

Introduction

The Bloomington Utilities Division issues permits for the installation of water, sanitary sewer and storm sewer utility lines that are underground, generally outside the building footprint. Inside plumbing permits are handled by the Building and Inspection Division at Civic Plaza. **All work must be done by a plumber licensed by the State of Minnesota and registered with the City of Bloomington or by the homeowner of the homesteaded property. A homeowner is not allowed to install water and sewer services for new construction.** A pipe layer's card is not sufficient for obtaining Utility permits.

Special notes

- City of Bloomington water and sewer specifications may differ from other communities. Do not assume that the materials and standards used elsewhere can be used in Bloomington. Please contact the Utilities Division regarding these requirements.
- Substitution of any materials shall be pre-approved by the Utilities Engineer or Utilities Superintendent prior to installation.
- Utility permit holders are required by State law to call **Gopher State One Call** (651-454-0002) to locate buried utility lines a minimum of two working days before digging. The City of Bloomington will locate storm sewer, sanitary sewer and water lines within the right-of-way, **except sanitary sewer services, which are marked only at the connection to the City main.**
- The City of Bloomington requires that electronic as-builts of all new sanitary sewer, storm sewer and water infrastructure be submitted within 30 days of project completion. *Please see separate handout available from the Utilities Division.*

Permit requirements

1. Plans must be approved and permits issued from Building and Inspection for new construction projects.
2. Service Availability Charge (SAC) for sanitary sewer and utility connection charges must be paid before work can begin.
3. A permit application, showing proposed locations of mains, services, appurtenances and other property placed, shall be submitted to Utilities for approval.
4. A copy of the approved permit, including a map or plan showing the location of the utility, must be on the job site in possession of the permittee. Failure to have the

permit on the job may result in shutdown.

5. Emergency utility repairs involving excavation are allowed without a permit, but you must follow Gopher State One Call guidelines as required by the State of Minnesota. A permit shall be requested within two working days thereafter.

Specifications

See the Engineering Division's **Supplemental Specifications to Standard Utilities Specifications and Utilities Division Connection Regulations.**

Right-of-way permit

1. A permit must be issued from the Utilities Division for work in the right-of-way.
2. Contractor is responsible for traffic control during excavation and until the roadway surface is restored (per *Appendix B of the MN Manual on Uniform Traffic Control Devices*). If excavating on a high volume roadway, traffic control must be approved by the Traffic Section prior to any construction.
3. **Restoration:** Underground work must be restored with suitable material and compacted to a density of 95 percent of Standard Proctor. One or more density tests shall be taken on every street crossing and may be required in other excavations as designated by the Public Works representative. Contractor must provide written results of the density test(s) to the City. Failure of test could result in re-excavation and recompaction of work area. Permanent restoration is required within five days. Consult the *Right-of Way Ordinance* in the *City Code, Chapter 17, Article IV.*

Inspections

All work must be inspected after each structure installation and upon completion. Call Utilities at 952-563-8777 to schedule an inspection at least 24 hours in advance. Inspection hours are 8 a.m. to 3:30 p.m., Monday through Friday.

Installation and material requirements

Use the City Standard Construction Details shown on the plans or available on the City's Web site for details of installations. Maintain at least 10 foot horizontal separation between water and sewer lines for commercial properties. Water mains crossing sewers shall have a minimum of 18 inches vertical separation. Any field changes in approved plan must be reviewed and information about changes, e.g. length of pipe, provided to the inspector. A ladder shall be provided for access to all excavations.

Sanitary sewer

When making repairs where dissimilar sizes and types of pipe are used, shielded commercial adaptors shall be used. Flex couplings are not allowed. Stainless steel banded couplings must be used to make repairs in existing sewer services. Insulate shallow lines to prevent freezing. Materials and methods for sewer repairs must be approved by City staff prior to work. The minimum grade for building sewers shall be 1 percent for a 4 inch diameter pipe, 0.5 percent for a 6 inch pipe, 0.4 percent for a 8 inch pipe and 0.22 percent for a 12 inch pipe.

Commercial sewers – Use standard short cone MHs with center holes only per MNDOT spec S.P. 4010 placed on 6 inch sand or suitable foundation material. Pipe connections into MHs must be watertight (MNDOT S.P 40/OH). SDR35 PVC is allowed for sewer mains 6 inches and larger, but SDR35 PVC in any size is not allowed under building footings. Tracer wire on plastic sanitary sewer service is mandatory.

Residential sewers – Use schedule 40, SDR 26 or better for PVC sewer services. Common trench installations with a water service require the sewer to be 1 foot below and 1 foot to the side of the water service. Use of tracer wire on plastic sewer service is recommended.

Storm sewer

All storm sewer work requires approval by the City Water Resources Engineer. Erosion control must be kept in place around inlets until ground surface is restored. RCP is required under paved areas subject to vehicle traffic. MH and CB bases shall be set on 6 inch sand or suitable foundation material. Structures shall have a minimum of 2 and a maximum of 6 adjusting rings set in a bed of mortar.

Water

Provide a minimum 8 feet and maximum 10 feet of cover on all water lines, valves, services, etc. All copper pipe connections shall have standard fittings using flared joints (no silver-soldered joints). Copper shall be Type K. Plastic water service tubing is approved for use only on private property. Materials must be approved by Utility Customer Service Staff and a tracer wire must be placed in the trench with the service line. Water curb stops and gate valves shall be operated by City personnel only, unless authorized by the inspector.

Commercial water lines – Use Class 56 for 4 inch DIP, Class 55 for 6 inch DIP, Class 54 for 8 inch DIP and Class 53 for 12 inch DIP. **Polywrap (8 mil thickness) all DIP, valves and hydrants up to the surface.** Poured-in-place thrust blocks are required on all DIP Tees and bends greater than 11-1/4 degrees. City forces shall do taps of live water mains. **All DIP pipe and fittings up to the water meter or fire service equipment shall have cement-mortar linings or epoxy coatings as per AWWA Standards C104 or C116.** DIP services must terminate with a thread on flange or a MJ to flange adaptor. These are a few of the notable material and installation requirements. For more information on utilities requirements, see the City of Bloomington *Standard Specifications for Construction* and details available on the

City's Web site, www.ci.bloomington.mn.us, keywords Construction details. The *Standard Utility Details Information Handout* is also available on the Web site, keywords: Utility details.

Residential water lines – Services shall be brought through the floor vertically with a full flow valve placed between the meter and the floor, the meter installed horizontally about 12 inches above the floor and a full flow valve on the house side of the meter. Water lines shall be 1 foot above and 1 foot to the side of sewer lines in the same trench.

Utility permit types and costs

Different Utility permits are issued depending on the type of work as follows:

Permit	Description
Water	New/remodel construction. Involves installation of new water service line from water main to building.
Sewer	New/remodel construction. Involves installation of new sewer service line from sewer main to building.
Water repair/alteration	Modification to existing water service line.
Sewer repair/alteration	Modification to existing sewer service line.
Storm sewer	Installation/modification of storm sewer.
Irrigation	Establish new irrigation account on new or existing water service line.
Fire service	Establish fire service account on water service line.
Abandon/cutoff services	Abandon (permanent) or cutoff (temporary) water and sewer services.
Water meter	Metering water usage of lines connected to City water supply.
Hydrant Meter	Temporary use of City fire hydrants. 90-day limit.

Note: Additional permits may be required for commercial developments with multiple structures.

Water meter flow rates

Size	Flow rate
3/4" (includes fire detector)	30 gpm
1"	50 gpm
1-1/2"	100 gpm
2"	160 gpm
2" Turbine with accessories	200 gpm
3" Turbine with accessories	500 gpm
4" and above	<i>Not allowed – contact Utilities Division</i>

Inspection and testing requirements

In all cases, City of Bloomington Standard Specifications and Utility Connection Regulations will prevail. It is the Contactor's responsibility to know requirements before starting project. Ask before doing work if you are not sure.

Type of work	Inspections required	Testing required
Sanitary sewer		
Alteration/repair	Visual inspection of pipe material, bedding, bends, alignment and connection to existing pipe. Reline 6 inch clay service.	Air test needed if repair exceeds 20 lineal feet of pipe (See below).
Cut off/disconnect	Visual inspection of plug/cap/bulkhead.	None.
Manhole installation	6" sand or suitable foundation material. No steps in MH. Visual inspection for proper invert, casting, rings, cone section and cover.	None.
Mainline	Visual inspection of pipe grade, bedding, alignment, connections of dissimilar pipes or casings.	Air testing: >3.6psi for 2 minutes (4"), 3 minutes (6") or 4 minutes (8"). Mandrel after 30 days for pipe 8 inches and larger that are >39 lineal feet.
Service line	Visual inspection of pipe grade, bedding, bends, connections of dissimilar pipes and alignment.	Air testing: >3.6psi for 2 minutes (4"), 3 minutes (6") or 4 minutes (8").
Storm sewer		
Alteration/repair	Visual inspection before backfilling.	None.
Cut off/disconnect	Visual inspection of bulkhead.	None.
Manhole/catch basin installation	Visual inspection of 3" concrete under precast base. Visual inspection of proper invert, doghouses, rings/casting construction.	None.
Mainline	Visual inspection of pipe bedding and alignment.	None.
Water (continued next page)		
Abandon service	Water meters returned to City. Visual inspection of corp, plug, cap or valve. Check for leaks under main pressure, thrust restraint of large services. Verify valve box pulled.	None.
Alteration/repair	Visual inspection of bedding, alignment, fittings, thrust blocks and polywrap on DIP. Check for proper pipe class.	Hydrostatic (150psi/2 hrs), conductivity (350 amps/5 min), bacteria test.
Cut off/disconnect	Meters returned to City. Visual inspection of cut/crimped copper or CIP/DIP plug/cap and thrust restraint.	None.
Fire service	Visual inspection of pipe bedding, fittings, thrust blocks, polywrap and alignment before backfilling. Check for proper pipe class.	Hydrostatic (200psi/2 hrs), conductivity (350 amps/5 min), bacteria test.
Hydrant installation	Visual inspection of rock drain field under hydrant, polywrap, thrust block and auxiliary valve. (See Valve page 4.)	Hydrostatic (150psi/2 hrs), conductivity (350 amps/5 min), bacteria test.
Irrigation service	Inspect curb stop, boot, standpipe and unions.	System pressure or air test.
Mainline	Visual inspection of pipe bedding, fittings, thrust blocks, polywrap and alignment before backfilling. Check proper pipe class.	Hydrostatic (150psi/2 hrs), conductivity (350 amps/5 min), bacteria test.

Inspection and testing requirements

continued

Type of work	Inspections required	Testing required
Water (continued)		
Meter manhole	Visual inspection of MH placement.	None.
Service line-copper	Inspect curb stop, boot, standpipe, unions and verify that type K copper was used.	System pressure or air test (75psi/5min).
Service line-DIP	Visual inspection of pipe bedding, fittings, thrust blocks, polywrap and alignment before backfilling. Check for proper pipe class.	Hydrostatic (150psi/2 hrs), conductivity (350 amps/5 min), bacteria test.
Service line-plastic	Plastic allowed on private property only. Tubing must be bedded in sand and have a tracer installed from curbstop into building.	System pressure or air test (75psi/5min).
Valve	Visual inspection of proper bedding, block under valve, boot placement and polywrap. Is valve operable after backfilling?	Hydrostatic (150psi/2 hrs), conductivity (350 amps/5 min).
Water meters		
Domestic service	Must be in utility or mechanical area within 4 feet of floor drain, set at proper height. Must be wired to outside touch pad (residential). Curb stop up to grade and operable before water turned on.	Commercial meters tested as part of service line.
Fire detector check	Installed horizontal between tapped ports in detector check valve body. Gate or ball valve on supply side of meter and double check valve on system side of meter.	Tested as part of fire service line.
Irrigation	Confirm it is plumbed before the domestic meter. Must be in utility or mechanical area within 4 feet of floor drain.	None.
Hydrant meters	For filling tank trucks, tank must be inspected for air gap or approved backflow preventer prior to obtaining permit.	None.

Utilities contacts

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Tim Kampa
Utilities Engineer952-563-8776

Eric Wharton
Utilities Engineer952-563-4579

Additional contacts

City of Bloomington
Building and Inspection952-563-8930
Engineering952-563-4870
Fire Prevention952-563-8934
Traffic952-563-4913
Utilities Outside Inspections952-563-8777
Water Resources952-563-4867

Standard construction details
BloomingtonMN.gov, keywords: Construction details

Gopher State One651-454-0002