

The following shall serve as the minimum requirements for contractors performing work in relation to the Authority's potable water and sanitary sewer system(s), appurtenances and service connections.

General:

1. All proposed water and sanitary sewer construction shall be installed in accordance with the Halifax County Service Authority (HCSA and/or Authority) general specifications, latest edition.
2. Contractor shall coordinate all water and sanitary sewer construction with the Authority and ensure that all HCSA standards and requirements are met.
3. Contractor shall ensure that all permits are obtained prior to any construction. Contractor shall be responsible for all utility fees.
4. All work shall be subject to inspection by Authority. The contractor shall notify the Authority 48 hours prior to the start of work. Coordinate with HCSA for installation specifications.
5. The contractor shall notify **Miss Utility at 1-800-552-7001 or 811** and shall verify location and elevation of all underground utilities in areas of construction prior to starting work.
6. The contractor shall coordinate with Halifax County Service Authority to determine the exact point of service connection at the existing utility.
7. The location of existing utilities across or along the line of proposed work are not necessarily shown on the plans and where shown are only approximately correct. The contractor shall on his own initiative and at no extra cost, locate all underground lines and structures as necessary. No claims of damage or compensation shall occur to the contractor from the presence of such utilities or other obstructions or from an delay due to removal or rearrangement of same. The contractor shall be responsible for any damage to underground structures. All damage incurred to existing utilities during construction shall be repaired at the contractor's expense.
8. The contractor shall notify all utility companies prior to starting work. The contractor shall be responsible for the location and protection of all utilities encountered during this work and cooperated fully with utility companies involved.
9. Contractor shall install metallic warning tape 12" above all water and sanitary sewer lines in accordance with HCSA specifications. Contractor shall also install a 10 gauge (AWG), single-strand, insulated copper wire with cross-linked polyethylene (XLPE) insulation, specifically manufactured for direct burial applications, along all non-metallic water and sanitary sewer lines (including laterals).
10. All private utility construction, i.e. piping, valves, hydrants, meters and boxes, clean outs, sanitary sewer manholes, bedding, etc. shall comply with the current Virginia Uniform Statewide Building Code (including amendments). Public utility construction shall comply with HCSA's specifications and policy requirements.
11. All utility trenches in paved areas shall be backfilled, full height, with VDOT 21A or B stone or screenings.

12. All water service and private sewer lateral taps shall be installed with a 10 gauge (AWG) , single-strand, insulated copper wire with cross-linked polyethylene (XLPE) insulation, specifically manufactured for direct burial applications. Tracer wire shall be attached to the top of the pipe at every fitting and valve and at intervals not exceeding 1.0 m (40 in) by the use of non-adhesive, waterproof silicone tape or approved equivalent. Tape shall also be used to attach the tracer wire to valve boxes and valve chambers. The tracer wire shall connect to an existing (approved) tracer wire system with a splice using connectors such as DryConn®Direct Bury Lug-Aqua connectors by King Innovation, or approved equivalent or shall terminate no less than six (6) inches from the main utilizing a 5/8" diameter (24" in length) ground rod and ground clamp.
13. The tracer wire shall originate at the connection to the ground rod or existing tracer wire system near the main and run continuously without break or inter-connection and terminate with a 5/8" by 24" ground rod and ground clamp at the property line or edge of the right-of-way. The point of termination and point of connection to the building sewer (private lateral) or private water service line shall be protected from the elements and shall be accessible without special tools, excavation or location means.
14. A tracer wire and grounded system as described above shall also be required for the sanitary sewer later with an identifying and protected termination point approved by the Authority. An approved residential water service meter box will be deemed accessible and meet the protective requirements of the Authority.
15. The private water service line and the private sewer lateral will require a tracer wire from the point of connection at the water meter vault and sanitary sewer termination point (sanitary clean out at the property line or edge of public right-of-way) and shall run continuously and terminate with a ground rod at the point of entrance to the facility or structure (usually where the building drain ends and the building sewer begins). Please contact your building code official for specifications and tracer wire requirements when working outside of the right-of-way.

Potable water:

1. Water lines smaller than 4" shall be PVC schedule 80 and with glued joints. Water lines 4" and larger shall be PVC, AWWA C900, with push-on, gasketed, joints. All water lines shall be installed with 10 gauge (AWG) solid strand copper tracer wire with cross-linked polyethylene (XLPE) insulation, specifically manufactured for direct burial applications wire and water detection tape marked with "potable water below." Tape shall be installed 1'-0" above and directly over all water lines.
2. Contractor shall provide backflow prevention protection for domestic water and fire service as required by the Authority.
3. Minimum cover for water service line shall be 3.5 feet.
4. Water service pipe and sanitary sewer pipe shall be separated by at least 10 feet of undisturbed or compacted earth as applicable.
5. Contractor shall install concrete thrust blocking at all bends, end caps, etc. as required.
6. All water valves shall be located in an approved cast iron inspection box marked "water"
7. Contractor is responsible for temporary water service.
8. Contractor shall install water line with a minimum of 18" of separation between storm sewer piping and water lines. A ten (10') physical separation is required between potable water lines and public sanitary sewer lines.
9. Contractor shall locate existing water line and insure adequate separation between existing sanitary sewer and proposed storm sewer prior to tap and installation.
10. All water service connections shall be installed with a 10 gauge (AWG) , single-strand, insulated copper wire with cross-linked polyethylene (XLPE) insulation, specifically manufactured for direct burial applications. Tracer wire shall be attached to the top of the pipe at every fitting and valve and at intervals not exceeding 1.0 m (40 in) by the use of non-adhesive, waterproof silicone tape or approved equivalent. Tape shall also be used to attach the tracer wire to valve boxes and valve chambers. The tracer wire shall connect to an existing (approved) tracer wire system with a splice using connectors such as DryConn®Direct Bury Lug-Aqua connectors by King Innovation, or approved equivalent or shall terminate no less than six (6) inches from the main utilizing a 5/8" diameter (24" in length) ground rod and ground clamp.
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12. A tracer wire and grounded system as described above shall also be required for the private water service line and the private sewer lateral that services the structure or property and will require a tracer wire from the point of connection at the water meter vault and sanitary sewer termination point (sanitary clean out at the property line of edge of public right-of-way) and shall run continuously and terminate with a ground rod at the point of entrance to the facility or structure (usually where the building drain ends and the building sewer begins). Please contact your building code official for specifications and tracer wire requirements when working outside of the right-of-way.

Sanitary Sewer:

1. Sanitary sewer lines shall be PVC; SDR35 or schedule 40 PVC.
2. Sanitary sewer clean-outs shall not be installed in a sidewalk and pavement.
3. Gravity sewer lines shall be installed with minimum of 6" stone bedding.
4. Sanitary sewer manholes in paved areas shall be flush with finish grade. All lids shall be labeled "sanitary sewer".
5. Contractor shall install clean-outs and service connections for each structure in accordance with HCSA standards and polices. Inspections will be performed prior to paving the disturbed area or proposed roads.
6. All sanitary sewer connections, lines and private sewer laterals shall be installed with a 10 gauge (AWG) , single-strand, insulated copper wire with cross-linked polyethylene (XLPE) insulation, specifically manufactured for direct burial applications. Tracer wire shall be attached to the top of the pipe at every fitting and valve and at intervals not exceeding 1.0 m (40 in) by the use of non-adhesive, waterproof silicone tape or approved equivalent. Tape shall also be used to attach the tracer wire to valve boxes and valve chambers. The tracer wire shall connect to an existing (approved) tracer wire system with a splice using connectors such as DryConn-Direct Bury Lug-Aqua connectors by King Innovation, or approved equivalent or shall terminate no less than six (6) inches from the main utilizing a 5/8" diameter (24" in length) ground rod and ground clamp.
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Conduit:

Where required for water and/or sewer construction, all site electrical wiring shall be located rigid conduit with 24" minimum cover.

Roof drains:

Contractor shall refer to architectural plans for roof drain locations. Contractor shall insure that all roof drains discharge into underground roof drain piping and shall into only storm sewer structures or atmosphere. Contractor shall coordinate with the Authority to observe and inspect final discharge locations.

Pipe Embedment:

1. Unless otherwise specified pipe bedding material shall be placed in a thickness equal to $\frac{1}{4}$ X pipe O.D. but not less than four (4) inches below the pipe, through six (6) inches above the pipe.
2. Material shall be clean non-cohesive natural, unwashed gravel, sand or crushed hard stone graded as follows with a plasticity index of six (6) or less as determined by AASHTO testing methods T89 and T90.
3. Native trench material shall not be used for pipe bedding material without approval of the Authority.
4. Where rock is encountered the bedding requirement will be increased to six (6) inches below and one (1) foot above the pipe.
5. Where trenches are located in roadways, shoulders, driveways, or slopes greater than 20%, 40% maximum density compaction shall be achieved throughout backfill. Minimum depth of cover is 3'-0" over top of pipe barrel unless otherwise noted.

Wet Condition Type 1 Bedding:

When wet or unstable conditions are encountered contractor shall use alternate wet condition type 1 bedding that shall be free draining and non-plastic. Granular fill material shall consist of crushed stone ASTM C-33 graduation No. 57 or VDOT size #58. Earth dams will be installed every 50 feet.

Placement and Compaction of Bedding Material:

1. All granular fill material beneath the pipe shall be spread and compacted to provide a uniform and continuous support beneath the pipe at all points between bell holes or pipe joints. It will be permissible to slightly disturb the finished sub grade surface by the withdrawal of pipe slings or other lifting tackle.
2. No part of any bell or coupling shall be in contact with the trench bottom, trench walls, or granular fill when the pipe is jointed.
3. After each pipe has been graded, aligned and placed in final position on the bedding materials, and shoved home, sufficient pipe embedment material shall be deposited and compacted under and around each side of the pipe and back of the bell or end thereof to hold the pipe in proper position and alignment during subsequent pipe jointing, embedment and backfilling operations.
4. Embedment material shall be deposited and compacted uniformly and simultaneously on each side of the pipe to prevent lateral displacement of the pipe.