



Town of Silverthorne Water and Sewer information For Building Permit applications and Inspections

Welcome to Silverthorne!

Our goal is to make finding water and sewer construction requirements and the application and inspection process as simple as possible. You can always call or email us with any questions:

Chris Shelden - Operations Superintendent
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Zach Margolis - Utility Manager
970 262 7344, zachm@silverthorne.org

Getting Started:

Calculations of EQRs (Equivalent Residential Units – or “Taps”) required for your project:

https://www.municode.com/library/co/silverthorne/codes/charter_and_municipal_code?nodeId=CD_CH3PUWO_ARTIIWASEAD

Costs for water and sewer EQRs (“tap fees”), quarterly fees, and use fees:

<http://www.silverthorne.org/index.aspx?page=98>

When construction plans have been submitted to the Town, ideally as a digital file in addition to the paper plans, the Utilities Department Staff will review them within three business days for conformance with Town Standards. Here’s what we look for:

1. **Structure is NOT to be grounded via water line**
2. For each metered location, only one water and one sewer connection to the Town mains is permitted
3. Mechanical room detail and location with water meter and backflow preventer installation and design specifications including reduced pressure back-flow equipment for any fire suppression system. Pressure and Flow data at water service connection that was used as basis of design for fire sprinkler systems, if any. If using pressure booster pumps, specify type.
4. Water meter size specified by the mechanical engineer. A single family residence water meter is usually ¾ inch (15gpm max). Large homes or homes located near the top of a pressure zone may use 1” (25gpm max. Spec Sheets for Badger Meters can be found at: <https://goo.gl/Sb7HQOR> or <https://goo.gl/YUysLp>. The Town requires a minimum of 1” if using PE pipe.
5. Size, materials, and location of water and sewer service lines, valves, cleanouts, protection of cleanouts and valves, and construction details for connections to TOS mainlines.
6. Individual sewer lift station and low pressure force main design and details if applicable
7. Sewer service line grease and sand trap design if applicable
8. Number of bedrooms and bathrooms, total square footage. For modification of existing residences, let us know if there is a change in Bedroom/Bathroom count.
9. Any change of use such as warehouse to retail etc., so that we can evaluate changes to EQRs and backflow prevention requirements

Once construction has begun, Town inspections are required for the entire length of both water and sewer service lines. Please give us at least 2 business days’ notice for these inspections so that the lines can then be covered as quickly as possible. Here’s what we’ll be looking for:

Water:

Material

- Water service lines are to be K Copper or Plastic Poly Ethylene (PE) only, no copper pipe larger than 1” in diameter is permitted - use PE or Ductile Iron Pipe (DIP) above 1” diameter. Only NSF61 materials are to be used. Galvanized and black iron piping and fittings are not allowed on the domestic line and are only permitted after the BF on fire lines.
- If PE pipe is used, a 12-gauge copper trace wire must run from the curb box cap to the water meter and all PE pipe must have stainless steel stiffener inserts at all compression fittings. Provide one continuous pipe from curb-stop to water meter location in building.
- Service lines are to be all new material without any UV fading, kinks, or any damage
- No services shall have in-line couplings unless approved in advance by inspector
- Only compression type Corporation and Curb-stop valves and fittings are permitted underground, no Solder or glue joints are permitted on underground water pipes
- Service valve must have a McDonald type curb box with stem. The cap must be protected and be at or above finished grade, provide flat 12” stone or concrete pad under valve, located within 1’ property line.
- Any extension couplings to curb box must be welded. Cap is to be “hand tight”.

Bedding and Cover

- 6" minimum bedding under pipe, 12" over top - ¾" minus screened aggregate, back fill with 6" minus structural fill or 6" minus pit run.
- Standard bury depth 9', minimum 8' depth below finish grade without insulation. 10' maximum bury unless approved in advance by TOS
- If approved by the Town, insulation must be at least 2" thick x 24" wide, 60psi if water line is less than 8' below finish grade in areas without vehicular traffic, 100psi insulation is required under driven surfaces, if less than 7' below finished pavement grade, the water line must be insulated on 3 sides, excluding the bottom.

Installation and Separation

- Water lines must be installed at least 10' from sewer lines. See sewer materials required for crossings.
- Service taps to Town Water Mains must be performed with TOS inspector on site
- Tapping saddles 2" and less are to be all stainless steel or all brass "lead free" (no epoxy or iron). Note – plastic and iron water main require different saddles.
- Tapping saddles larger than 2", where permitted, must be Ford or Romac All Stainless Steel material – 250 Psi minimum (no epoxy or iron). Saddle taps larger than 2" must be approved in advance by TOS
- Contractor must provide as-built drawing of all new private service lines

Sewer

Material

- 4" SDR-26 or C-900, Push-On Gasket Joint, PVC Pipe Only – 90 degree gasket SDR-26 Wye for cleanout required
- No glue together Pipe joints underground outside foundation

Bedding and Cover

- 6" minimum bedding under pipe, 12" over top - ¾" minus screened aggregate, back fill with 6" minus structural fill or 6" minus pit run.
- Minimum 7' depth below finish grade without insulation. 10' maximum bury unless approved in advance by TOS
- Where required, insulation must be 2" thick x 4' wide, 60psi if sewer line is less than 8' below finish grade in areas without vehicular traffic, 100psi insulation is required under driven surfaces, if less than 7' below finished pavement grade, the sewer line must be box insulated on 3 sides excluding bottom, double box insulation may be required by TOS

Installation

- Sewer tapping saddles must be GENCO brand or equal, and appropriately sized
- Bell ends must face up-hill, all joints fully inserted
- Use food grade lubricant "duck butter" at all slip joints
- Sewer lines must be at least 10' from water lines
- If crossing water lines, center a 20' stick of C-900 or SDR26 of sewer service pipe at the crossing
- If approved by the Town, insulation must be at least 2" thick x 24' wide, 60psi if sewer line is less than 8' below finish grade in areas without vehicular traffic, 100psi insulation is required under driven surfaces, if less than 7' below finished pavement grade, the sewer line must be box insulated
- Slope must be greater than 2%
- Maximum of 10' of depth unless approved in advance by TOS
- No 90 Degree fittings.
- Minimum of 8' of straight continuous pipe between 45's
- Clean out with "Y" every 150' of pipe run or every 180 degrees of bends.
- Clean out with double "Y" within 5' of outside building foundation wall, a single "Y" cleanout is allowed if a CO is accessible inside building
- Flat 12" stone or concrete pad under each clean out "Y" for support.
- Access to clean out will be at 4" (+/-1") above finish grade, watertight capped and marked with rebar or iron post. Access within paved areas will req. street box
- Contractor will provide as-built drawing of all new private service lines

Construction Water, if needed, must be metered and paid for per the Town Bulk water program. Once the permanent heated and protected location for the water meter and backflow prevention is built, construction water may be taken through this meter, and will show up on the first water bill. The water service must remain off at the curb valve until construction water is approved, an appointment must be made with TOS to turn water service on at curb. **Please call 2 business days in advance to schedule pick up of the water meter from the Town Shop at 26250 Blue River Parkway, Silverthorne**

When you call for and pass a final inspection, the water meter Automatic Meter Reading Device will be programmed and installed. We will also verify location(s) and operation of the water service valve ("curb stop") and sewer cleanout(s).