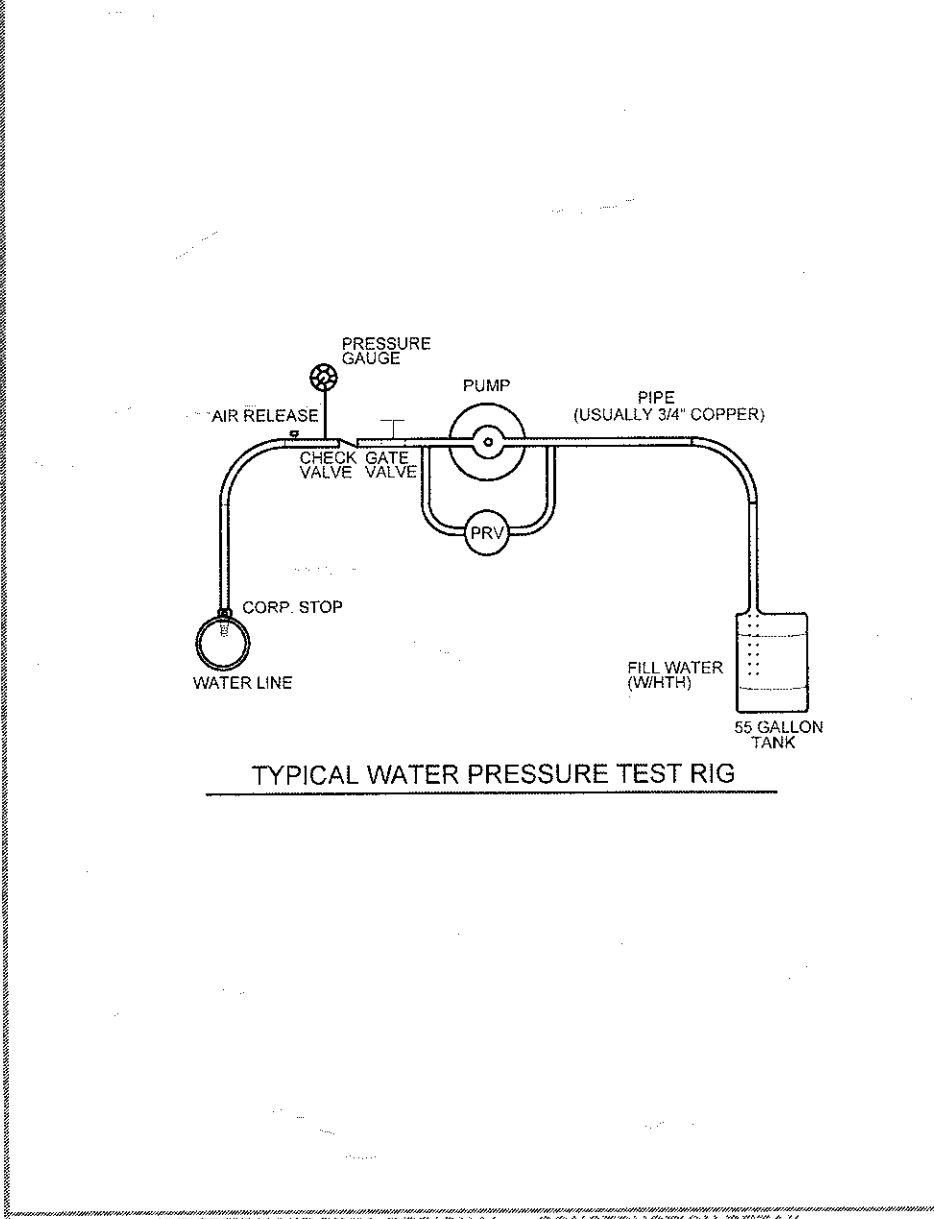


TABLE 3: AWWA C900-03
Maximum Joint Deflection Full Length of Pipe - Push on Type Joint

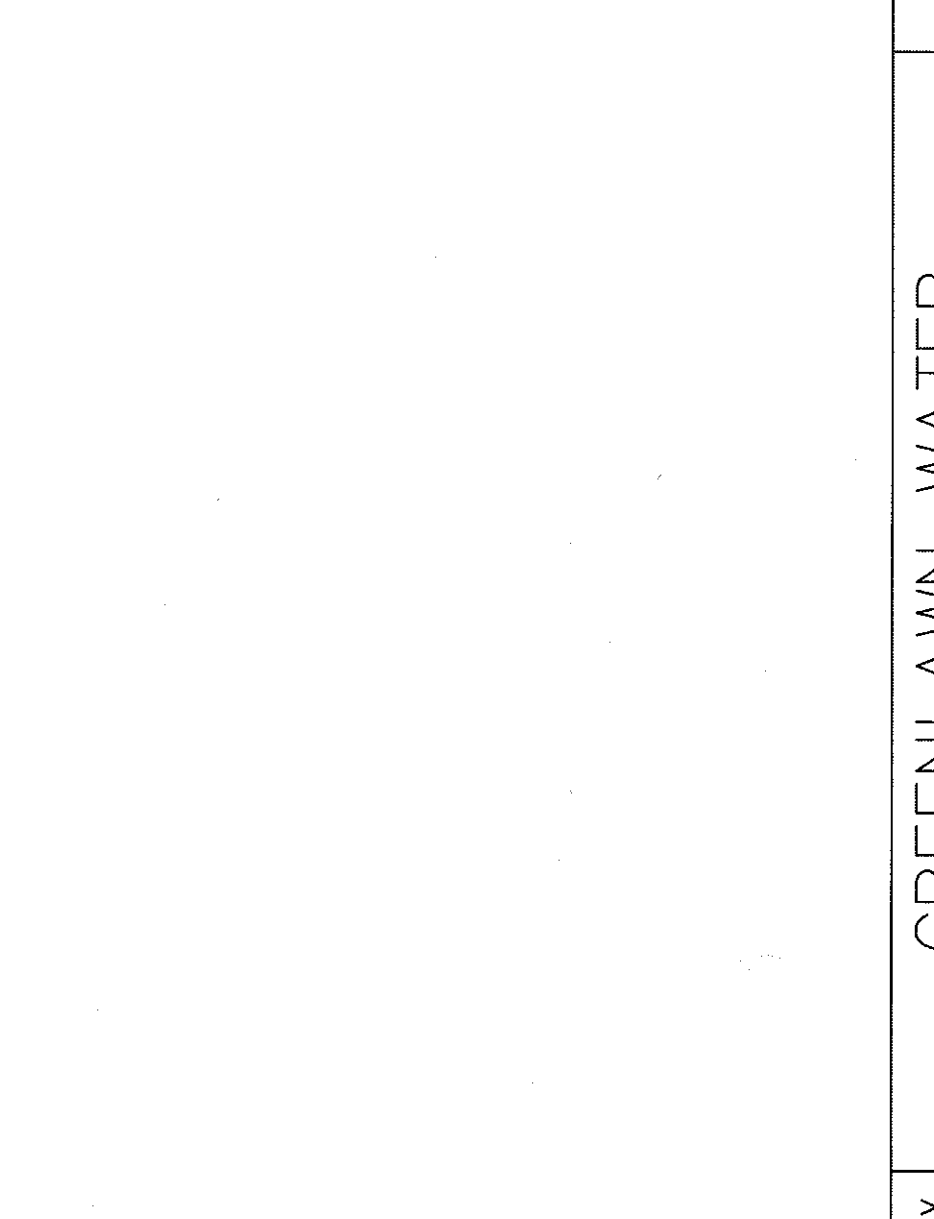
| Nominal Pipe Size (inches) | Deflection Angle - θ (degrees) | Maximum Offset - θ" (inches) | | | |
|----------------------------|--------------------------------|------------------------------|---------------------|---------------------|---------------------|
| | | Joint Length 18'-0" | Joint Length 20'-0" | Joint Length 22'-0" | Joint Length 24'-0" |
| 4" | 5" | 19 | 21 | 206 | 230 |
| 6" | 5" | 19 | 21 | 205 | 230 |
| 8" | 5" | 19 | 21 | 206 | 230 |
| 10" | 5" | 19 | 21 | 206 | 230 |
| 12" | 5" | 19 | 21 | 206 | 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 |

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

TABLE 4: AWWA C900-03
Maximum Joint Deflection Full Length of Pipe - Mechanical Joint

| Nominal Pipe Size (inches) | Deflection Angle - θ (degrees) | Maximum Offset - θ" (inches) | | | |
|----------------------------|--------------------------------|------------------------------|---------------------|---------------------|---------------------|
| | | Joint Length 18'-0" | Joint Length 20'-0" | Joint Length 22'-0" | Joint Length 24'-0" |
| 4" | 5" | 19 | 21 | 206 | 230 |
| 6" | 5" | 19 | 21 | 205 | 230 |
| 8" | 5" | 19 | 21 | 206 | 230 |
| 10" | 5" | 19 | 21 | 206 | 230 |
| 12" | 5" | 19 | 21 | 206 | 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 |

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

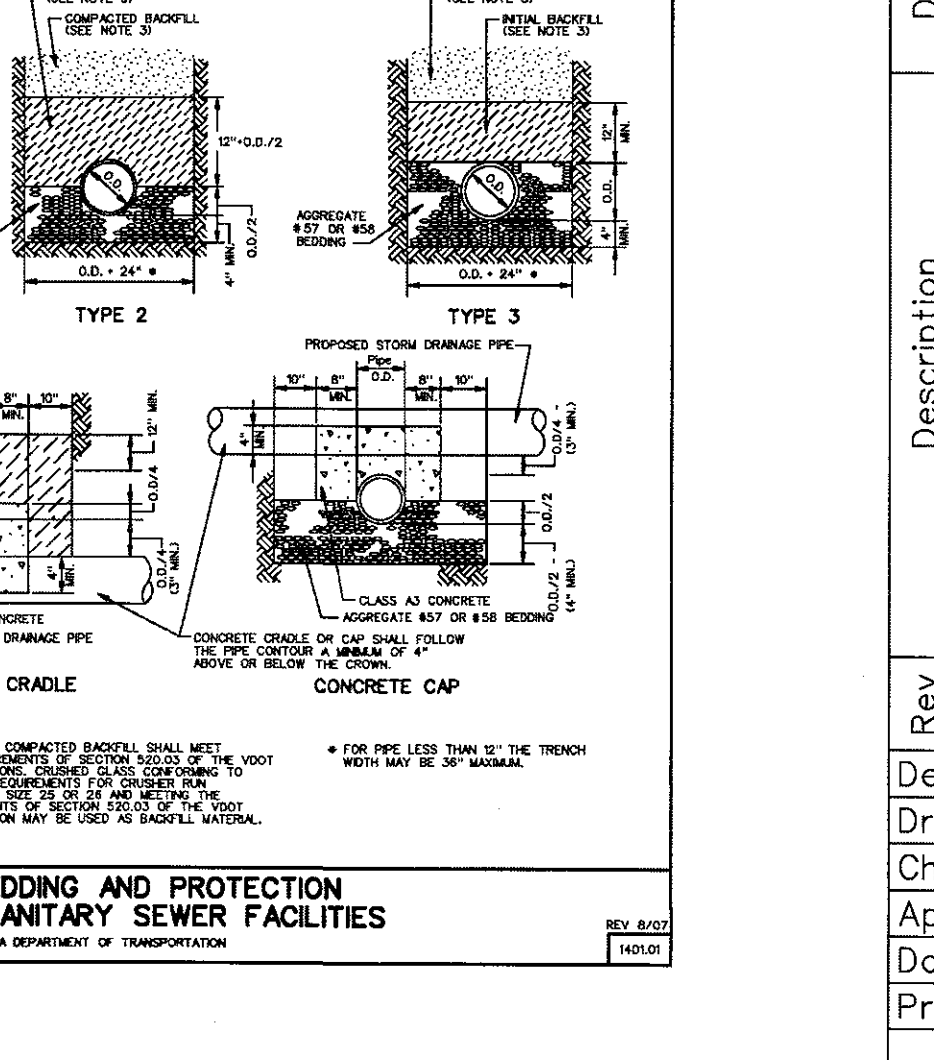
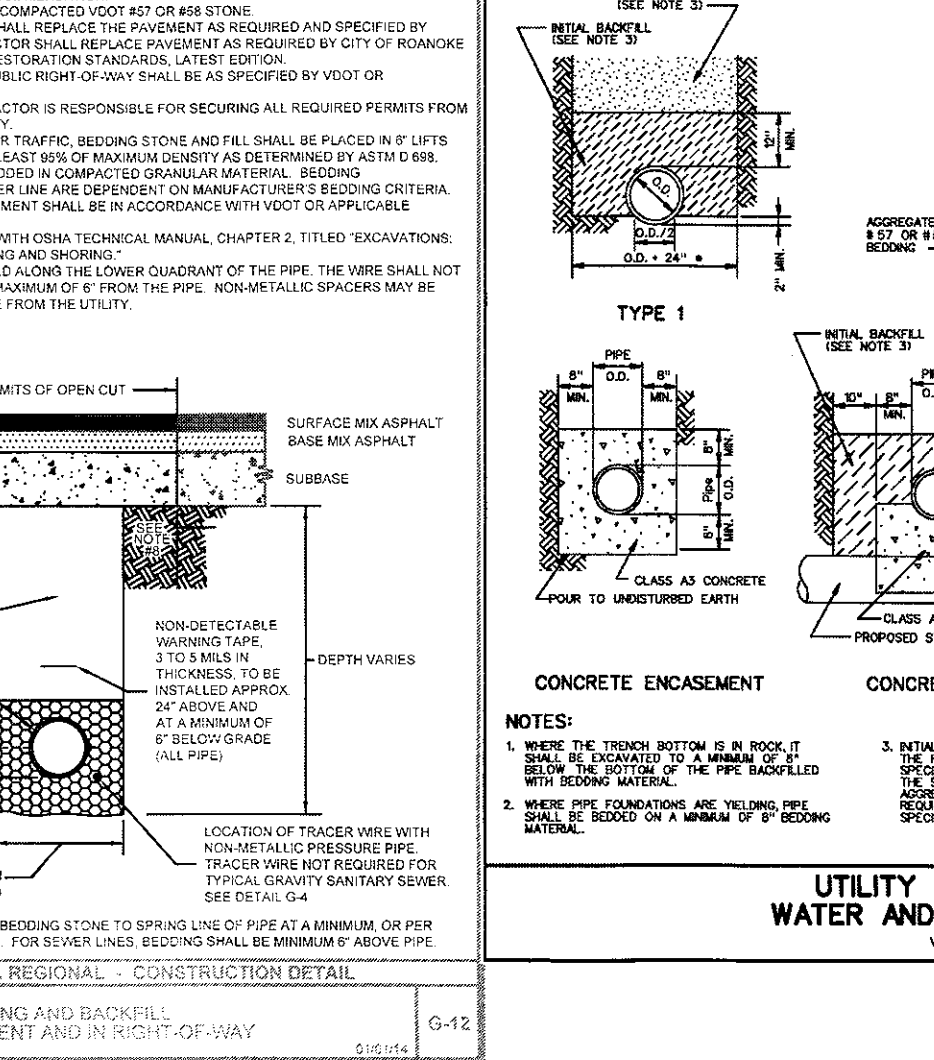
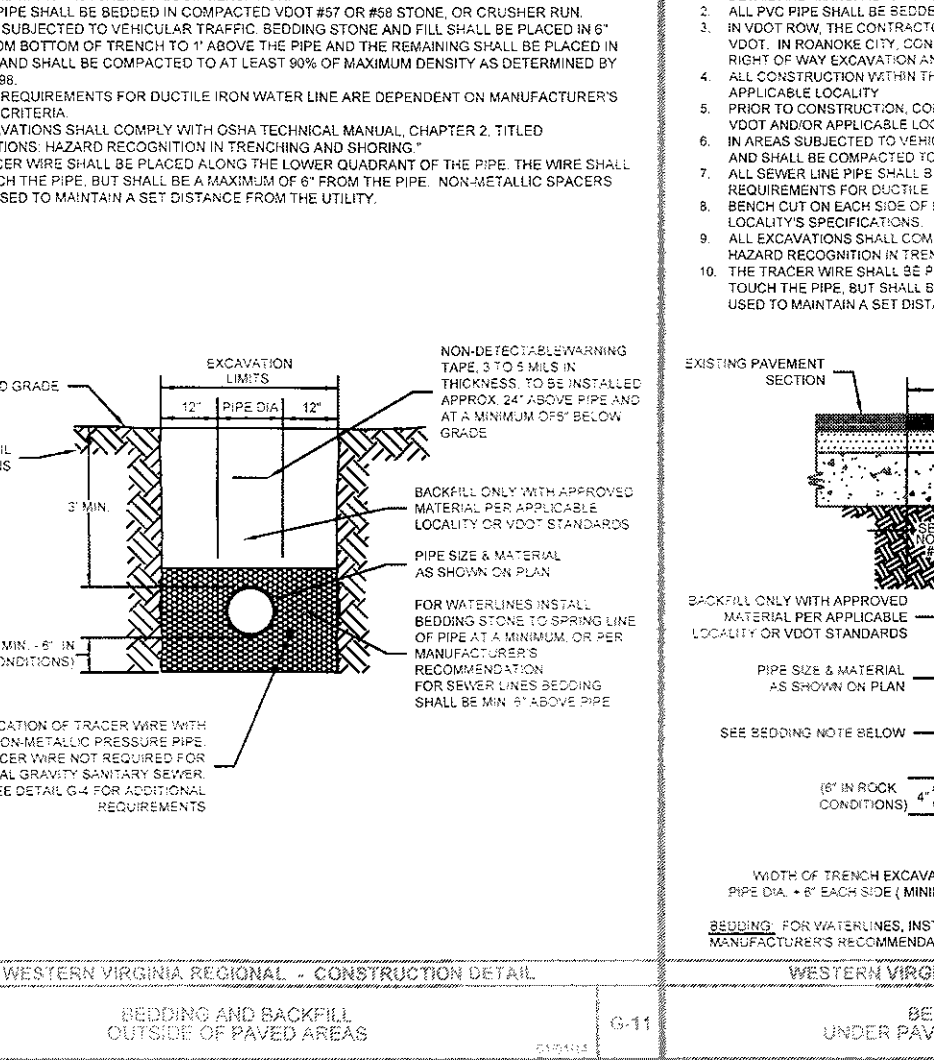
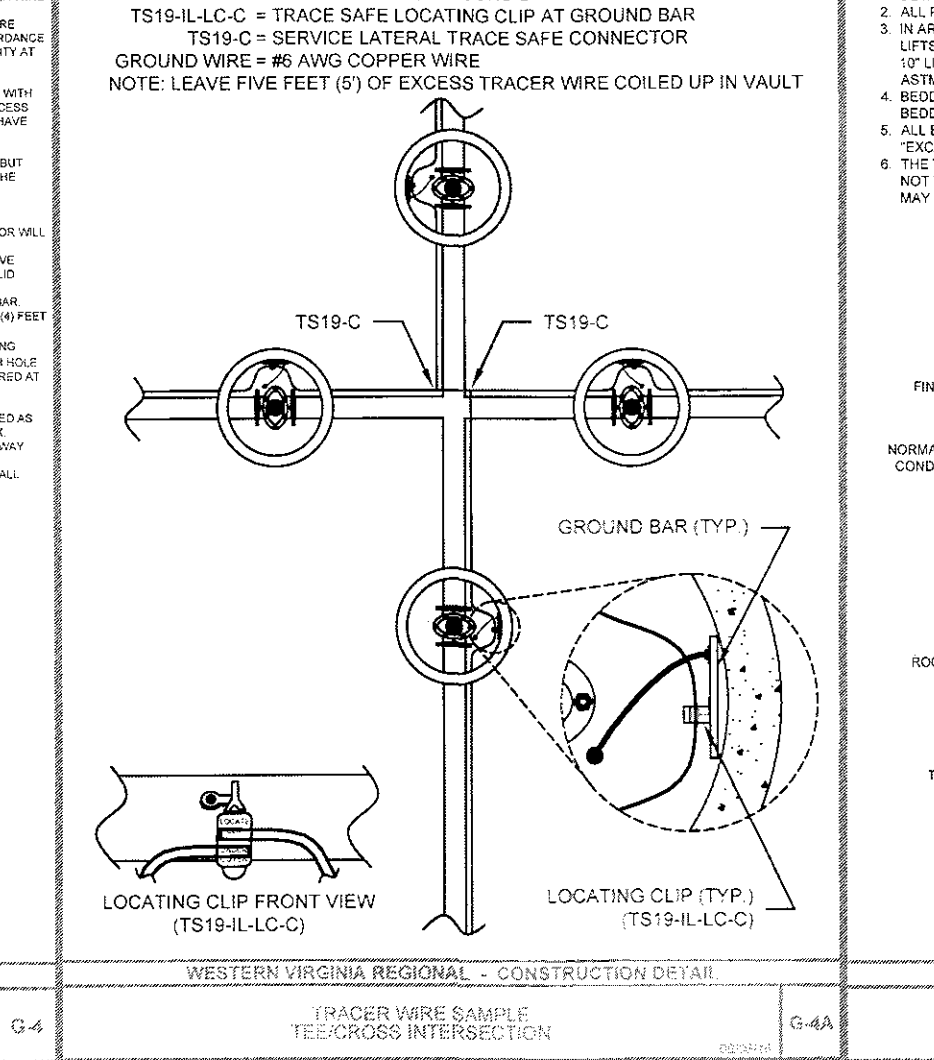
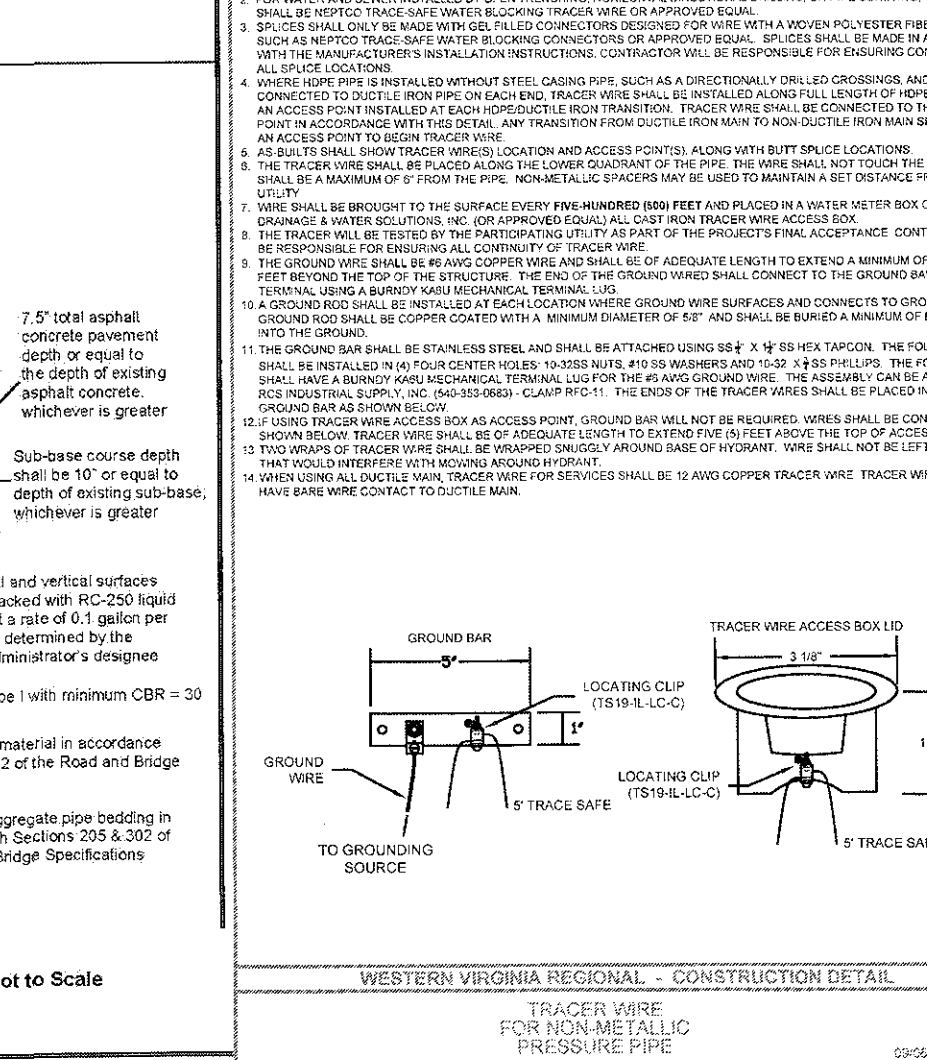
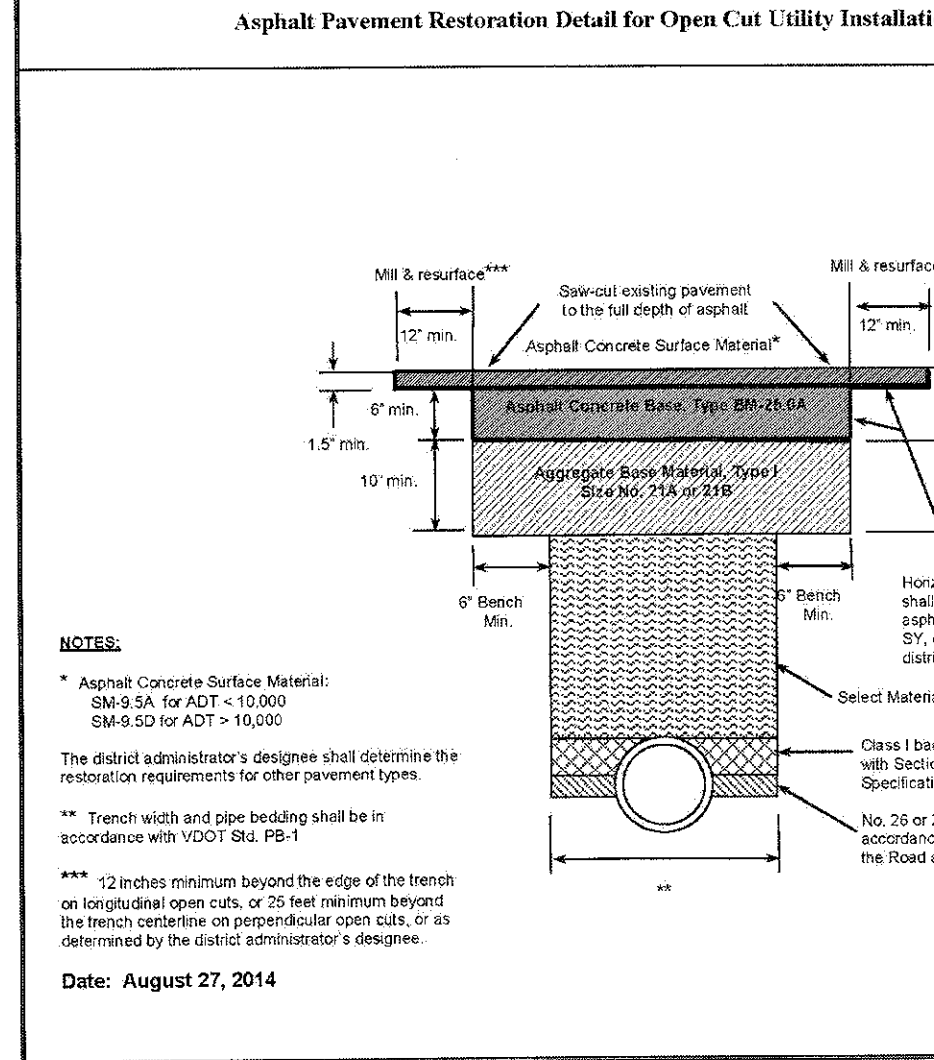


WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
TYPICAL WATER PRESSURE TEST RIG
03/09/17

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
MINIMUM THRUST RESTRAINT OF PIPE JOINTS
03/09/17

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
DUCTILE IRON PIPE DEFLECTION ALLOWANCE TABLES
03/09/17

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
THRUST BLOCK REQUIREMENTS
03/09/17



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
ASPHALT PAVEMENT RESTORATION DETAIL FOR OPEN CUT UTILITY INSTALLATIONS
03/09/17

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
TRACER WIRE FOR NON-METALLIC PRESSURE PIPE
03/09/17

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
BEDDING AND BACKFILL OUTSIDE OF PAVED AREAS
03/09/17

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
BEDDING AND BACKFILL UNDER PAVEMENT AND IN RIGHT-OF-WAY
03/09/17

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
BEDDING AND BACKFILL UNDER PAVEMENT AND IN RIGHT-OF-WAY
03/09/17

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
BEDDING AND BACKFILL UNDER PAVEMENT AND IN RIGHT-OF-WAY
03/09/17

WESTERN VIRGINIA WATER AUTHORITY
ENGINEERING SERVICES
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ROANOKE, VA 24011
540-853-5700

COMMONWEALTH OF VIRGINIA
W. NICHOLAS ROBERTSON
Lic. No. 0402052204
8/31/18
PROFESSIONAL ENGINEER

GREENLAWN WATER (WCIP-313)
WATER DETAILS

| Rev | Description | Date | By |
|-----|---------------|------|----|
| 1 | DESIGNED: AAS | | |
| 2 | DRAWN: AAS | | |
| 3 | CHECKED: WNR | | |
| 4 | DATE: 8/31/18 | | |
| 5 | PROJECT: | | |

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