

Fauquier County Water and Sanitation Authority

7172 Kennedy Road

Warrenton, Virginia 20187

Appendix B - Construction Notes



September 2016

GENERAL NOTES: SANITARY SEWER CONSTRUCTION

1. All sanitary sewer construction shall conform to the requirements and specifications of the Fauquier County Water and Sanitation Authority's (FCWSA) Utility Standards Manual (USM), latest revision.
2. All sewer construction materials shall be approved by FCWSA prior to installation and shall be in accordance with Appendix D of the USM.
3. The contractor performing sanitary sewer construction must attend a mandatory pre-construction meeting with FCWSA prior to the start of construction. The meeting must be scheduled beforehand with the FCWSA Inspector.
4. Sewer line inspections and testing must be scheduled a minimum of 48 hours (two business days) in advance with the FCWSA Inspector.
5. Non-shrink grout must be used for any sanitary sewer use, excluding inverts and benches.
6. No dry mix concrete shall be used in conjunction with the installation of the sanitary sewer.
7. Rubber plugs shall be installed in manhole lift holes. Only on outside of the manhole shall non-shrink grout or mastic be used.
8. Invert channels in terminal manholes shall be built at the same grade as the mainline leaving the manhole but not less than one-inch per foot.
9. Manholes located within pavement areas must have the frames and covers set in non-shrink grout. Mastic shall be used on the outside of the joint in order to provide a water-tight seal. Manholes located within easement areas must have frames and covers securely bolted to the manhole with a mastic seal between the frame and the cone section and/or adjustment rings. Manholes located within the limits of the 100-year flood plain shall have cam-locking type frames and covers, and shall have flood proof vents installed at 1,000 ft. intervals.
10. Concrete adjustment rings shall be used when adjustment to the precast manhole top elevation exceeds two inches. Non-shrink grout with metal or masonry shims may be allowed for final slope adjustment. Total adjustment must not exceed 12".
11. Manhole invert channels may be precast or cast-in-place concrete. Brick or mortar shall not be used in this application. The invert channel shall be smooth and circular in shape, conforming to the adjacent sewer pipe section. Changes in the direction of flow shall be made with a smooth curve maintaining the same diameter as the adjacent pipe. Changes in size and grade of the channels shall be made

gradually and evenly. The benches of the manhole shall be built with one to two-inch per foot fall from manhole wall to the middle point of the pipe. The invert channel depth shall be one-half of the diameter of the pipe. Unless otherwise approved by the Authority, a minimum drop of 0.2' shall be provided across the manhole.

12. All manholes shall have an exterior protective coating of 16 mils dry film thickness of Bitumastic 300M as manufactured by Carboline.
13. All manholes require internal or external chimney seals in accordance with FCWSA detail SC-03 and SC-04.
14. Backfill compaction:
 - A. Within street rights-of-way, backfill compaction shall be a minimum of 95% of maximum density in accordance with AASHTO Method T-180.
 - B. Grading within easement areas shall comply with the lines and grades indicated on the plans. In general, all trenches and subgrade of easements shall be compacted to a density equal to the surrounding ground.
15. Sanitary sewer laterals located outside of the public right-of-way or easement, are to be maintained by the landowner whom they serve.
16. All gravity sewer lines shall be C-900 PVC except as otherwise required by the USM.
17. All pressure sewer shall be minimum Class 52 DIP, with interior coating/lining as specified in the USM.
18. Gravity sanitary sewer service laterals:
 - A. All gravity sanitary sewer laterals shall be PVC Schedule 40, unless otherwise indicated, and it shall meet Fauquier County, Health Department and the Virginia Uniform Statewide Building Code (USBC).
 - B. Lateral connections to the main shall be a minimum of two feet from any pipe joint (center to center). This spacing shall also apply to the distance between two laterals along the main.
 - C. All new construction of the sanitary sewer main will require the installation of a prefabricated solid wye fitting for service lateral connections. The wye fitting shall be made of the same pipe material as the sanitary sewer main.
 - D. Service connections to an existing sewer main shall use a service saddle suitable for a gravity collection system as specified in the USM.

GENERAL NOTES: WATERLINE CONSTRUCTION

1. All waterline construction shall conform to the requirements and specifications in the Fauquier County Water and Sanitation Authority's (FCWSA) Utility Standards Manual (USM), latest revision.
2. All water construction materials shall be approved by FCWSA prior to installation and shall be in accordance with Appendix D of the USM.
3. The contractor performing water line construction must attend a mandatory pre-construction meeting with FCWSA prior to the start of construction. The meeting must be scheduled beforehand with the FCWSA Inspector.
4. Waterline inspections and testing must be scheduled a minimum of 48 hours (two business days) in advance with the FCWSA Inspector.
5. All water lines shall be designed for 42 inches of cover. Water services shall be designed for 36 inches of cover.
6. Water service lines crossing underneath a public road and/or sidewalk must be installed in a HDPE or Schedule 40 PVC casing pipe in accordance with FCWSA Detail WS-01.
7. Water service lines are to be constructed of copper pipe or SDR-9, 200 PSI, cross-linked polyethylene pipe as specified in the USM.
8. The water meter box and accessories therein necessary for meter installation and as shown in the Details (Appendix B) of the USM shall be furnished and installed by the developer or owner. Meters 5/8" by 3/4" will be installed by the Authority upon construction approval and payment of appropriate fees.
9. Private water service connections from the outlet of the meter to the building are regulated by the Virginia Uniform Statewide Building Code (USBC) and will be maintained by the property owner.
10. Compaction requirements for waterline construction are to be the same as those required for sewer construction.
11. Valve boxes shall be set and adjusted such that covers shall be exposed 1" to 2" above finished grade with a concrete collar extended a minimum of 6" around the valve box. Where valve boxes are permitted to be placed in the pavement, the covers shall be flush with the pavement surface.
12. All new pipelines shall be disinfected by chlorination in accordance with the latest revision of AWWA Specification C651-92 and Section 4.13 of the USM.